

Consulting Services Contract
City of Waukesha – Jacobs Engineering Group, Inc.

Return Flow Pump Station and Advanced Phosphorus Treatment with
Facilities Enhancement for Clean Water Plant

This Contract is by and between the City of Waukesha, a Wisconsin municipal corporation, referred to herein as the City; and Jacobs Engineering Group, Inc., referred to herein as the Consultant. Together, the City and Consultant are referred to as the Parties.

Recitals

The City published a Request for Proposals, referred to as the RFP, for consulting services in connection with the following Project: Return Flow Pump Station and Advanced Phosphorus Treatment with Facilities Enhancement for Clean Water Plant.

The RFP contained a specific Scope of Work to be incorporated into the successful bidder's contract.

The Consultant submitted a proposal in response to the RFP, and was selected by the City to be awarded the contract for the Project.

The Consultant is willing to perform consulting services according to the Scope of Work stated in the RFP and the Consultant's responsive Proposal, and to accept the award of the contract for the Project.

Now, therefore, the City and the Consultant agree and contract as follows:

1. **Scope of Work.** The Consultant shall perform and provide all engineering services as specified by the City in individual work orders and as specified in the Scope of Work in Schedule A.
2. **Standard of Work.** Consultant will perform the Work according to generally-accepted industry practices and the standards of the professions of the individuals performing the Work on behalf of Consultant.
3. **Payment.** The City shall pay to Consultant a total flat fee of \$1,526,954. Consultant shall invoice City monthly in arrears for Work performed in the previous month, up to the total flat-fee amount, using the hourly rates shown in the table below. Invoices shall be payable net 30 days. An additional fee of \$10,000 shall be invoiced if phosphorus treatment alternative numbers 2, 3, or 4 (as described in the Consultant's proposal) are selected by the City.

If completion of the Work is delayed past March 31, 2022 due to legal challenges to the issuance by the DNR of the City's WPDES permit or other unforeseen circumstances that are not in Consultant's control, then the hourly rates in the table below shall be increased by 1.5% for all Work performed after March 31, 2022. The hourly rates shall not be adjusted for delays due to any other causes.

Hourly Rates to be Used for the basis of Fee Amendments		
Staff Name	Average Hourly Rate(1)	April 2022 through April 2023 Hourly Rate(1)
Bill Desing	\$ 229	\$ 236
Brent Brown	\$ 156	\$ 161
Andy Schrank	\$ 197	\$ 203
Typical Senior Consultant	\$ 200	\$ 206

Jim Fisher	\$ 159	\$ 164
Dustin Maas	\$ 123	\$ 127
Colin Fitzgerald	\$ 117	\$ 121
Darren Lecke	\$ 143	\$ 147
Rahul Shelgaunokar	\$ 90	\$ 93
Jared Wendt	\$ 112	\$ 115
Sam Rizzi	\$ 198	\$ 204
Robert Wood	\$ 130	\$ 134
Richard Siebers	\$ 159	\$ 164
Del Lange	\$ 162	\$ 167
Robert Martin	\$ 174	\$ 179
Kevin Butcher	\$ 116	\$ 119
Alan Jones	\$ 204	\$ 210
Brice Windyg	\$ 107	\$ 110
Senior CAD	\$ 91	\$ 94
CAD Tech	\$ 74	\$ 76
Clerical	\$ 78	\$ 80
Tomasz Musial	\$ 50	\$ 52

Hourly rates shown are billing rates that include markups, fringe, overhead, general and administrative expenses and profit.

4. **Time.** Consultant shall commence the Work as promptly after execution of this Contract as is possible, and shall complete the Work no later than March 31, 2022, subject only to delays for circumstances beyond Consultant's control, provided Consultant recommences work promptly in good faith upon the return of normal circumstances.
5. **Ownership of Work Product.** All materials produced in the performance of the Work shall be the sole property of the City, and shall be kept confidential and not disclosed to any third party without the prior written permission of the City.
6. **Changes.** This Contract can only be amended by the written mutual agreement of the Parties. No change to the scope of the Work, the personnel as indicated in the Consultant's Proposal Dated September 28, 2018, or the fee to be paid to Consultant, shall be effective unless done by the written mutual agreement of the Parties.
7. **Indemnification.** Consultant shall indemnify and hold the City harmless from any and all third-party claims, demands, causes of action, lawsuits, judgments, penalties, and other liabilities of any kind to the extent caused by Consultant's negligence or intentional act or omission, including court costs and actual attorney fees.
8. **Insurance.** Consultant shall maintain insurance of the following kinds equal to the amounts set forth below, at Consultant's sole expense, at all times during the performance of the Work. Policies shall be occurrence, and not claims-made, policies, except for E&O policies. Consultant shall obtain an endorsement making the City an additional insured and loss payee, and Consultant's insurance shall be primary, not excess, and non-contributory. All policies shall be from insurers licensed to issue such policies in Wisconsin. Upon the execution of this Contract, Consultant shall deliver a certificate of insurance to City showing that all requirements of this section are met.
 - a. Commercial general liability, including products-completed operations, \$1,000,000 per occurrence, \$2,000,000 aggregate per project.
 - b. Automobile liability, \$1,000,000 bodily injury, \$1,000,000 property damage.

