5400 King James Way I Suite 200
Madison, WI 53719
608.663.1218
Toll Free: 800.810.4012
www.klengineering.com

June 4, 2020

Peter Daniels, P.E.
City Engineer
City of West Allis Engineering Department
7525 W Greenfield Ave. Room 212
West Allis, WI 53214

RE: Proposal for Lighting Design Services – City of West Allis – 2021 Lighting Circuit Upgrades

Dear Peter:

KL Engineering, Inc. is pleased to provide you with this proposal to perform lighting and electrical design for the 2021 Lighting Circuit Upgrades. The following attachments are included with this letter, and should be considered part of our contract for engineering services:

- Attachment A – Project Background, Design Team, and Schedule
- Attachment B – Contract Assumptions and Scope of Services
- Attachment B.1 – Circuit B-1 Description
- Attachment B.2 – Circuit B-4 Description
- Attachment B.3 – Circuit F-5 Description
- Attachment B.4 – Circuit H-2 Description
- Attachment C – Construction Engineering Contingency
- Attachment D – Design Fee Estimates
- Attachment E – Billing Schedule
- Attachment F – General Terms and Conditions

The total cost for the services listed below will be billed on an hourly basis utilizing the enclosed billing schedule with a maximum cost of **$123,308**. We will bill to each project individually, and our invoices will include subtotals for each project.

- B-1 (45 streetlights): $20,234
  - Preliminary Engineering: $6,750
  - Design Engineering: $6,109
  - Bidding and Administration: $7,375
- B-4 (118 streetlights): $43,138
  - Preliminary Engineering: $14,744
  - Design Engineering: $12,044
  - Bidding and Administration: $16,350
- F-5 (70 streetlights): $27,353
  - Preliminary Engineering: $9,254
  - Design Engineering: $8,144
  - Bidding and Administration: $9,955
- H-2 (52 streetlights): $22,583
  - Preliminary Engineering: $7,359
  - Design Engineering: $7,059
  - Bidding and Administration: $8,165
- *Total for all Circuits: $113,308*
  - *Total for Preliminary Engineering: $38,107*
  - *Total for Design Engineering: $33,356*
  - *Total for Bidding and Administration: $41,845*
- Planning for STH 100 Lighting Circuits: $10,000
  - Includes 100 hour allocation for circuits impacted by WisDOT's 2020/2021 project
  - Hours can be used for preliminary design budget estimating and coordination with WisDOT
  - No work on STH 100 circuits will be completed without direction from City staff

- *Total Contract Cost: $123,308*

Basis of Payment and General Conditions

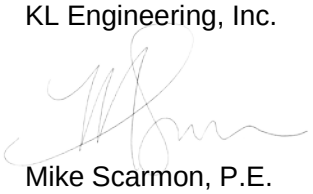
This work shall be completed in accordance with the attached General Terms and Conditions, which shall be considered a part of this contract upon the written approval indicated below. KL Engineering will submit monthly invoices for work completed under this proposal. City of West Allis will reimburse KL Engineering within 30 days from the date of the invoice.

Our professional services will be performed, our findings obtained, and our recommendations prepared in accordance with generally accepted engineering principles and practices. No other warranty, either expressed or implied is made.

We look forward to working with you on this project. Please let us know if you have any questions regarding this proposal. You may indicate your approval for us to proceed with the specific tasks by signing the appropriate

section of this proposal and returning it to us.

Sincerely,
KL Engineering, Inc.



Mike Scarmon, P.E.
Senior Project Manager

KL Engineering, Inc.	City of West Allis
Approved By: _____	Approved By: _____
Title: Senior Vice President	Title: _____
Date: June 4, 2020	Date: _____

Attachment A

Project Background, Design Team, and Schedule

Lighting and Electrical Design Services
2021 Circuit Conversions
West Allis, Wisconsin

Project Background:

In late spring 2019 the City of West Allis and KL Engineering completed a planning study which evaluated alternatives for upgrading the City's lighting systems. The purpose of this study was to ensure lighting remains operational, to increase overall efficiency and to take advantage of cost savings resulting from decreased energy usage and reduced maintenance. The study concluded that 225 LPS luminaires must be converted annually from high voltage series circuitry to low voltage parallel circuitry in order to keep pace with impending LPS outages.

