Proposal to Provide Engineering Services for

MEQUON ROAD: TRAFFIC SIGNALS & OIT CROSSING DESIGN

City of Mequon I December 27, 2019

KL Engineering
[A] Better Experience

CITY OF MEQUON WISCONSIN

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December 27, 2019

City of Mequon Engineering Department
11333 N. Cedarburg Road 60W
Mequon, WI 53092-1930
klundeen@ci.mequon.wi.us

Reference: Proposal to Provide Engineering Services for
Mequon Road: Traffic Signals & OIT Crossing Design
City of Mequon, Wisconsin

Dear Selection Committee Members:

KL Engineering is pleased for the opportunity to submit our proposal to the City of Mequon to provide engineering services for the Mequon Road: Traffic Signals and OIT Crossing project. Our staff includes engineers with diverse experience in traffic engineering, electrical design, and design of pedestrian facilities. We are excited for the possibility of collaborating with the City, leveraging our unique combination of backgrounds and expertise, to find a solution for the OIT trail crossing and an efficient delivery of traffic signal and curb ramp design.

KL Engineering is a leader in traffic engineering and will work with you to deliver a successful project by:

- Utilizing our team of experts to evaluate the existing trail crossing challenges and electrical infrastructure.
- Combining the specialized expertise of an experienced traffic engineering team with the resources of a full-service transportation design firm.
- Drawing on our experience with standalone municipal signal and pedestrian infrastructure improvement projects to provide options and minimize uncertainty.
- Meeting all project deadlines – KL Engineering has 12 traffic dedicated staff members, 3 parks and trails staff members, and over 20 design engineers available as technical resources or to be assigned to this project.

At KL Engineering, we believe that building relationships is the core of project success. We are a firm large enough to provide a full range of services, yet personal enough that our clients' needs are always our top priority. Our staff will devote our full attention and resources to keep your project on schedule.

Kevin Wehner will be the primary KL Engineering contact for our engineering services during this contract. You can reach him directly at kwehner@klengineering.com or 262.735.4856. Our Germantown office is located just seven miles west of the project location. Our company is dedicated to providing cost-effective and expertly crafted solutions. We have successfully completed similar projects for many municipalities in similar circumstances. Our team is highly skilled in navigating difficult issues and gaining consensus among key stakeholders.

We look forward to showing the City what having **[A] Better Experience** is all about.

Sincerely,

KL Engineering, Inc.

Aaron Steger, P.E.

Aaron Steger, P.E. | Vice President | asteger@klengineering.com | 262.735.4856

KL Engineering, Inc.

KL Engineering is a woman-owned business providing professional services built around a core specialization in transportation engineering and an unwavering customer service ethic. 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 **[A] Better Experience**.

Since 1991, our company has grown to a team of over 70 employees in four locations throughout Wisconsin – Madison, Green Bay, Menomonie, and Germantown. We have over 45 Civil Engineers, 2 Environmental Specialists, 3 Professional Surveyors, 1 Professional Landscape Architect, and 10 Engineering Technicians. **We take great pride in offering the City of Mequon a team that will evaluate the Mequon Road OIT Crossing and traffic signal infrastructure and provide a thorough analysis of the options available to the City and a final design deliverable in a timely and cost-effective manner.**

Why Should the City of Mequon Choose KL Engineering?

KL Engineering has assembled a team of highly qualified and experienced professional engineers for the Mequon Road Traffic Signals and OIT Crossing Design project. Team members were selected based on their experience on similar projects and availability. Additionally, our firm is uniquely qualified for this project based on having extensive experience assisting municipalities with electrical design and procurement as well as pedestrian accessibility improvements.

We offer the following attributes that will allow us to deliver a successful project:

Team – Project members who have **proven** success on similar projects in surrounding communities and extensive project experience with the tasks involved with this project.

Multi-modal Expertise – A wealth of **experience** in alternative evaluation for pedestrian safety improvements and all aspects of traffic signal design. Our expertise includes evaluating for all modes of transportation, including applying ADA standards and providing **pedestrian safety enhancements** at intersections and mid-block crossings.

Relationship – We focus on building good working **relationships** with City staff and all project stakeholders. We recently completed a study of the City of Sun Prairie West Main Street Corridor and a standalone traffic signal and curb ramp project for the Village of DeForest. Both communities are now repeat clients due to the expertise, responsiveness, and value provided by the KL team.

Deliverables – We place a high priority on creating **high quality** deliverables that represent our clients and the overall project effort, while requiring minimal oversight from City staff. Our team is **committed** to completing the project on schedule and to your satisfaction.

Project Approach

Overview

KL Engineering is pleased to be considered for assisting the City of Mequon on the Mequon Road: Traffic Signals and OIT Crossing Design project. We have studied the request for proposal and identified a project approach and a specific scope of services. Modifications to the proposed scope and schedule are offered as suggestions based on our experience performed on similar tasks and projects. Most notably, we propose phasing the OIT crossing improvement so that feasible improvements can be made within the proposed project timeline. More complex improvements can be evaluated and if selected, taken through the potentially extensive and time-consuming railroad permitting process.

The project team is comprised of a diverse group of engineers who will work closely with each other and City staff, combining their expertise to form a clear message to project stakeholders during the alternative development portion of this project. This team will work efficiently during the design phase to provide high quality deliverables that reflect our deep expertise and understanding of this project.