- c. Excess liability-umbrella, \$5,000,000.
 - d. Worker compensation, statutory requirements.
 - e. Professional liability-errors and omissions, \$2,000,000, with extended-reporting period endorsement.
9. **Record Keeping.** Consultant shall keep all documents and records generated in the performance of the Work for no less than 7 years after completion of the Work, and shall make them available to the City at the City's request. Consultant acknowledges that such documents and records may be subject to Wisconsin's Open Records Law.
10. **Cooperation by City.** The City shall cooperate with the Consultant in the performance of the Work, and shall respond timely to all reasonable requests for information and access.
11. **Parties Are Independent Contractors.** Nothing in this Contract shall be construed to create any relationship between the Parties other than independent contractors. Unless specifically provided in this Contract, the Parties are not agents for one another, have no authority to bind the other to contracts, and have no vicarious liability for the other's acts or omissions.
12. **Governmental Immunities and Notice Requirement Preserved.** Nothing in this Contract shall be construed to be a waiver or modification of the governmental immunities or notice requirements imposed by Wis. Stats. §893.80 or any other law.
13. **Permits and Licenses.** Consultant shall be responsible, at Consultant's expense, for obtaining all permits and licenses required for the performance of the Work unless expressly agreed by the City.
14. **Assignment Prohibited.** This Contract, and the Consultant's responsibility to perform the Work under this Contract, may not be assigned by the Consultant without the City's written consent.
15. **Notices.** All notices required by this Contract, and all other communications between the Parties, shall be addressed as follows:
- | | |
|----------------|---|
| To the City: | Attention: Jeff Harenda
Plant Manager, City of Waukesha Clean Water Plant
600 Sentry Drive
Waukesha WI 53186 |
| To Consultant: | Attention: Bill Desing
Jacobs Engineering Group Inc.
135 South 84 th Street
Milwaukee, WI, 53214 |
16. **Corporate Authorization.** The individuals executing this Contract on behalf of the Consultant warrant and represent that they are duly authorized to bind the Consultant to this Contract. Consultant warrants and represents that the execution of this Contract is not prohibited by the Consultant's articles of incorporation, by-laws, operating agreement, or other internal operating orders, or by any applicable law, regulation or court order. Consultant shall provide proof upon request.
17. **Assistance of Counsel, Voluntary Contract.** The Consultant acknowledges that it has either had the assistance of legal counsel in the negotiation, review and execution of this Contract, or has voluntarily waived the opportunity to do so; that it has read and understood each of this Contract's terms, conditions and provisions, and their effects; and that it has executed this Contract freely and not under conditions of duress.

18. **Adequacy of Consideration.** The Parties acknowledge that the consideration expressed in this Contract is adequate and sufficient to make the obligations contained in this Contract binding upon the Parties.
19. **Costs of Enforcement.** The Parties agree that in the event legal action is necessary to enforce any term or condition of this Contract, then the breaching Party will pay the non-breaching Party's costs incurred in such legal action, including actual attorney fees. If a judgment is taken, then costs of enforcement will be added to the judgment.
20. **Severability.** If any term of this Contract is held unenforceable by a court having jurisdiction, then to the extent the unenforceable term can be severed from the remainder of this Contract without affecting the enforceability of the remainder of this Contract or substantially frustrating its purpose, it will be so severed, and the remainder of this Contract will remain in effect and enforceable.
21. **Survival and Parties Bound.** Unless specifically limited in this Contract, any term, condition or provision of this Contract will survive the execution of this Contract or any stated time periods, to the extent necessary for their performance. This Contract is binding upon, and inures to the benefit of, the Parties' successors, assigns, heirs, executors, trustees and personal representatives.
22. **Governing Law and Jurisdiction.** This Contract will be construed and enforced according to the laws of Wisconsin. If a lawsuit arises out of this Contract, it shall be filed in the state Circuit Court for Waukesha County, Wisconsin. The Parties consent to personal and subject-matter jurisdiction in Wisconsin, and waive all jurisdictional defenses.
23. **Integration.** This Contract constitutes the entire agreement of the Parties formed by the City's RFP and the Consultant's responsive proposal; however, if any ambiguity in this Contract requires resolution, or this Contract is silent on a material point, then reference may be made to the RFP and the Consultant's proposal, in that order of priority, to construe this Contract. All other agreements and understandings of the parties with respect to the subject matter expressed in this Contract are unenforceable.
24. **Termination.** Either party may terminate this Contract without cause by giving written notice of termination to the other party, with termination to occur no sooner than 20 days after delivery of the notice. Upon termination, Consultant shall be paid for all Work completed as of the date of termination.
25. **Limitation of Liability.** The total aggregate liability of Consultant arising out of the performance or breach of this Agreement shall not exceed FIVE MILLION DOLLARS (\$5,000,000). Notwithstanding any other provision of this Agreement, Consultant shall have no liability to the City for contingent, consequential or other indirect damages including, without limitation, damages for loss of use, revenue or profit; operating costs and facility downtime; or other similar business interruption losses, however the same may be caused. The limitations and exclusions of liability set forth in this Article shall apply regardless of the fault, breach of contract, tort (including negligence), strict liability or otherwise of Consultant, its employees or sub-consultants.
26. **Services During Construction.** Consultant's review of submittals from construction contractors shall be for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents. Review of such submittals will not be conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities or for substantiating instructions for installation or performance of equipment or systems designed by the construction contractor, all of which remain the responsibility of the construction contractor. Any detailed review by Consultant shall not relieve the construction contractor of responsibility to construct the project in accordance with the issued for construction documents. The Consultant shall not be responsible for construction means, methods, techniques, or procedures, and Consultant's review shall not constitute approval of safety precautions or of construction means, methods, techniques, sequences or procedures. Consultant shall visit the Project site to become generally familiar with the quality of the construction and to observe whether the Project is being constructed in

conformance with the intent of the Consultant's design. Although Consultant has no responsibility to discover defects or deficiencies in the construction, if the Consultant becomes aware of any such defects or deficiencies, it shall give prompt written notice to the City.