KL Engineering provided lighting design services for the 2020 Circuit Conversions which include circuits C-3, D-1, N-5 and P-3. The City's electrical staff has performed the work on the conversion of circuits C-3 and D-1. Circuits N-5 and P-3 were publicly let for the work to be performed by contractor forces. In total, the 2020 Circuit Conversions will have converted 207 lighting units from high voltage series to low voltage parallel.

KL Engineering will implement several "best practices" that we have identified from our services preparing the 2020 projects. Our team plans to deliver the 2021 conversion projects in an efficient and high-quality manner, with minimal time and resources needed from City staff.

All circuit conversion projects for 2021 have been selected to coincide with roadway reconstruction projects. Projects included in the 2021 Streetlighting Circuit Conversion scope will account for the conversion of 285 lighting units and are as follows:

1. Circuit B-1
2. Circuit B-4
3. Circuit F-5
4. Circuit H-2

Design Team:

KL is prepared to dedicate a team to fulfill the tasks outlined in this proposal. Professional resumes of the team members can be made available upon request. The KL project team consists of engineers, technicians, and a master electrician who have been selected based on experience and knowledge of the specific services offered with this proposal. A larger support staff beyond those mentioned will be available to supplement our planning, design, and construction efforts when required.

Jake Joyal, PE (Project Manager, Madison, WI)
As the project manager for the 2021 street lighting circuit conversion project, Jake will be responsible for coordinating KL team performance and committing firm resources to ensure successful completion of project tasks. Jake will also be responsible for leading the design team preparation of the plans and specifications and reviewing all project work for accuracy and completeness. Jake has established relationships with City of West Allis staff, and will be their primary contact for coordination through the preliminary and final design stages.

Mike Scarmon, PE (Quality Control and Admin, Madison, WI)
As the project administrator in charge of quality control for the 2021 street lighting circuit conversion project, Mike will be responsible for providing internal quality control for KL's project tasks through preliminary and final design, and construction. Mike's primary focus will include contract documents, administrative coordination with the City of West Allis and other miscellaneous planning tasks.

Tony Steinert (Electrical Designer and Construction Lead, Green Bay, WI)
Tony will provide field documentation and assist with electrical design for the circuit conversion projects. He will focus on establishing existing and proposed infrastructure location, condition, and electrical capacity. Tony's role will include reviewing plans, estimates, and constructability. He will also coordinate with contractors, utilities, and other project stakeholders

Andrew Lobdell (CAD Technician, Madison, WI)
Andrew will be responsible for drafting the plans, and any necessary construction details. He will create existing lighting design files from the GIS files provided by the city and will create as-built files for the City to import back into their GIS database. He will also assist with bid item quantities, and estimates developed for the street lighting circuit conversion project.

Project Schedule:
We anticipate quickly mobilizing upon receiving authorization to proceed with the intent to prepare biddable plans earlier than was done with the 2020 projects, thus encouraging more contractors to bid and increasing competition. See below for the anticipated design schedule for the 2021 lighting upgrade projects:

- July 1, 2020: Authorization to proceed
- Week of July 13th, 2020: Kickoff meeting
- Week of August 31st, 2020: Design review meeting #1
- Week of October 26th, 2020: Design review meeting #2
- December, 2020: Plans advertised for bids
- January, 2021: Award bids
- May, 2021: Start construction

The schedule for the remainder of the construction season will be dictated by the contractor(s) who will be selected to complete the work and other factors that will be determined through the design process.

Attachment B

Contract Assumptions and Scope of Services

Lighting and Electrical Design Services
2021 Circuit Conversions
West Allis, Wisconsin

Preliminary Engineering:

The preliminary engineering phase includes data collection and investigative efforts necessary to establish the design parameters that will be subsequently used in the Design Engineering phase.