Project Task Breakdown

This proposal is based on separating scope items into four main task groups, broken down as follows:

- Task 1: Mequon Road & Buntrock Avenue Traffic Signal
- Task 2: Mequon Road & Industrial Drive Traffic Signal
- Task 3: Evaluate OIT Alternatives
- Task 4: Enhanced Pavement Markings & Ground Mounted RRFB
- Alternative Tasks

The task breakdown listed above works in conjunction with our proposed phasing of the project. Proximity to the railroad crossing may create challenges for meeting the desired timeline for improvements at the Mequon Road intersection with Industrial Drive and the OIT. Our proposed project breakdown and phasing is meant to mitigate impacts to the schedule as a result of railroad permitting and coordination as much as possible.

Task 1 – Mequon Road & Buntrock Avenue Traffic Signal

This task includes all the required efforts for competing removal and replacement traffic signal plans and identifying what existing infrastructure, if any, is suitable for reuse. This intersection presents the following unique challenges:

- Identifying what infrastructure is suitable for reuse based on construction cost reductions and remaining useful life.
- Designing ADA compliant Type 2 curb ramps within the existing right of way.
- Expediting signal replacement to avoid cost and impacts from temporary traffic signals.
- Procuring the required traffic signal equipment in a timely fashion to maintain project schedule.

Our broad experience will help the City navigate these challenges with a partner who has faced many similar scenarios and tailored a solution for each. We recommend constructing this signal without the use of a temporary traffic signal in order to minimize project costs. Our experience helping municipalities procure equipment independently will help keep the project schedule as aggressive as possible and can help control costs.

Our base scope of services includes data collection, survey, preliminary and final design, as well as bidding documents. One meeting with City staff is included with this task.

This proposal assumes that traffic signal design will primarily be based on recently completed traffic studies and their associated traffic volume count data. Construction engineering and signal timing is not included in our base scope of services.

The base fee for services performed under Task 1 is **$11,500**.

Task 2 – Mequon Road & Industrial Drive Traffic Signal

This task includes all the required efforts for competing traffic signal plans for the intersection of Mequon Road with Industrial Drive. This intersection presents the following challenges:

- Identifying what railroad approvals, if any, are required for installation of the signal.
- Designing ADA compliant Type 2 curb ramps within the existing right of way.
- Procuring the required traffic signal equipment in a timely fashion to maintain project schedule and control costs.

Material procurement and curb ramp design challenges will be similar at this intersection as those faced at Buntrock Avenue. Determining the required railroad approvals is unique to this intersection. The project team will coordinate with the railroad to determine what approvals and special equipment, if any, are required to install a traffic signal at this location. This proposal assumes that railroad approval and preemption is not required and that this determination can be made as part of initial coordination efforts.

Our base scope of services includes data collection, preliminary railroad coordination, survey, preliminary and final design, as well as bidding documents. One meeting with City staff is included with this task.

This proposal assumes that traffic signal design will primarily be based on recently completed traffic studies and their associated traffic volume count data. Construction engineering and signal timing is not included in our base scope of services.

The base fee for services performed under Task 2 is **$13,000**.

Task 3 – Mequon Road OIT Crossing Alternatives Analysis

This task includes evaluating alternative treatments at the OIT crossing of Mequon Road in parallel with the traffic signal design tasks. Options at the OIT crossing will be developed and evaluated in a collaborative process with the City staff. Based on our current understanding of the project, KL Engineering has identified five preliminary potential options for improving crossing visibility and promoting safety.

- Enhanced pavement markings
- Installation of a Rectangular Rapid Flashing Beacon (RRFB)
- Installation of a Pedestrian Hybrid Beacon (formerly HAWK)
- Including the crossing with the proposed traffic signal at Mequon Road & Industrial Drive
- Relocating the trail crossing to a crosswalk at Mequon Road & Industrial Drive

These options will be narrowed down to those that are confirmed to be appropriate and feasible. The KL Engineering project team has assisted communities implement all these potential solutions and will help guide the City in their selection.

This crossing location presents the following unique challenges:

- Proximity to a railroad crossing with gates and overhead signals.
- Proximity to overhead power lines and location within utility property/easement
- Mequon Road conveys moderate to heavy traffic volumes and will likely be controlled with a coordinated traffic signal system.
- Potential need for railroad approval, which is likely not achievable with the desired project timeline.

The project team will coordinate with the railroad to determine what approvals are required for the various potential improvements to the crossing.

Our base scope of services includes evaluating trail crossing alternatives, preliminary railroad coordination, survey, two meetings with City officials and one meeting with City staff.

Not included in this task is construction engineering, railroad permitting, or design of crossing alternatives. Due to the more extensive and uncertain nature of their design and the permitting process, as well as an extended timeline, we recommend completion of these services under a separate, as needed agreement.

The base fee for services performed under Task 3 is **$6,500.**

Task 4 – Enhanced Pavement Markings & Ground Mount RRFB

Based on our initial assessment of the crossing and railroad coordination/permitting that will be required, we preliminarily recommend installation of solar powered RRFBs with the initial project bid package. This strategy is not anticipated to require approvals from the railroad and would allow a project to be bid according to the City's desired project schedule. If the conclusion of the alternative analysis for the trail crossing is that a more extensive enhancement is desired, this strategy would promote safety at the crossing while that alternative is planned, and approvals are sought.