City of Waukesha

By Shawn N. Reilly, Mayor

Attested by Gina L. Kozlik, City Clerk

Date:_____

Date:_____

To certify that funds are provided for payment:

Richard L. Abbott, Director of Finance

Date:_____

Jacobs Engineering Group Inc.

By (print name)_____

By (print name)_____

Title:_____

Title:_____

Date:_____

Date:_____

SCHEDULE A

Scope of Work

Task 1—Preliminary Design

The City has already completed a preliminary design of the Return Flow Pump Station and its Final Phosphorus Compliance Alternatives Plan. The purpose of Task 1 is to conduct the technical evaluations, workshops and design work necessary to develop the 30 percent complete Preliminary Design Report that will serve as the basis of final design. The City can incur significant unbudgeted cost, schedule delay, or both if the design team revisits design decisions finalized in the Preliminary Design Report. The project team will revisit decisions only if there is a fatal flaw in design or if the City directs a change.

1.1 Preliminary Design Workshops

Workshops and evaluations will be conducted to confirm preliminary design criteria including new facility layout, process monitoring and control, hydraulics (working within existing head conditions), and equipment and instrumentation preferences. While the City's previous engineering work will be reviewed and utilized to meet the City's project objectives, some major decisions remain to be made by the City such as selection of the advanced low phosphorus treatment technology and facilities. It is anticipated that some design criteria such as the return flow control strategy for regulatory compliance will also be refined during preliminary design. To help make those decisions with the City and other stakeholders, Jacobs will lead four workshops. Attendees will include City personnel from the Waukesha Sewer Utility, the Waukesha Water Utility, the Waukesha Department of Public Works, GWA representatives, and other stakeholders the City identifies to participate in the preliminary design process.

The workshops will be structured to separate Return Flow Pump Station discussion and stakeholder attendance from discussion related to the other project improvements.

Preliminary Design Workshop No. 1. Kick-off and Confirm Existing Design Criteria

Project Kickoff Meeting

In preparation for Workshop No. 1, Jacobs will submit a request a data and information needs request.

Jacobs shall conduct a kick-off meeting with City to include, including review of the following items:

- Project objectives
- City expectations
- Factors critical to project success
- Roles and responsibilities of City and Jacobs project team members
- Project schedule/key milestones/construction sequence constraints
- Supplemental data and information needs
- Alternative project funding sources

Confirm Major Design Criteria

During Workshop No. 1, established major design criteria will be confirmed; i.e., Return Flow Pump Station location, design flow and required discharge head. City preferences for emergency generator location, electrical room features, access for operations and maintenance, and facility automation will be discussed.

Further, it is anticipated that design criteria for the other plant improvements, described in the RFP and listed below, will also be confirmed:

- Replacement of the PVC aeration piping and membrane diffusers in three aeration bays

- Replacement of Building 110 Primary Influent pumps, motors, motor control centers (MCCs) and associated cabling
- Replacement of Building 140 Primary Effluent pumps, motors, MCCs and associated cabling
- Replacement of Building 150 MCC and associated cabling
- Replacement of approximately 10 overhead doors
- Replacement/repair of approximately 8 manual slide gates
- Select area painting (Building 400 pumps and piping, Building 240 pumps and piping, Facility 230 clarifier baffles)

Jacobs will begin to solicit the City's input on the proposed alternatives evaluation to select the Advanced Low Phosphorus Treatment technology.

Preliminary Design Workshop No. 2. Screen and Select Advanced Low Phosphorus Treatment Technologies

This workshop will consist of a series of meetings that will occur over a period of up to one work week. The goal of the workshop will be to efficiently screen, evaluate and select the low phosphorus treatment technology that will be advanced to detailed design. In this workshop, alternatives for phosphorus treatment, including those previously evaluated in the Facility Plan Amendment and piloting and other concepts presented in our proposal, will be discussed. Through this process, the City will determine which alternatives are the most viable and up to three alternatives will be evaluated in more detail.

Jacobs will prepare the following information and analysis for the three selected, viable alternatives:

- Detailed process flow diagrams
- Conceptual site plan layouts
- Design criteria
- A summary of vendor information such as catalog cuts
- Conceptual life cycle cost estimates including capital and O & M costs
- A comparison of non-monetary criteria for each alternative such as reliability, redundancy, maintenance requirements, and ability to meet effluent permit limits

This information regarding the alternatives will be discussed to assist the City in selecting the process and facilities that will be advanced to final design. During this workshop, Jacobs will also present a draft table of contents for the phosphorus treatment preselection package and an overview of the vendor proposal evaluation and selection process.

Return Flow Pump Station Preliminary Design Workshop No. 3. Select Phosphorus Treatment Vendor and Complete Design Criteria

In Workshop No. 3, Jacobs will facilitate discussion of the conceptual design of the Return Flow Pump Station.,

Jacobs will present and discuss the project pump station design criteria and present a thorough preview of the Preliminary Design Report. The agenda will include discussion of facility operations and maintenance considerations for the project improvements, coordination with existing CWP facilities and systems, coordination with GWA program requirements, coordination with WE Energies, and review of constructability and sequence-of-construction constraints. Surge control and system hydraulic design criteria will also be discussed.