The scope of preliminary engineering work is similar for all project segments. The preliminary engineering sub-tasks include the following:

- Update the Lighting System Analyzer Database
    - The database prepared as part of the planning study will be updated and maintained on an ongoing basis.
    - Updates include adjusting estimates to reflect 2020 bid results.
- Meetings – KL will facilitate a kickoff meeting in mid July at the City of West Allis to confirm the following project details:
    - Lessons learned from 2020 Circuit Conversion Design Process
    - Schedule and project milestones
    - Design methodology and standard practices
    - Points of contact and coordination
- Mapping
    - KL will use the City's GIS database to develop a 2D layout of the extents of each circuit to be used in lieu of actual survey data. This database will also be used to obtain rough approximations of gas and electric utility locations, as well as existing streetlighting infrastructure.
    - KL will contact diggers hotline and request electronic and/or hard copy utility mapping for the circuit conversion area.
    - KL will perform a field review and manually locate all streetlighting units and controls. Data will be uploaded into Civil 3D for design utilization to create removal plans.
    - Field survey will not be collected except for within roadway reconstruction limits, where KL will coordinate with the City to obtain survey data from others. KL may request additional survey to be completed by the City when more specific mapping data is required.
- Field Work
    - KL will perform field reviews to manually locate all existing streetlighting infrastructure for the specified high voltage series circuits.
    - KL will inspect all existing lighting infrastructure to determine and document its availability for re-use.
    - KL will measure all applicable panel amperages and circuit voltage drops on existing low voltage electrical services to determine capacity for carrying additional loads from converted high voltage systems.
    - KL will field verify and document any significant potential conflicts including complex overhead or underground utility configurations, steep grades, railroad corridors, tree canopy issues, and other similar features.
- Electrical Standards
    - Includes revisions to the electrical standards and details as necessary based on lessons learned from the 2020 Circuit Conversion projects.
- Deliverables
    - Includes plans with existing conditions mapping and depiction of all features described above.
    - Includes site photos, electrical documentation, and other field notes.

Design Engineering:

This task includes completion of streetlighting and electrical design for the high voltage circuits, as well as development of plans, specifications and construction estimates for preliminary and final project intervals. The scope of design engineering work is similar for all project segments.

The design engineering sub-tasks include the following:

- Meetings – KL will meet with City staff at two (2) design intervals in August and October to review all circuit conversion design plans and determine any conflicts with scheduling or roadway reconstruction projects.
- Design Standards
    - Lighting design will utilize and reference West Allis standard electrical specifications and details.
    - Lighting infrastructure will be designed to meet NEC specifications.
    - Lighting design will be based on a 1-for-1 replacement with existing lighting units. Exact layout will be designed based on best practices, field conditions, and construction coordination.
    - Photometric modeling and illumination documentation are not included.
    - All lighting infrastructure will conform to the standardized materials as determined for use with these projects. Exceptions to standard conditions may require additional design effort to complete.
- Electrical Service and Controls Coordination
    - Using the City mapping created from GIS and manual locates, proposed cabinet locations will be determined. Proposed cabinet locations shall be optimized by taking consideration of neighboring low voltage service capacities, as well as all future high voltage circuit conversion projects.
        - It is assumed that existing low voltage lighting services outside of the project limits may be considered as a potential power source.
        - It is assumed that proposed low voltage lighting services may be installed with the anticipation for future expansion beyond the project limits.
    - This task includes coordination with the electrical utility for up to one (1) new electrical service per high voltage series circuit being converted, completing the permit form and application, and conflict mitigation.
    - Coordination with Verizon for compatibility with 5G sites is not included with this contract. This effort can be provided if needed but may require additional services to complete.
- Street Lighting Design
    - All existing street lighting infrastructure that was located from manual inspection and GIS databases will be mapped in AutoCAD Civil 3D and required removals will be determined.
    - Final lighting layout, electrical conduit routing, pull box and control cabinet locations will be mapped in AutoCAD Civil 3D.
    - Using the proposed layouts, voltage drop calculations will be performed to determine optimized electrical circuiting and conductor sizing. All calculations will be documented with spreadsheets and will be available for review upon request.
    - Includes establishing requirements for temporary connections, temporary lighting, and other construction operations.
    - Includes accounting for sign replacement where infrastructure is shared
- Field Work
    - Upon completion of pre-final design, KL will stake all proposed lighting and cabinet locations with markers (flags, paint, or similar) to allow for City staff and other affected stakeholders to provide input.
    - KL will update and complete a final locate to identify any adjustments made to the proposed lighting units and cabinets. These coordinates will be included in the plans, provided to the contractor, and will eventually be used for as-built mapping into the GIS database.

Bidding and Administration:

This task includes preparing and submitting deliverables for project advertisement and letting. The scope of bidding and administration work is similar for all project segments.