This task includes designing enhanced pavement markings and a solar powered RRFB installation at the OIT crossing and preparing bid documents. If the results of Task 3, the crossing alternatives analysis, is that a different treatment is desired, this treatment could be omitted from the bid package, or included as a temporary measure until railroad coordination can be completed. These treatments can be quickly designed and added to the project bid package. Therefore, authorization of this task could be deferred until later in the design phase of the project pending results of Task 3.

The base fee for services performed under Task 4 is **$2,500**.

Base Scope of Services Fee

The base scope of services included with this proposal, comprised of tasks 1 through 4, is **$33,500**.

Alternative Tasks

This proposal is intended to provide the City with a path to complete the desired improvements to the corridor as quickly as possible and to the extent feasible in the given project timeline. If the City chooses, the following tasks could be added or substituted to the base scope of services.

Signalized Path Crossing

Results of the trail crossing study may indicate that a signalized path crossing treatment should be installed at the OIT crossing of Mequon Road. Design of such an improvement would include more extensive

railroad coordination and likely permitting. This improvement could be in the form of a Pedestrian Hybrid Beacon or an expansion of the proposed traffic signal at Mequon Road and Industrial Drive. This task can be added to the proposed base scope at an approximate cost of **$15,000**.

Traffic Signal Communications

This proposal assumes that coordination between signals along Mequon Road will be accomplished using GPS time clocks or a similar method. This task includes designing a fiber optic communication system to link the intersections of Mequon Road with Buntrock Avenue and with Industrial Drive. Coordination and permitting with the railroad would be required to install this infrastructure within the railroad right of way. This task can be added to the proposed base scope at an approximate cost of **$8,5000**.

Signal Investigation & Timing Study

TIAs previously completed for nearby developments recommend traffic signal installation at Industrial Drive when development warrants. Traffic signal timing assumptions and traffic volumes were also included in those studies. This task includes updated traffic signal counts, conducting a traffic signal warrant at Industrial Drive, and updates to signal timings at Buntrock Avenue and Industrial Drive, if required. This task can be added to the proposed base scope at an approximate cost of **$3,500**.

Temporary Traffic Signal Design

The proposal assumes that installation of a temporary traffic signal at the intersection of Mequon Road with Buntrock Avenue can be avoided by expediting replacement of the existing signal. If the short-term traffic delays associated with implementing stop control are not acceptable to the City, a temporary traffic signal could be added to the project. This task includes design of the temporary traffic signal if it were to be subsequently added to the bid package. This task can be added to the proposed base scope at an approximate cost of **$5,000**.

Industrial Drive Railroad Preemption

The proposal assumes that railroad preemption will not be required with the Mequon Road and Industrial Drive traffic signal. This is based on spacing between the intersection and the railroad crossing. This task includes additional coordination with the railroad in order to facilitate the required permitting and design of the required infrastructure.

If railroad coordination reveals the requirement to include preemption, or city preference dictates, this task can be added to the proposed base scope at an approximate cost of **$5,000**.

Public Involvement Meetings

The proposal assumes that the City will be responsible for the public involvement and outreach for this project. However, this alternate task is included in case the City would like for their chosen consultant to attend and conduct formal Public Involvement Meetings. This task includes attending and conducting a public involvement meeting (PIM) to discuss the project scope and progress with the public. Meetings would include a brief presentation and periods of unstructured time for members of the public to ask questions and discuss the project with KL Engineering and City staff. PIMs can be conducted at an approximate cost of **$3,500** each. Meetings that require lower levels of involvement or the attendance of fewer staff members can be attended at a much lower cost.

Project Challenges

The City of Mequon has requested that proposals include foreseeable problems anticipated with this project and solutions to those problems. The following summarizes the problems listed in the proposal as well as others anticipated based on similar project experience.

Engineering Challenges

Projects that involve standalone curb ramp and traffic signal modifications can be difficult to complete without resulting in scope creep. Often, these modifications have impacts to truck turning movements, storm sewer infrastructure, real estate needs, or face constructability issues that require unplanned infrastructure modifications. KL Engineering's work with municipalities as an electrical and intersection design specialist has provided valuable experience implementing limited scope intersection improvements without the need for unplanned improvements. Our field staff ensure that we produce clear, biddable, and constructible plans, minimizing construction changes.

Utility Challenges

Public rights of way host numerous public and private utilities. Coordination with utilities can be administratively burdensome as well as time consuming. Without specific knowledge of utility facilities present along Mequon Road, it is uncertain what unique challenges might face the signal and OIT crossing design. One challenge that has been identified, based on the proposed project schedule, is obtaining the necessary documentation and work plans from public utilities by the desired April 24th, 2020 date for completion of final design, phasing, and cost estimates. Additionally, the OIT is located within utility easement and under transmission lines near the Mequon Road crossing. Work in that area must be coordinated with the utility.

KL Engineering has faced municipal projects on tight timelines before, however. Maintaining project progress despite the level of cooperation from utilities is assisted by clear and early communication with facility owners. KL Engineering is available immediately upon selection to begin engaging utilities and making utility coordination a priority.

Public Involvement Challenges

Public involvement for this project will involve informing the public about the project, the reason for it, and discussing improvement alternatives. Challenges related to public involvement specific to a project like the Mequon Road: Traffic Signals and OIT Crossing Design project include explaining to the public why certain treatments are permitted or not permitted according to design standards, accepted practice, and the MUTCD. Public debate surrounding these improvements are often passionate with widely varying opinions.