In preparation for this workshop, Jacobs will investigate ways to maximize operational energy efficiency in the design of the new facilities. The evaluation will include consideration pump selection for efficient operation over the required flow range, premium efficiency pump motors and adjustable frequency drives. The

investigation will also include consideration of alternative operating scenarios to optimize energy use and the project's ability to meet Focus on Energy eligibility requirements for energy efficiency financial incentives.

Task 1.1 Deliverables

Workshop agendas, presentation materials, and meeting summaries including discussion, decisions, treatment technology evaluation and design criteria.

1.2 Preliminary Design Report

Using Task 1.1 findings, Jacobs will develop the Preliminary Design Report, comprised of design criteria and preliminary drawings for the Return Flow Pump Station, Advanced Low Phosphorus Treatment Facility, and the other plant improvements identified in the RFP. Jacobs will submit a draft report for City review and conduct a report review meeting. It is anticipated the City and Jacobs will review the draft Preliminary Design Report with the Wisconsin Department of Natural Resources. City input on the draft report will be incorporated in the final report. The Report and drawings will represent a 30-percent complete design and address the following aspects of the project:

General

- Regulatory agencies with jurisdiction for the Project. List contact people at the agencies with jurisdiction.
- List known permits required for construction and operation.
- Applicable codes and versions of those applicable codes.
- Utilities from which service will be required. List contact people at the utilities. Detail requirements for obtaining service from each utility.

Geotechnical

- Geotechnical recommendations for new structures
- Construction issues (shoring, bracing, and dewatering requirements)

Structural

- Required modifications to existing structures concepts
- Corrosion control requirements

Architectural

- Return Flow Pump Station and Advanced Low Phosphorus Treatment Facility layout and egress requirements

Civil

- Project base map
- Civil site layout for proposed improvements
- Erosion control and stormwater management plan concepts

Process Mechanical

- Design criteria for process and pumping equipment
- Equipment sizing and selection for energy efficiency
- Pumping and process systems' layout
- Pumping system hydraulic transient analysis

Building Mechanical

- Heating, ventilating, air conditioning requirements

Instrumentation and Control

- Preliminary process and instrumentation diagrams (P&IDs).
- Equipment tag numbering, naming and abbreviation conventions.
- Overall control philosophy including local control approach, control system, level of automation
- Alarm and communication needs

Electrical

- One-line diagram modifications for the proposed facilities
- Recommendations for backup power
- Preliminary load calculations
- Electrical room sizing review
- Preliminary location of power feed
- Preferred voltages for power distribution and utilization equipment.

Project Implementation

- Construction Schedule
- Constructability and sequence of construction constraints
- Updated opinion of project cost
- Project funding alternatives

Task 1.2 Deliverables

Draft and final Preliminary Design Reports in electronic format and 6 paper copies.

Task 2—Final Design and Permitting

Jacobs will complete final design of the Project based on the Preliminary Design Report.

2.1 Bid Documents (Drawings and Specifications)

Jacobs will prepare the bidding and legal specifications, technical specifications, and drawings needed to support the improvements project. Table 1 lists the anticipated final design drawings to be prepared along with specifications to comprise the Bid Documents. In addition to bi-weekly conference calls with the City during design, Jacobs will meet with City personnel in person at the 60 and 90 percent complete milestones to review design progress, make decisions and discuss the City's input. During the development of Bid Documents, Jacobs will conduct weekly design team coordination meetings. The City is welcome to join in these routine design development meetings. An update to the construction cost estimate and a proposed construction schedule will be prepared at the 90 percent milestone.

The front-end bidding, legal, and general requirements will be based both of City of Waukesha standard requirements and Jacobs standard Engineers' Joint Contract Document Committee documents. Jacobs will customize the front-end bidding and legal specifications to conform to City's standard requirements. City officials will review the documents to confirm compliance with current City standards and practices. Technical specifications will be prepared using the Jacobs standard specifications. Drawings will be prepared using the Jacobs standard format, standard size (22- by 34-inch full-size drawing), CAD software, and legends. CAD submittals to the City will be in the latest version of AutoCAD.

Task 2 Deliverables

Final design document submissions to City include the following:

- 6 copies of 60 percent complete drawings, specifications, and construction cost estimate
- 6 copies of 90 percent complete drawings, specifications, and construction cost estimate

- Evaluation of other project funding sources, as directed by the City
- 6 half-size copies and 1 full-size copy of sealed 100 percent complete drawings and specifications
- 1 PDF file of the 100 percent complete drawings
- 1 PDF and 1 Word copy of 100 percent complete specifications
- One complete schedule of prices for the project, using the City's standard format with the Return Flow Pump Station prices separate from the rest of the project

Task 2.2 Permitting

Jacobs will prepare the following project permit applications and supporting technical materials:

- Wisconsin Department of Natural Resources wastewater construction approval permit including three copies of half-size drawings and specifications and three copies of the final *Preliminary Design Report*.
- Wisconsin Department of Natural Resources Construction Site Storm Water Permit (Notice of Intent)
- WE Energies application for new electrical service
- City of Waukesha building and electrical permit applications
- City of Waukesha Financial Department Clean Water Fund Program Loan Application

Task 3—Bid Phase Services

Jacobs will prepare a draft of the Advertisement for Bid for City review, respond to bidder's questions, prepare appropriate addenda, and facilitate a pre-bid meeting. Jacobs will provide a log of Contractor questions to City for distribution in an addendum. Jacobs will assist the City in the identification of appropriately qualified construction contractors and review of pre-qualification documentation.

City will advertise the bid, post the bid documents and addendums, and conduct the bid opening. Jacobs will assist the City with the bid evaluation and recommendation for award.