The bidding and administration sub-tasks include the following:

- Prepare Bidding Plans and Specifications – KL will develop and submit construction documents for each circuit conversion for two project intervals, pre-final and final, with one (1) opportunity for official review after the pre-final submittal. Deliverables will include the following:

    - Lighting Removal Plans
    - Lighting Plans
    - Signing Plans
    - Construction Details (4 pages)
    - Technical Specifications
    - Bid Tabulations
- Project Delivery and Administration
    - This proposal assumes that construction estimates will be updated continuously and presented at each of the four (4) check-in meetings with the City of West Allis.
    - This proposal assumes the lighting designs associated with the concurrent roadway reconstruction projects will be included with the circuit conversion project lettings and will not be bid as part of the roadway projects. Preparing lighting deliverables for multiple letting may require additional services to complete.
    - This proposal is based on the City completing bidding documents and advertisement for one (1) letting per high voltage series circuit conversion. The required contractor sealed bid submittal package will include the following elements that then assure conformance with state bidding and construction laws as noted in Wisconsin Statutes 66.0901, and 62.15:
        - Bid bond
        - Signed bid form (binding price)
        - All proposed material submittals (correlate with the bid price)
        - Affidavit of organization
        - Project bidding manual
        - Project advertisement on Quest
        - Other front-end documents as required
- Meetings and Coordination:
    - Includes one (1) kick-off meeting as described previously.
    - Includes two (2) design review meetings as described previously.
    - Includes one (1) pre-bid meeting with contractors.

Additional Design – STH 100:

This task includes planning and design for future use electrical infrastructure installations by City forces along STH 100. This work would be performed to most efficiently utilize the traffic control being provided by the WisDOT reconstruction project in order to install conduit and concrete bases. The scope of this work is similar to the preliminary and design engineering of the other circuits being converted.

- Street Lighting Design
    - All existing street lighting infrastructure that was located from manual inspection and GIS databases will be mapped in AutoCAD Civil 3D and required removals will be determined.
    - Final lighting layout, electrical conduit routing, pull box and control cabinet locations will be mapped in AutoCAD Civil 3D.
    - Infrastructure will not be designed for immediate utilization and is scoped as being installed for future use.
- Meetings and Coordination
    - Miscellaneous coordination between WisDOT and City of West Allis to determine schedules and site access.
    - Includes one (1) design review meeting
- Deliverables
    - Construction Estimates
    - Design documentation for inclusion on the Cities GIS database
    - This contract does not include production of plans for contractor bidding purposes

Attachment B.1

Circuit B-1 Description

Lighting and Electrical Design Services
2021 Circuit Conversions
West Allis, Wisconsin

General Circuit Characteristics:

This section describes the infrastructure components and parameters of the high voltage series circuit used to estimate the efforts that are necessary to complete the engineering and bid documents. Circuit B-1 shall be described as follows, and be considered the basis of the scope of the design:

- Circuit Description
  - B-1: Between S 62nd St, W Orchard St, W Rogers St, S 54th St
- Extents of Streetlighting
  - 6,500 ft of roadway illuminated
- Street Lighting units
  - 45 total lighting units
    - (2) 35W LPS
    - (39) 55W LPS
    - (4) 70W HPS
- Existing Controls and Electrical Service
  - High voltage Transformer Located at S 62nd St and W Orchard St
    - Transformer to remain in service for circuits B-2 & B-5
  - CA low voltage control cabinet located at S 60th St & W Burnham St
  - BC low voltage control cabinet located at W Lapham St & S 59th St
  - DB low voltage control cabinet located at S 56th St at Rogers Playground

Roadway Reconstruction Project:

This section describes the extent of impacts from roadway reconstruction projects on the high voltage series circuit, used to estimate the efforts that are necessary to complete the engineering and bid documents. Circuit B-1 is expected to coincide with a City of West Allis street reconstruction project as follows:

Project Description (2021)

- Reconstruction on S 56th between W Beloit Rd to W Rodgers St
- High Voltage Series Circuit Impacts: B-1
  - 1,175 ft of roadway illuminated
  - 7 total lighting units
    - (7) 55W LPS

Project Description (2022)

- Reconstruction on S 57th between W Burnham St to W Mobile St
- High Voltage Series Circuit Impacts: B-1
  - 600 ft of roadway illuminated
  - 5 total lighting units
    - (5) 55W LPS

Circuit B-1

N
W E
S

0 100 200 400
Feet

Updated: 6/28/2018
by Peter Fantle (GIS)