KL Engineering performs public involvement tasks on a regular basis for projects both large and small. The traffic engineering staff at KL Engineering excels at communicating technical solutions in non-technical settings. Through public involvement and extensive work in the private sector, our staff members know that the answer to a "why" question is never a quote from a manual or statute. Our understanding of the "why" is what allows us to forego the use of jargon and hold a discussion with plainspoken language.

Railroad Challenges

This challenge was not identified in the request for proposal. It is anticipated based on past projects that involved railroad coordination.

Work in a railroad right of way and installation of traffic signals or other traffic control devices near railroad crossings often require approvals from the railroad. This coordination can take an extended period of time depending on the responsiveness of the railroad involved. Other than commencing this coordination as early as feasible, there are limited options for expediting it. Therefore, we recommend a structure to the final bid package and project approach that will help to minimize impacts to overall project schedule and costs. This strategy is detailed in the project approach overview because we feel that railroad coordination will be the controlling item for the project's timeline.

Scope of Services

Work in the project approach narrative can be summarized with the following list of scope items. Each item or group of items is noted with a corresponding task number.

Data Collection

*Survey & Field Review – **Task 1, 2 & 4***

- Compile as-build drawings for the traffic signal at the Mequon Road intersection with Buntrock Avenue.
- Compile existing traffic signal timing plans and any traffic signal timing or modelling available for nearby intersections.
- Investigate existing traffic signal infrastructure to determine suitability for reuse.
- Assess existing curb ramps, pedestrian traffic signal heads, and pedestrian push buttons for their suitability and identify deficiencies according to ADA standards.
- Compile an inventory of existing signage along the Mequon Road corridor.
- Perform Topographical Survey along Mequon Road between Buntrock Avenue and the OIT crossing. Surveyed features will be limited to:
    - Utilities
    - Curb ramps
    - Existing traffic signal equipment
    - Railroad tracks and crossing equipment

Alternative Analysis

*Mequon Road & Buntrock Avenue Traffic Signal – **Task 1***

- Determine feasibility of reusing existing infrastructure and provide recommendations to the City.
- Review completed traffic studies and existing traffic volumes to confirm previous phasing and lane assignment recommendations.

*Mequon Road & Industrial Drive Traffic Signal – **Task 2***

- Review completed traffic studies and existing traffic volumes to confirm previous phasing and lane assignment recommendations.
- Determining if railroad preemption is required or prudent at the intersection. This includes initial coordination with the railroad.

*OIT Crossing Treatment Analysis – **Task 3***

- Identify and refine the list of potential crossing treatments
- Identify pros, cons, and assess the feasibility of treatments
- Provide a recommendation for implementation

Project Development & Design

Electrical Design

- Mequon Road & Buntrock Avenue – **Task 1**
    - Traffic signal equipment removal plan
    - Permanent traffic signal plan

- Mequon Road & Industrial Drive – **Task 2**
    - Permanent traffic signal plan

- Mequon Road & OIT Crossing – **Task 4**
    - Plans for solar powered RRFB and/or enhanced pavement markings

Geometric Design

- Mequon Road & Buntrock Avenue – **Task 1**
  - Curb ramp modification/replacement plan for up to eight (8) curb ramps
  - Pavement marking modification plan
  - Traffic control plan

- Mequon Road & Industrial Drive – **Task 2**
  - Curb ramp modification/replacement plan for up to eight (8) curb ramps
  - Pavement marking modifications plan
  - Traffic control plan

- Mequon Road & OIT Crossing – **Task 4**
  - Pavement marking modifications plan

*Specifications & Project Estimate – **Task 1, 2 & 3***

- Project manual/specifications
- Engineer's estimate
  - Contractor bid items
  - City procured items

Meetings & Correspondence

Meetings

- Attendance of up to two (2) meeting with City council and subordinate committees – **Task 3**
- Attendance of up to three (3) meetings or conference calls with City Staff – **Task 1, 2 & 3**

Coordination

- Coordination with the railroad – **Task 2, 3 & 4**
- Coordination with potential electrical equipment vendors – **Task 1, 2 & 4**
- Coordination with utility facility owners for relocations – **Task 1, 2 & 4**
- Coordination with WisDOT, if required – **Task 1, 2, 3 & 4**

Project Team & Qualifications

Kevin Wehner, PE, PTOE

Project Manager

- Wisconsin Professional Engineer
- Professional Traffic Operations Engineer
- BS in Civil Engineering | University of Wisconsin – Milwaukee

7 Years Experience

Areas of Expertise:

- Traffic Signal & ITS Design
- Traffic Signal Timing & Programming
- Railroad Preemption
- Traffic Capacity Analysis
- Intersection Control Evaluations
- Traffic Modeling Using Microsimulation
- Access Evaluation
- Work Zone Analysis
- Design of Enhanced Pedestrian Crossings
- Intersection Safety Evaluations
- Traffic Impact Analyses

Kevin will be the project manager and lead traffic engineer for the Mequon Road project. He will be responsible for overall project management and coordination, scheduling, committing firm resources and ensure successful completion of project tasks, leading preparation of the plans and specifications, and reviewing all project work for accuracy and constructability.