Task 3 Deliverables

Draft Advertisement for Bid, bid phase addendum, and award recommendation.

Task 4—Construction Phase Services

Jacobs will provide the following professional engineering services during construction. All construction phase office and field services will be managed and implemented in a manner that separates work related to the Return Flow Pump Station from the remainder of the Project.

Task 4.1 Office Engineering Services

Jacobs will provide the following office engineering services during the construction of the project:

Construction Meetings

Jacobs will participate in the following meetings:

Preconstruction meeting. Jacobs will conduct a pre-construction conference with City, Contractor, and other key stakeholders. Meeting minutes will be prepared.

Monthly construction progress meetings. Jacobs will attend 19 monthly construction progress meetings facilitated by the Contractor.

Weekly coordination meetings. Jacobs construction manager or construction inspector will attend up to 80 meetings facilitated by contractor to coordinate site construction issues.

Permitting agency coordination. Jacobs will coordinate communication with permitting agencies including the Wisconsin Department of Natural Resources and the City of Waukesha. Jacobs will provide Contractor permit application information of City permits.

Shop Drawings, Samples and Submittals

Jacobs will log, track, and review the construction contractor's shop drawings, samples, test results, and other data the Contractor is required to submit. Jacobs will review shop drawings, samples, and submittals for conformance with the design and compliance with the requirements of the contract for construction.

On select submittals, Jacobs will coordinate, compile, and submit to contractor submittal review comments from Jacobs and City. To help minimize the number of shop drawing resubmittals, Jacobs will facilitate conference calls with the contractor and design engineers to discuss and resolve review comments on shop drawings with greater than 25 review comments.

Jacobs will maintain hard copy records of relevant documentation and will turn over one complete set of project-approved submittals to City.

Requests for Information

Jacobs will provide technical interpretations of the contract documents and provide written responses to the contractor's Requests For Information (RFIs), and interpretation or clarification of the contract documents. We will evaluate requested deviations from the approved design or specifications.

Change Orders, Field Orders, Disputes

Jacobs will coordinate the issuance of change orders; review and evaluate proposed changes; and make recommendations regarding the acceptability, including cost and/or schedule impacts. We will assist in drafting proposed Change Orders, Work Change Directives, and Field Orders, obtain backup material from Contractor as appropriate. Jacobs will consult with City and lead all negotiations related to contract modifications. Upon approval of City, we will issue contract modification documents for execution by City and Contractor.

Jacobs will receive, log, and notify City and Jacobs about all notices from the contractor concerning claims or disputes between the contractor and City pertaining to the acceptability of the work or the interpretation of the requirements of the contract for construction. We will assist City in discussions with the contractor to facilitate discussions and resolution of contractor claims and disputes, when necessary. Jacobs will provide recommendations for contractor claims or disputes.

As-Built Record Drawings

Jacobs will revise the original design drawings to reflect available record information provided by the contractor. Jacobs is not responsible for any errors or omissions in the information provided by others and incorporated in the drawings. As-built drawings will be provided to City in paper (4 copies), PDF, and AutoCAD format.

O&M Manuals

Jacobs will prepare Operations and Maintenance (O&M) Manuals for the Return Flow Pump Station and the new phosphorus treatment facilities. Jacobs will prepare updates for the City's existing O&M documentation and information management systems to incorporate design and construction phase documentation for the new facilities and other project improvements.

Task 4.2 Field Engineering Services During Construction

Jacobs will provide the following field engineering services during construction including providing the equivalent of 1 full-time field representative through part-time field services of one construction manager and one construction inspector, both licensed engineers, for 19 months.

Jacobs will provide overall administration of the construction contract and observation of the contractor's work. Jacobs will consult with and advise City and act as City's representative as provided in the General Conditions of the Construction Contract. The extent and limitations of the duties, responsibilities and authority of Jacobs field staff as assigned in said General Conditions shall not be modified unless provided specifically in a Contract Amendment. Jacobs will have authority to act on behalf of City in dealings with the Contractor, to the extent specifically provided in this Contract and said General Conditions, except as otherwise provided in writing.

Construction Management and Contract Administration

Communication. Jacobs will serve as City's primary point of contact for day-to-day communication during the construction phase of the project. Jacobs will perform the following: Communicate and report progress to City; implement and maintain regular communications with the Contractor during the construction; receive and log communications from the contractor and coordinate communications between City, Jacobs and contractor; deliver written responses to contractor's Requests for Information; consult with City in advance of scheduled major tests, inspections or start of important phases of the Work.

Documentation. Maintain project files for correspondence, conference records, submittals including shop drawings and samples, certifications, reproductions of original Contract Documents including all Addenda, signed Agreement, Work Change Directives, Change Orders, Field Orders, additional Drawings issued after the Effective Date of the Agreement, Jacobs's written clarifications and interpretations, progress reports, and other Project related documents.

Review for completeness contractor's redlined drawings which will be the basis of the record drawings.

Keep a diary or log book recording pertinent site conditions, activities, decisions and events. The construction log book shall be updated at least weekly to the project team SharePoint site and include descriptions of daily activities, conditions and decisions.

Project Schedule. Review and monitor the Progress Schedule, Schedule of Submittals, and Schedule of Values prepared by contractor and verify that it is consistent with the requirements of the contract for construction. The periodic review shall not be considered as a guarantee or confirmation that the contractor will complete the work in accordance with the contract for construction. Provide comments to City to assist in approving, accepting or taking other action on the contractor's schedule, in accordance with the contract for construction.