B1
B101514
W. ORCHARD ST.
S. 62ND ST.
S. 61ST ST.
S. 60TH ST.
S. 59TH ST.
S. 58TH ST.
S. 57TH ST.
S. 56TH ST.
B106106
B106020
W. LAPHAM ST.
Caution
Coincident Circuit
See B4 for Additional Information
Caution
Coincident Circuit
See CA for Additional Information
Caution
Coincident Circuit
See BC for Additional Information
B101607
B101626
B101645
B101666
B105732
B105712
B105630
B105612
B105719
B105701Y
B105601Z
B105619
B101705
B101711
W. MITCHELL ST.
W. BELOIT RD.
Caution
Coincident Circuit
See BC for Additional Information
B101721
B101730
B101734
B101743
B101749
B101757
B101806
B101814
B101822
B101823
B101824
B101826
W. BURNHAM ST.
Caution
Coincident Circuit
See C1 for Additional Information
Caution
Coincident Circuit
See C1 Additional Information
B101910
B101912
B101918
B101920
B101933
B101929Z
B101929
B101942
B101938
B101946Z
B101945
B101959
B101957
B101966
S. 53RD ST.
S. 54TH ST.
S. 55TH ST.
W. ROGERS ST.
Caution
Coincident Circuit
See DB for Additional Information

CITY AT THE CENTER
WEST ALLIS

Attachment B.2

Circuit B-4 Description

Lighting and Electrical Design Services
2021 Circuit Conversions
West Allis, Wisconsin

General Circuit Characteristics:

This section describes the infrastructure components and parameters of the high voltage series circuit used to estimate the efforts that are necessary to complete the engineering and bid documents. Circuit B-4 shall be described as follows, and be considered the basis of the scope of the design:

- Circuit Description
  - B-4: Between S 60th St, W Orchard St, W Burnham St, Railroad Spur
- Extents of Streetlighting
  - 15,650 ft of roadway illuminated
- Street Lighting units
  - 118 total lighting units
    - (105) 55W LPS
    - (8) 100W HPS
    - (5) 150W HPS
- Existing Controls and Electrical Service
  - High voltage Transformer Located at S 62nd St and W Orchard St
    - Transformer to remain in service for circuits B-2 & B-5
  - BB low voltage control cabinet located at S Six Points Cr & W National Ave

Roadway Reconstruction Project:

This section describes the extent of impacts from roadway reconstruction projects on the high voltage series circuit, used to estimate the efforts that are necessary to complete the engineering and bid documents. Circuit B-4 is expected to coincide with a City of West Allis street reconstruction project as follows:

Project Description (2022)

- Major Resurface on S 66th St between W Lapham St and W Burnham St.
- High Voltage Series Circuit Impacts: B-4
  - 900 ft of roadway illuminated
  - 10 total lighting units
    - (7) 55W LPS
    - (2) 100W HPS
    - (1) 150W HPS
- Low Voltage Parallel Circuit Impacts: B-B
  - 450 ft of roadway illuminated
  - 7 total lighting units
    - (3) 50W HPS
    - (4) 150W HPS

Project Description (2024)

- Reconstruction on W Mitchell St between S 60th St & S 66th St
- High Voltage Series Circuit Impacts: B-4
  - 1800 ft of roadway illuminated
  - 22 total lighting units
    - (22) 55W LPS

Circuit B-4

N
W E
S

0 75 150 300
Feet

Updated: 3/8/2018
by Peter Fantle (GIS)

Caution
Coincident Circuit
See B1 and B5 for Additional Information

Caution
Coincident Circuit
See B1 for Additional Information

Caution
Coincident Circuit
See BB for Additional Information

Caution
Coincident Circuit
See C1 for Additional Information

B4

W. NATIONAL AVE.
W. ORCHARD ST.
W. LAPHAM ST.
W. MITCHELL ST.
W. BURNHAM ST.
S. SIX POINTS CR
SPUR TRACK
S. 65TH ST.
S. 64TH ST.
S. 63RD ST.
S. 62ND ST.
S. 61ST ST.
S. 66TH ST.