Kevin's background includes traffic operations analysis, intersection control evaluation, signal design, microsimulation and roundabout evaluation, and design. Specifically, Kevin specializes in traffic signal operational analysis and design. His in-depth knowledge of traffic signal controllers and controller programming allows him to realistically model various scenarios. This understanding allows him to evaluate the feasibility of complex traffic signal timing and phasing concepts against real world limitations and capabilities of modern traffic signal controllers and cabinets.

Kevin brings the following experience to the Mequon Road Project:

- Over 7 years of experience in operational analysis, improvement alternative analysis, and traffic signal design
- Expertise with railroad coordination, railroad preemption, and traffic signal timing improvements adjacent to railroad crossings
- Extensive experience with municipal traffic engineering challenges and solutions, including multi-modal considerations through project work

Project Experience

STH 52 (Stewart Street) | City of Wausau

Lead Traffic Engineer

Kevin was the lead traffic engineer for the design of 3 traffic signals along STH 52 (Steward Avenue) between 3rd Avenue and 1st Street in downtown Wausau, WI. The project also included railroad accommodations. A parallel rail spur near one of the intersections had to be modified to provide queue storage and required railroad preemption. Additional project work included one-way and two-way operational analysis, temporary traffic signal design, pedestrian accessibility upgrades, electrical infrastructure upgrades, development of fiber optic communications network, and adding pedestrian actuated flashes at a mid-block crossing.

West Main Street Traffic Study | City of Sun Prairie

Project Engineer

Kevin was the lead project engineer for the traffic analysis of West Main Street between O'Keeffe Avenue and Grove Street (CTH N). This corridor is an urban arterial that serves multiple modes of transportation, a main route to two schools, and a gateway to the downtown area, all in a right-of-way constrained environment. This project included assessment of existing corridor operations and safety for pedestrian, bicycle, and vehicular modes of transportation. Crash data was evaluated to determine safety improvements that could be implemented along the corridor and at specific intersections to enhance operations for all roadway users.

Matt Regnier, PE, PTOE, RSP

Project Engineer | Design

- Wisconsin Professional Engineer
- Professional Traffic Operations Engineer
- BS in Civil Engineering | UW – Platteville

10 Years Experience

KL Engineering

Areas of Expertise:

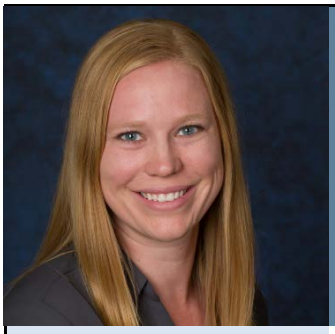
- Traffic Signal & Lighting Design
- Geometric Design
- ADA Compliant Curb Ramp Design
- Marking & Signing Design
- Non-Intrusive Detection Technologies
- Intersection Design & Configuration
- ITS & Adaptive Systems Technology
- Constructability Review

Matt will be the lead designer on the Mequon Road project and will be responsible for traffic signal design, curb ramp and pedestrian crossing modifications, and pavement marking design. Matt has developed a diverse skill set with project experience in traffic signal design, street lighting design, roundabout design, and general roadway design.

Overall, Matt has developed over 50 traffic signal plans across the state of Wisconsin for WisDOT and municipal projects. Matt's background in both traffic and roadway design projects makes him uniquely capable of anticipating project issues, proactively solving problems, and efficiently design electrical system installations seamlessly with planned roadway improvements.

Matt brings the following experience to the Mequon Road Project:

- Lead several projects involving signal infrastructure retrofits with ADA curb ramp modifications
- Expertise in traffic signal design and a thorough understanding of adaptive traffic signals, non-intrusive detection, and pedestrian crossing technologies
- Experienced in report preparation, design and quantity computations, cost estimates, construction staging, and plan preparations for both rural and urban roadway projects with varying scopes



Kelly Trac, PE, PTOE, RSP

Project Engineer | Safety

- Wisconsin Professional Traffic Operations Engineer
- Wisconsin Professional Engineer
- BS in Civil & Environmental Engineering
  University of Wisconsin – Madison

11 Years Experience

KL Engineering

Areas of Expertise:

- Evaluating Intersections & Corridors for Safety Countermeasures
- Traffic Flow Characteristics
- Pedestrian & Bicycle Safety Evaluations
- Traffic Safety Evaluation
- Traffic Modeling & Simulation
- Traffic Signal & Street Lighting Design
- Application of HSM Procedures
- Cost / Benefit Analyses

Kelly will lead the mid-block OIT safe trail crossing effort. She will be responsible for evaluating the performance of the existing crossing and determine possible improvement alternatives to provide safe and adequate pedestrian and bicycle accommodations while maintaining vehicular efficiency.

Kelly has over 10 years of experience in the traffic engineering field and has a wide-range of traffic engineering experience including traffic operations, traffic impact studies, safety, signal and lighting design, pedestrian and bicycle accommodations, and transportation planning. Kelly has a strong background in traffic safety projects, such as intersection and corridor safety evaluations, multi-modal enhancements, and system-wide safety improvement initiatives.