Payments to Contractor. Receive and review the contractor's requests for payment. Determine whether the amount requested reasonably reflects the progress of the contractor's work and is in accordance with the construction contract. Provide recommendations to City as to the acceptability of the requests and advise City as to the status of the total amounts requested, paid, and remaining to be paid under the terms of the contract for construction.

Recommendations by Jacobs to City for payment will be based upon Jacobs knowledge, information and belief from its observations of the work on site and selected sampling that the work has progressed to the point indicated. Such recommendations do not represent that continuous or detailed examinations have been made by Jacobs to ascertain that the contractor has completed the work in exact accordance with the contract for construction; that Jacobs has made an examination to ascertain how or for what purpose the contractor has used the moneys paid; that title to any of the work, materials or equipment has passed to City free and clear of liens, claims, security interests, or encumbrances.

Safety. Manage the health, safety and environmental activities of Jacobs staff to achieve compliance with the project Health and Safety Plan applicable health and safety laws and regulations. Coordinate with responsible parties to correct conditions that do not meet applicable federal, state and local occupational safety and health laws and regulations, when such conditions expose Jacobs staff to unsafe conditions.

Notify affected personnel of observed site conditions posing an imminent danger.

Jacobs will not responsible for health or safety precautions of construction contractor or City personnel or conformance by these parties to federal, state, and local occupational safety and health laws and regulations.

Manufacturers' Training: Observe manufacturers' training sessions so that the training sessions are scheduled and conducted in accordance with the requirements of the construction contract documents.

Inspection Services

Conduct on-site observations of the contractor's work for the purposes of determining if the work conforms to the contract for construction and that the integrity of the design concept has been implemented and preserved by the contractor. Should work by the Contractor be found to not conform to the contract for construction, Jacobs will inform City and contractor and monitor the contractor's corrective actions.

Monitor that tests are conducted in the presence of appropriate personnel, and that the contractor maintains adequate records thereof. Observe, record, and report to City appropriate details relative to test procedures and startups.

Observation of work is not an exhaustive observation or inspection of all work performed by the contractor. Jacobs does not guarantee the performance of the contractor. Jacobs observations shall not relieve the contractor from responsibility for performing the work in accordance with the contract for construction, and Jacobs shall not assume liability in any respect for construction of the project. Jacobs shall, with the assistance of City, obtain written plans from the contractor for quality control of its work, and will monitor the contractor's compliance with its plan.

Start-up Services and Milestone Punchlists

Jacobs will provide technical start-up assistance to City staff. Start-up assistance activities will include reviewing draft O&M manual information with CWP staff and incorporating City input in final O&M materials.

In addition, Jacobs will facilitate one operations training session for the new Return Flow Pump Station and one for the Advanced Phosphorus Treatment Facility. The training session agendas will include an overview of the facility performance objectives, normal operations, handling unusual operating conditions, and operators' SCADA system interface (i.e., monitoring and control setpoints).

Jacobs will facilitate punchlist inspections by lead design engineers in the company of City and the construction contractor and prepare a list of items to be completed or corrected at the substantial and final completion project milestones. To the extent possible, trips to provide start-up assistance and review for substantial and final completion will be coordinated with City and the contractor to coincide with performance acceptance testing or other scheduled coordination meetings.

Task 5—Project and Quality Management

5.1 Project Management

Jacobs will manage the delivery of the project technical services and work products to meet City's schedule and budget. Jacobs will update its project instructions for the project delivery team to reflect revisions to the project schedule and scope. Project instructions addressed include the following:

- Detailed scope of services and project deliverables
- Task assignments

- Project schedule
- Project budget by task
- Time and expense charging to separately track Return Flow Pump Station costs
- Health and safety considerations
- Communication procedures within the team, the City and other stakeholders

5.2 Project Communication

Communication Plan

Jacobs will develop a project Communication Plan to provide the team guidance of formal and informal project communication. The Communication Plan will be included in the Project Instructions and will address the following:

- Communication in formal workshops and design milestone meetings
- Expectations for weekly design team coordination meetings
- Informal communication in regular project progress meetings, telephone calls, and e-mail
- Coordination with permitting agencies
- Collaboration with stakeholders, including GWA, and their service providers
- Monthly invoices and progress reports to City. Jacobs monthly invoices will be itemized by task and indicate individuals' hours performed during the billing period. The progress reports will be in letter format and summarize activities completed to date, financial and schedule status, and identify any potential problems, critical issues, and planned corrective actions. City's and Jacobs's project managers will review the progress reports and invoices on a monthly basis.

Change Management Plan

Jacobs will develop a project Change Management Plan to provide the team guidance on the process for communicating and managing potential project changes. The identification of scope change is the responsibility of all project team members and is particularly critical on fast-track design work. Potential changes could involve one or more of the following: design scope, cost, quality or design schedule, construction cost, construction schedule or operability. The Change Management Plan will include provisions for gaining endorsement from key stakeholders prior to implementing the change.

Health and Safety Plan

Safety is of a primary concern to City and Jacobs. Jacobs will prepare a Health and Safety Plan for both the design and construction phases of the project. During construction, when at the project site, Jacobs personnel will comply with the construction contractor's project health and safety plan.

5.3 Quality Management

Jacobs will develop a Quality Management Plan to help the design team accomplish the following objectives:

- Take responsibility for the quality of our design and deliverables
- Conform to best practices and meet Jacobs standards in completing calculations, delivering work products, completing quality assurance/quality control (QA/QC) reviews, and documenting and adjudicating review comments
- Conduct continuous QC review through the design and construction phases of the project

Design Assumptions

The following assumptions were used to estimate the proposed level of effort.