B401420 B406130 B406112 B401433 B406022 B406037 B401441 B406239 B406219Z B406201Z B401510 B401527 B401516 B401524 B401527Z B401531 B401543 B401544 B401546 B401548 B401562 B401561 B401563Z B401563 B401575 B406420 B401576Z B406320 B401576 B401580 B406035 B406541 B406521Y B406441 B406401 B406301 B406219 B406201 B406119 B401602 B401612 B401615 B401618Z B401617 B401618 B401637Z B401636 B401637Y B401632 B401637 B401651Z B401660 B401651 B401648 B401653 B401658 B406640 B406628 B406610 B401699 B406532 B406508 B406440 B406410 B406328 B406310 B406228 B406210 B406132 B406112 B406040 B406014 B406641 B406629 B406623 B406601 B406521Z B406507 B406419 B406401Z B406301Z B406221 B406201Y B406123 B406101 B406029 B401700 B406323 B401712 B401713 B401718 B401717 B401719Z B401719 B401738 B401739Z B401737 B401735 B401739 B401743 B401761 B401756 B401800Z B401800 B401754 B401802 B401818 B401815 B401817Z B401817Y B401817X B401817 B401835 B406424 B406330 B406411 B406521 B406503

Attachment B.3

Circuit F-5 Description

Lighting and Electrical Design Services
2021 Circuit Conversions
West Allis, Wisconsin

General Circuit Characteristics:

This section describes the infrastructure components and parameters of the high voltage series circuit used to estimate the efforts that are necessary to complete the engineering and bid documents. Circuit F-5 shall be described as follows, and be considered the basis of the scope of the design:

- Circuit Description
  - F-5: Between W National Ave, S 83rd St, W Greenfield Ave, & S 76th St
- Extents of Streetlighting
  - 14,750 ft of roadway illuminated
- Street Lighting units
  - 70 total lighting units
    - (35) 55W LPS
    - (30) 75W HPS
    - (5) 150W HPS
- Existing Controls and Electrical Service
  - High Voltage Transformer Located at S 76th St at West Allis City Hall
    - Transformer to remain in service for circuits F-1 & F-3
  - FF low voltage control cabinet located at W Lapham St & S 79th St

Roadway Reconstruction Project:

This section describes the extent of impacts from roadway reconstruction projects on the high voltage series circuit, used to estimate the efforts that are necessary to complete the engineering and bid documents. Circuit F-5 is expected to coincide with a City of West Allis street reconstruction project as follows:

Project Description

- Reconstruction on S 82nd St between W Greenfield Ave & W National Ave
- High Voltage Series Circuit Impacts: F-5
  - 2,200 ft of roadway illuminated
  - 15 total lighting units
    - (15) 55W LPS

Miscellaneous Coordination:

This section describes other unique features, stakeholders, or restrictions that require additional coordination that will impact the efforts necessary to complete engineering and bid documents. Circuit F-5 is anticipated to require the following unique coordination requirements:

- Wisconsin State Fair
  - Additional coordination with the contractor will be required that all lighting remains operable during the state fair

Caution
Coincident Circuit
See F3 for Additional Information

Caution
Coincident Circuit
See F2, F3 and FA for Additional Information

Caution
Coincident Circuit
See FF for Additional Information

Caution
Coincident Circuit
See L4 and L5 for Additional Information

F5

Circuit F-5

N W E S

0 100 200 400
Feet

Updated: 3/8/2018
by Peter Fantle (GIS)

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WEST ALLIS

Attachment B.4

Circuit H-2 Description

Lighting and Electrical Design Services
2021 Circuit Conversions
West Allis, Wisconsin

General Circuit Characteristics:

This section describes the infrastructure components and parameters of the high voltage series circuit used to estimate the efforts that are necessary to complete the engineering and bid documents. Circuit H-2 shall be described as follows, and be considered the basis of the scope of the design:

- Circuit Description
    - H-2: Between S 84th St, Burnham St, S 80th St, & W Becher St
- Extents of Streetlighting
    - 3,000 ft of roadway illuminated
- Street Lighting units
    - 52 total lighting units
        - (52) 55W LPS
- Existing Controls and Electrical Service
    - High Voltage Transformer Located at W Becher St/S 80th St Southern End
        - Transformer to remain in service for circuits H-3 & H-4
    - HA low voltage control cabinet located at W Becher St & S 79th St

Roadway Reconstruction Project:

This section describes the extent of impacts from roadway reconstruction projects on the high voltage series circuit, used to estimate the efforts that are necessary to complete the engineering and bid documents. Circuit H-2 is expected to coincide with a City of West Allis street reconstruction project as follows:

Project Description

- Reconstruction on S 82nd St between W Rogers St & W Burnham St
- High Voltage Series Circuit Impacts: P-3
    - 550 ft of roadway illuminated
    - 7 total lighting units
        - (7) 55W LPS

Circuit H-2

N
W E
S

0 50 100 200
Feet

Updated: 3/8/2018
by Peter Fantle (GIS)

W. BURNHAM ST.
W. HICKS ST.
W. ROGERS ST.
W. BECHER ST.
S. 84TH ST.
S. 83RD ST.
S. 82ND ST.
S. 81ST ST.
S. 80TH ST.
S. 79TH ST.