Kelly brings the following experience to the Mequon Road Project:

- Experienced in the fields of traffic safety engineering, traffic engineering, traffic operations, traffic management, and performance measures
- Familiar with pedestrian safety countermeasures at intersections and mid-block crossings
- Pedestrian signal design experience including RRFB systems and HAWK signals
- Project manager for several traffic signal designs for municipal projects

Lynda Fink, PLA

Senior Project Manager

- Wisconsin Professional Landscape Architect
- BS in Landscape Architecture | Horticulture 2nd Emphasis
  University of Wisconsin – Madison
- Certificate of Business | UW – Madison

20 Years Experience

Areas of Expertise:

- Path Crossings & Railroad Coordination
- Park & Trail Planning & Design
- Public Outreach & Consensus-building
- Fundraising Campaigns & Concept Renderings
- Multi-government Agency Coordination
- Local ACOE / WisDNR Permitting
- Trail Construction Oversight

Lynda specializes in multi-modal project oversight, from conceptual planning through design and construction. She will be a resource on this project for the development of safe trail crossing design concepts. Lynda's work places strong emphasis on safety, cost-effectiveness, longevity, and realistic maintenance requirements. She strives to cut through the multiple levels of red tape for her clients.

Linda brings the following experience to the Mequon Road Project:

- 20 years of comprehensive work in both design and construction oversight, assuring that project designs are realistic and address site-specific challenges with construction methodology
- Serving as a WisDOT Local Program Management Consultant and as a consultant on trail, park, and water-related amenity projects
- Serving as a municipal Landscape Architect for the City of West Bend on trail, streetscape, and park projects – as well as work in securing grants and alternative funding sources for projects
- Project Manager for the following recent trail projects: Jefferson Interurban Trail in Jefferson County, Waukesha to Brookfield Trail in Waukesha County, New Berlin Trail Phase 2 in the City of Waukesha, and CTH E Trail in Kenosha County

Tony Steinert

Electrical Design Specialist

- Wisconsin Certified Master Electrician
- Wisconsin Certified Commercial Electrical Inspector
- State Indentured Electrical Apprenticeship
  Fox Valley Technical College—Appleton

34 Years Experience

Areas of Expertise:

- Signalized Intersections
- Field System Evaluations
- Electrical Construction Inspection
- Roadway Lighting
- Design & Constructability Review
- Evaluating New Technology & Equipment
- Developing Technical Standards

Tony is KL's electrical field inspector and electrical design reviewer. He will be a resource during this project for constructability of traffic signal design. His background includes providing field system evaluations, electrical construction inspection, as-built plan preparation, design and constructability reviews for complex lighting, ITS, ramp gates, security systems, traffic signal systems, evaluating new technology and equipment, and developing technical standards. Tony has over 3 decades of highly specialized experience in the field of electrical, controls, and communications infrastructure.

Tony brings the following experience to the Mequon Road Project:

- Estimating and constructability reviews for electrical installations
- Inspection and construction oversight for 8 municipal signal and street lighting projects in 2019
- Assistance to WisDOT BTO State Electrical Engineer with electrical installation modifications and electrical details
- Currently evaluating Weight-In-Motion (WIM) system equipment submittals and providing electrical oversight for SWEF facilities in Kenosha and Racine
- He most recently completed the electrical and communication plan design for the Appleton Wastewater Treatment Plant, Gate, and Entryway Project

Mike Scarmon, PE, PTOE

Quality Control | Technical Advisor

- Wisconsin Professional Traffic Operations Engineer
- Wisconsin Professional Engineer
- BS in Civil & Environmental Engineering
  South Dakota State University

19 Years Experience

KL Engineering

Areas of Expertise:

- Project Management from Preliminary through Final Design
- Traffic Engineering & Analysis
- Traffic Signal & Street Lighting Design
- Street & Intersection Design
- Alternative Analysis & Modeling
- Public Involvement & Stakeholder Coordination
- Traffic Safety Evaluation & Screening

Mike will be a technical lead for the project and will be responsible for the review of all aspects of the signal design and pedestrian crossing design for accuracy and quality control.

Mike has led efforts to complete dozens of intersection control projects for WisDOT and municipalities involving traffic signals, roundabouts, stop-control, and non-traditional intersections. Mike's extensive traffic engineering experience allows him to develop solutions to complex transportation challenges. He keeps pace with rapidly changing standards and technology. Mike leads KL's Traffic Engineering team.

Mike brings the following experience to the Mequon Road Project:

- Design of over 100 traffic signals throughout the state
- Over 18 years of extensive knowledge and practice in traffic engineering, roadway design, electrical design, pedestrian accommodations, technical research, and special studies
- Collaborative project manager for a variety of projects, with experience in conducting public meetings on controversial issues and working with the public on design details
- Expertise includes considerable background with drafting technical manuals, equipment specifications and procurement, contract and project scoping, technical reports, and presentations

KL Engineering's Traffic Team

12 Dedicated Traffic Engineering Staff

7 Traffic Engineers (6 PEs, 5 PTOEs, 2 RSPs)

1 Master Electrician

3 Traffic Technicians | 1 Intern

In addition to our key staff for this project, we have other supporting traffic team members available to help with any project task or to achieve project deadlines and goals.

KL Engineering has built a reputation throughout the state of Wisconsin as a trusted resource for traffic engineering and design services. We strive to provide services that meet each client's needs ranging from data collection, traffic modeling and analysis to design and electrical construction services. Our 'hands-on' management approach ensures responsiveness and cost savings for our clients. In addition, KL Engineering has a proven track record of quality work and prioritizes customer service.

Overall, KL Engineering provides over 27 years of WisDOT and municipal design experience. We provide a team with a wide range of traffic experience and focus on building good working relationships with City staff and project stakeholders. Our team keeps pace with rapidly changing technology and standards and place a high priority on creating high quality deliverables. Our team is committed to completing every project on schedule and to your satisfaction.