1. The Project will be designed in a single set of bid documents (drawings and specifications) with Return Flow Pump Station design costs tracked and managed separately.
2. The City will provide all available CAD and PDF files for facilities to be modified as part of the Project as well as any drawings developed for the Return Flow Pump Station. The existing CAD files will be used as base files for the design drawings. Jacobs will reasonably rely on the accuracy of the drawing files. Existing files will be revised to reflect Project improvements to meet the City's requirement of maintaining a single set of current CWP drawings.
3. Engineering services will be performed on the schedule outlined in the RFP and shown in Section 4.
4. The hydraulic model for the return flow conveyance system, including the return flow pipeline alignment beyond the CWP boundary, will be developed by others. Model output will be used to confirm final design flows for the Return Flow Pump Station.
5. The need for Return Flow conveyance system surge protection to control hydraulic transients will be evaluated by others. Jacobs will review that evaluation and determine if the surge control recommendations by others are adequately protective of the pumping equipment. Design of a surge control system is not included in the proposed scope of work.
6. Return Flow Pump Station design and construction project milestones will be coordinated with Waukesha Water Utility and the GWA program.
7. The design assumes the CoMag® process is selected by the City for phosphorus removal.
8. The CoMag® system will be constructed within an old Secondary Clarifier.
9. The polyvinylchloride aeration air piping and membrane diffusers in of the activated sludge aeration basins will be replaced in-kind.
10. Replacement of the Primary Influent and Primary Effluent pumps is limited to in-kind replacement of pumps, motors and associated electrical cabling. Replacement equipment will be installed in the same location as the existing equipment. The pumps' motor starters and variable frequency drives are in good condition and will remain in service.
11. The MCCs located in Buildings 110, 140, and 150 will be replaced in kind in the locations occupied by the existing MCCs. It is assumed that sizes and capacities of new MCCs will be equivalent to existing MCCs and that electrical system computer modeling is not required to confirm adequacy of existing power distribution system. The wiring between the new MCCs and existing equipment remaining in service will not be replaced.
12. Approximately 10 overhead doors and 8 manual slide gates will be replaced.
13. Pumps and piping located in Buildings 240 and 400, along with Facility 230 clarifier baffles, will be painted.
14. Handrail will be added to the top of the digesters as directed by the City.
15. In addition to areas near the new Return Flow Pump Station and Advanced Low Phosphorus Treatment Facility, select areas of CWP pavement will be replaced.
16. If required for this project under the Clean Water Fund Program, the Environmental Assessment and Historical and Archeological Resources review will be conducted under a separate contract.
17. Existing CWP geotechnical boring data and geotechnical reports are sufficient for the project improvements, including buried piping and utilities, and no additional subsurface investigation is required. If upon reviewing the available geotechnical information, Jacobs determines additional data to reduce the City's risk, the collection of additional data will be under a separate agreement.

18. It is assumed that the Return Flow Pump Station Building foundation type will be similar to the foundations of the adjacent structures.
19. Existing available site topographic survey data for the areas of the CWP impacted by the project are sufficient for the planned improvements and no additional survey data is needed.
20. Existing natural gas, water, drain piping systems, needed to service new facilities, are located within or near the plant boundaries.
21. Addressing any impacts to the City's air permit because of the addition of the new Return Flow Pump Station emergency generator is outside this scope of services.
22. The design will be based on the federal, state, and local codes and standards in effect on the date of the authorization to proceed with design. Codes changes may necessitate a change in scope.
23. The design calculations performed by Strand Associates Inc. for the Wastewater Treatment Plant Phase II Improvements for the Return Flow Pump Station are available for review.
24. Jacobs will develop process narratives, with CWP staff input, that describe in detail how each process is intended to function and be controlled and monitored. Those narratives and the P&IDs will be used by others to develop software for the new facilities, modify software as needed for replacement equipment, and integrate controls into the plant SCADA system.
25. Jacobs project cost estimates are prepared in accordance with AACE (Association for the Advancement of Cost Estimating) industry-leading best practices. In providing opinions of cost, economic evaluations and schedules, Jacobs has no control over cost labor and materials; unknown conditions; competitive bidding and market conditions; and other factors that may materially affect the ultimate project cost or schedule.
26. The CWP WPDES permit will be final by June 30, 2019.

Estimated Final Design Drawings

Table 1 lists anticipated final design drawings was used to prepare the level of effort estimate.

Table 1. Preliminary Sheet List		
No.	Type	Title
1	G	Title Sheet, Vicinity and Location Maps
2	G	Engineer Seals and Signatures
3	G	Index to Drawings
4	G	Abbreviations
5	G	Abbreviations and Designations
6	G	Instrumentation and Control Legend
7	G	Instrumentation and Control Legend
8	G	Civil Legend
9	G	Architectural/Structural Legend
10	G	Structural Notes 1
11	G	Structural Notes 2
12	G	Process Mechanical Legend
13	G	Plumbing Legend
14	G	HVAC Legend
15	G	Electrical Legend 1
16	G	Electrical Legend 2
17	G	Electrical Legend 3
18	G	Hydraulic Profile and Process Design Criteria Summary
19	N	Primary Influent Pump Station P&ID
20	N	Primary Effluent Pump Station P&ID
21	N	Phosphorus Removal System - 1 P&ID
22	N	Phosphorus Removal System - 2 P&ID
23	N	Polymer Feed P&ID
24	N	Ferric Chloride P&ID
25	N	Return Flow Pump Station P&ID
26	N	New Emergency Generator P&ID
27	X	Primary Influent Pump Station Demolition Plan
28	X	Primary Effluent Pump Station Demolition Plan
29	X	Electrical One-Line Diagram - Demo
30	X	Building 110 Electrical Demolition Plan
31	X	Building 140 Electrical Demolition Plan
32	X	Building 150 Electrical Demolition Plan
33	X	Old Secondary Clarifiers Demolition Plan
34	X	Secondary Clarifiers Yard Piping and Buried Utilities Demolition Plan
35	X	Return Flow Pump Station Site and Utility Demo Plan
36	C	Return Flow Pump Station Grading and Yard Utility Plan
37	C	Phosphorus Removal Facility Site Plan