H208230
H208100
H208139
H201915
H201909Z
H208217
H201911
H201924
H201918
H201931Z
H201939Z
H201954Z
H201954Y
H201956
H201971Y
H201971Z
H201973Z
H208240
H208122
H208221
H208121
H202001Y
H202001Z
H208319
H202003
H202001X
H202012
H202014Y
H202014Z
H202018
H202017
H202027
H202033Z
H202033
H202046Z
H202042
H202044Z
H202048
H202055
H202061Z
H202059
H202065

Caution
Coincident Circuit
See HA for Additional Information

Caution
Coincident Circuit
See H3 and H4 for Additional Information

Caution
Coincident Circuit
See H3 and H4 for Additional Information

H2

CITY AT THE CENTER
WEST ALLIS

Attachment C

Construction Engineering Contingency

Lighting and Electrical Design Services
2021 Circuit Conversions
West Allis, Wisconsin

This document describes preliminary assumptions and a budget estimate to provide construction engineering services for the 2021 circuit conversion projects. The scope of services for the 2020 circuit conversion projects was recently negotiated between KL Engineering and the City, and can be referenced for scoping purposes. Using the planning-level analyzer database, the construction cost to complete the 4 circuits planned for 2021 conversion would be $2.6M, if completed by contracted forces.

To establish forthcoming Capital Improvement Plan budgeting needs, we suggest using 9% of total anticipated construction costs as an estimate of potential construction engineering fees. This fee is based on the recently negotiated construction oversight contract and the following general assumptions:

- Assume contractor oversight for all 4 circuit conversion projects planned for 2021 (285 Lighting Units)
- Construction schedule based on work potentially starting late March running through late October
- 18 out of 35 weeks are full time on site + 8 week contingency (75% of total active construction duration)
- An additional allocation for administrative tasks and as-built compilation

This contingency is provided for information only. It is assumed that a contract for construction services will be negotiated after the projects have been awarded, when construction scheduling and other oversight requirements will be better identified.

Attachment D

Design Fee Estimates

Lighting and Electrical Design Services
2021 Circuit Conversions
West Allis, Wisconsin

Engineering Fees for Circuits:

Below is a summary of our estimated hours by task for each project, as well as total hours, total cost, and average hourly rate. These costs shall be considered a not-to-exceed estimate based on the scope of services described in this proposal. We have been diligent in preparing our cost estimate and will strive to be as efficient as possible. If we complete the project in fewer hours than anticipated, we will bill correspondingly less. We intend to bill to each project individually, and our invoices will include subtotals for each project.

	Circuit B-1	Circuit B-4	Circuit F-5	Circuit H-2	Total for All Circuits
Luminaires	45	118	70	52	285
Preliminary Engineering					
Hours	67	148	90	71	376
Cost	$6,750	$14,744	$9,254	$7,359	$38,107
Design Engineering					
Hours	59	120	80	67	326
Cost	$6,109	$12,044	$8,144	$7,059	$33,356
Bidding and Administration					
Hours	76	171	100	84	431
Cost	$7,375	$16,350	$9,955	$8,165	$41,845
Totals by Circuit					
Hours	202	439	270	222	1133
Cost	$20,234	$43,138	$27,353	$22,583	$113,308
Planning Allocation - STH 100					
Hours	100				
Cost	$10,000				
TOTAL HOURS	1233				
TOTAL COST	$123,308				
AVERAGE HOURLY RATE	$100				

Please note that our average hourly rate has decreased since 2020 ($104). This decrease is largely due to steps taken in 2020 that will provide efficiencies to be used moving forward, such as developing electrical standards and details, and other project development tasks. Additionally, there were numerous other best practices that will be applied to further increase efficiencies in plan production.