North Fish Hatchery Road Improvements

City of Fitchburg, WI

KL Engineering completed design improvements for a 1.5-mile pavement replacement project along North Fish Hatchery Road between CTH PD and the West Madison Beltline.

The project includes extensive traffic signal operations analysis, safety upgrades along the corridor, and multiple full reconstruction of traffic signals. Due to the commercial atmosphere of the corridor, an extensive public involvement campaign has taken place throughout all project phases.

The project also includes a comprehensive drainage analysis for the roadway storm sewer system and structure design.

This heavily traveled, multi-lane urban roadway will be constructed under traffic requiring a complex construction staging and traffic control plan. Construction is planned to start in the spring 2020.

Notable Fish Hatchery Road project features:

- Improvements to intersections to address safety and congestion issues
- Traffic signal design and signal timing
- Temporary traffic signals
- Replacement of deteriorating pavement
- Construction staging plans to support traffic during construction
- Repair of underground infrastructure
- Repair of deteriorating retaining walls
- Upgrades to pedestrian and bicycle infrastructure
- Upgrades to streetscaping & lighting

PROJECT SUMMARY

Services & Project Similarities:

- Existing Conditions Analysis
- Traffic Volumes & Forecasting
- Traffic Flow Evaluation
- Safety Analysis
- Intersection Evaluations
- Alternative Analysis
- Ped & Bike Improvements
- Traffic Signal Design
- Temporary Traffic Signal Design
- Traffic Signal Optimization
- Meetings with City Staff, Project Stakeholders & Public

Reference:

Bill Balke, PE
Transportation Project Engineer
bill.balke@fitchburgwi.gov
(608) 270.4260

Key Staff:

- Mike Scarmon – Project Manager
- Keven Wehner – Lead Traffic Engineer
- Matt Regnier – Traffic Engineer

West Main Street Traffic Study

City of Sun Prairie, WI

KL Engineering worked with the City of Sun Prairie on a Traffic Study for the West Main Street corridor between O'Keeffe Avenue and Grove Street.

West Main Street is an urban arterial that services multiple modes of transportation, a main route to two schools, and a gateway to the downtown area, all in a right-of-way constrained environment.

Three main school crossings and several other pedestrian crossings are along this busy arterial street with up to 5-lanes of traffic to maneuver. Crash history has shown that this has become a major safety concern for the corridor.

The purpose of this study was to investigate existing operational challenges, safety concerns, and multi-modal accommodations throughout the corridor. Specifically, this included analyzing traffic flow within the downtown area, providing better school crossing accommodations, optimizing signal efficiency, and improving pedestrian mobility.

After evaluation of the existing corridor, it was determined that improvements were needed along the corridor, at intersections, and at spot locations to address the following:

- School Crossing Safety
- Ped / Bicycle Safety & Mobility
- Vehicular Operations & Safety
- Corridor Traffic Flow
- Traffic Signal Operations & Infrastructure
- Geometric Constraints

Recommendations for the corridor and intersections included short-term solutions (*usually lower cost*) for immediate implementation as well as long-term solutions (*usually higher cost*) for inclusion with future projects or as funding becomes available.

The project included close coordination with City Staff and the public. Two public information meetings were held throughout the project. In addition, KL staff went out into the field to meet with crossing guards to better understand current concerns at crossing locations.

PROJECT SUMMARY

Services & Project Similarities:

- Data Collection
- Existing Conditions Analysis
- Traffic Volumes & Forecasting
- Traffic Flow Evaluation
- Safety Analysis
- Intersection Evaluations
- Alternative Analysis
- Ped & Bike Improvements
- Traffic Signal Optimization
- Meetings with City Staff, Project Stakeholders & Public

Reference:

Adam Schleicher, PE
Director of Public Works | City Engineer
(608) 825.1170
aschleicher@cityofsunprairie.com

Key Staff:

- Kevin Wehner – Traffic Engineer
- Kelly Trac – Traffic Safety Engineer
- Mike Scarmon – QA/QC

Municipal Traffic Signal Design

Village of DeForest, WI | City of Fitchburg, WI | City of Reedsburg, WI | City of Fond du Lac, WI

KL Engineering has completed traffic signal and intersection design services for numerous project and municipalities throughout Wisconsin. Recent projects include:

- Fond du Lac, WI
  - STH 23 & CTH VVV
  - Main Street & Merrill Avenue
  - Pioneer Road & Mercury Marine Driveway
  - STH 23 & CTH VV (ongoing)
  - STH 23 & Mall Entrance (ongoing)
  - CTH VV & Home Depot Entrance (ongoing)
- DeForest, WI
  - CTH V (2 signals)
- Reedsburg, WI
  - Viking Drive & 8th Street
- Fitchburg, WI
  - Fish Hatchery Road (6 signals)
  - CTH MM & Lacy Road

These projects consist of new signalization of a total of nine intersections and reconstruction of seven. Improvements to intersections included addition of monotube signal arm equipment and flashing left-turn arrows, geometric improvements to accommodate loop installation, median restoration, and curb ramp improvements for ADA compliance. Projects in Fond du Lac and Fitchburg included design of communications between the intersections and corridor street lighting.

The CTH V project in DeForest included incorporating existing underground traffic signal infrastructure (conduits and pullboxes) that was installed previously at the intersections. This involved evaluating the condition and functionality of the existing equipment to determine if these items could be salvaged and used as part of the new design.

After the design process was completed, KL Engineering assisted in technical support and electrical inspections during construction for the DeForest and Reedsburg projects and is contracted to do so for the Fish Hatchery Road project.

PROJECT SUMMARY

Services & Project Similarities:

- Traffic Signal Design
- Corridor Street Lighting Design
- Signal Communications
- Curb Ramp Design
- Construction Services
- ADA Compliant Curb Ramps

References:

Paul DeVries – City of Fond du Lac
City Engineer
(920) 322.3473
pdevries@fdl.wi.gov

Greg Hall – Village of DeForest
Public Works Project Coordinator
(608) 846.6751
hallg@vi.desforest.wi.us

Key Staff:

- Mike Scarmon – Project Manager
- Kevin Wehner – Lead Traffic Engineer
- Matt Regnier – Designer
- Kelly Trac – Traffic Engineer
- Tony Steinert – Field Inspector

STH 52 (Stewart Street)

City of Wausau, WI

KL Engineering provided traffic engineering services and designed 3 traffic signals for a 1-mile pavement rehabilitation project between 3rd Avenue and 1st Street in downtown Wausau, WI.

The project required an evaluation of 3 signalized intersections along a segment of STH 52 (Stewart Avenue) that included both one and two-way arterial connections into downtown Wausau. The 2 primary cross-roads were formed by a one-way pair with 3rd and 1st Avenues that intersect with STH 52 at signalized intersections, each had high crash rates and qualified for HSIP funding.

The project included the design of 3 traffic signals and temporary traffic signals. A parallel rail spur required the 1st Avenue intersection to be modified to provide queue storage and was approved for rail pre-emption. Coordinated signal timing was developed for the corridor.

Construction was completed in 2017.

Notable Stewart Avenue project features:

- Improvements to intersections to address safety and congestion issues
- Traffic signal design and signal timing
- Temporary traffic signals
- One-way operational evaluation
- Pedestrian accessibility upgrades
- Upgrading electrical infrastructure for signals and street lighting
- Providing temporary and permanent signal timing
- Developing fiber optic communications network for signal communications
- Adding pedestrian actuated flashers at a mid-block crossing

PROJECT SUMMARY

Services & Project Similarities:

- Existing Conditions Analysis
- Railroad Coordination
- Traffic Volumes & Forecasting
- Traffic Flow Evaluation
- Rail Preemption Evaluation
- Intersection Evaluations
- Alternative Analysis
- Ped & Bike Improvements
- Traffic Signal Design
- Temporary Traffic Signal Design
- Traffic Signal Optimization
- Meetings with City Staff & Project Stakeholders

Reference:

Allen Wesolowski, PE
City Engineer
Allen.Wesolowski@ci.wausau.wi.us
(715) 261-6762

Key Staff:

- Mike Scarmon – Project Manager
- Matt Regnier – Traffic Signal Designer
- Kevin Wehner – Project Engineer

Trails & Recreation

General Services

KL Engineering is fully equipped to provide turnkey services for your parks and trails. From design and public involvement through permitting and construction oversight, we can help you with it all!

KL has tremendous experience with bike and pedestrian facilities of all types. With our background in design, construction, and as past municipal owners, we offer a holistic perspective to your projects. Additionally, our extensive work with WisDOT Non-Traditional Project experience as project sponsor, management consultant, designer, construction manager, and real estate agent, allows us to create a project that fits your needs and cuts through the red tape.

Pedestrian / Bicycle Crossing Enhancements

KL Engineering has strong experience in evaluating controlled and uncontrolled pedestrian / bicycle crossings for safety improvements. Our team assesses possible improvement recommendations based on their ability to decrease existing safety issues, feasibility of implementation, and cost effectiveness. We have designed several pedestrian enhancement systems including:

- Pedestrian Hybrid Beacons (*formally known as HAWK*)
- Rectangular Rapid-Flashing Beacons *(RRFB)*
- Pedestrian Flashers
- Signal Phasing / Restrictions / Leading Pedestrian Intervals
- Refuge Islands
- Accessibility Features
- Lighting / Visibility Enhancements

SERVICES

- Trail Design
- Railroad Coordination
- Boat Launches
- Grant Administration
- WisDOT Non-Traditional Projects
- ADA Compliance
- Bike & Pedestrian Facilities
- Streambank Restoration
- Boardwalks & Bridges
- Park Planning & Design
- Permitting
- Streetscaping
- Private & Public Fundraising
- Lighting & Electrical
- Stormwater Engineering
- Renderings
- Construction Oversight

CONTACT

Lynda Fink, PLA
Senior Project Manager
lfink@klengineering.com
(262) 804-1337

Project Schedule

We suggest the following general schedule for this project. This schedule is based on the tentative schedule provided in the RFP. KL Engineering has a large number of resources and can remain flexible if needs or priorities change.

January 2020	➢ Work Authorization
Late January – Early February	➢ Initiate Utility & Railroad Coordination ➢ Field Review ➢ Survey ➢ Data Collection
February 2020	➢ Alternative Identification & Screening ➢ PIM #1 ➢ Alternative Analysis ➢ Preliminary Electrical Design
March 2020	➢ Presentation to Committee of the Whole ➢ Start Final Design
April 2020	➢ PIM #2 ➢ Final Alternative Selection ➢ Complete Final Design ➢ Finalize Bid Package