Table 1. Preliminary Sheet List

38	C	Phosphorus Removal Facility Grading and Yard Utility Plan
39	C	Return Flow Pump Station Erosion and Sediment Control Plan
40	C	Phosphorus Removal Facility Erosion and Sediment Control Plan
41	C	Civil and Yard Piping Details
42	C	Civil and Yard Piping Details
43	A	Return Flow Pump Station and Generator Room Life Safety Plan
44	A	Return Flow Pump Station Architectural Plan
45	A	Return Flow Pump Station Architectural Elevations
46	A	Return Flow Pump Station Architectural Sections and Details
47	A	Phosphorus Removal Facility Lower & Upper Life Safety Plans
48	A	Phosphorus Removal Facility Architectural Plan
49	A	Phosphorus Removal Facility Architectural Elevations
50	A	Phosphorus Removal Facility Architectural Sections
51	A	Phosphorus Removal Facility Architectural Sections and Details
52	A	Miscellaneous Building Painting Plan and Schedule
53	A	Overhead Door Replacement Plan and Schedule
54	A	Architectural Schedules
55	S	Return Flow Pump Station Structural Plan
56	S	Return Flow Pump Station Structural Roof Framing Plan
57	S	Return Flow Pump Station Foundation Plan
58	S	Return Flow Pump Station Structural Sections
59	S	Return Flow Pump Station Structural Sections and Details
60	S	Phosphorus Removal Facility Structural Lower Level Plan
61	S	Phosphorus Removal Facility Structural Upper Level Plan
62	S	Phosphorus Removal Facility Structural Section
63	S	Phosphorus Removal Facility Structural Section
64	S	Phosphorus Removal Facility Structural Section
65	S	Phosphorus Removal Facility Structural Details
66	S	Phosphorus Removal Facility Structural Details
67	S/M	Slide Gate Replacement Plan and Schedule
68	D	Phosphorus Removal Facility Mechanical Lower Level Plan
69	D	Phosphorus Removal Facility Mechanical Upper Level Plan
70	D	Phosphorus Removal Facility Mechanical Section
71	D	Phosphorus Removal Facility Mechanical Section
72	D	Phosphorus Removal Facility Mechanical Section
73	D	Phosphorus Removal Facility Mechanical Details
74	D	Phosphorus Removal Facility Mechanical Details
75	D	Polymer Mechanical Plan and Section
76	D	Ferric System Mechanical Modifications Plan and Sections
77	D	Aeration Bays Replacement Piping and Diffusers Mechanical Plan
78	D	Primary Influent Pump Station Mechanical Plan and Section
79	D	Primary Effluent Pump Station Mechanical and Section

Table 1. Preliminary Sheet List

80	M	Return Flow Pump Station HVAC Plan and Schedule
81	M	Return Flow Pump Station Plumbing Plan
82	M	Phosphorus Removal Facility HVAC Plan
83	M	Phosphorus Removal Facility Plumbing Plan
84	M	Phosphorus Removal Facility Schedules
85	E	Modified Electrical One-Line Diagram
86	E	Overall New Electrical Service Site Plan
87	E	Return Flow Pump Station Electrical and Grounding Plan
88	E	Return Flow Pump Station Panel Board Schedules
89	E	Return Flow Pump Station Electrical Schematic Diagrams
90	E	Return Flow Pump Station Lighting Plan and Schedule
91	E	Return Flow Pump Station Emergency Generator Electrical Plan
92	E	Return Flow Pump Station Emergency Generator Switchgear Elevation
93	E	Electrical Duct Bank Sections
94		Phosphorus Removal Facility Upper Electrical Overall Plan
95	E	Phosphorus Removal Facility Upper Electrical Enlarged Plans
96	E	Phosphorus Removal Facility Lower Electrical and Grounding Plan
97	E	Phosphorus Removal Facility Lower Electrical Enlarged Plans
98	E	Ferric and Polymer Area Electrical Partial Plans
99	E	Phosphorus Removal Facility Lighting & Receptacle Upper Plan
100	E	Phosphorus Removal Facility Lighting & Receptacle Lower Plan
101	E	Phosphorus Removal Facility Panel Board Schedules
102	E	Phosphorus Removal Facility Process Conduit Block Diagrams
103	E	Phosphorus Removal Facility Process Conduit Block Diagrams
104	E	Phosphorus Removal Facility Process HVAC Block Diagrams
105	E	Building 110 Replacement MCC Elevation, Panelboard Schedule
106	E	Building 140 Replacement MCC Elevation, Panelboard Schedule
107	E	Building 150 Replacement MCC Elevation, Panelboard Schedule
108	SD	Standard Details
109	SD	Standard Details
110	SD	Standard Details
111	SD	Standard Details
112	SD	Standard Details
113	SD	Standard Details
114	SD	Standard Details
115	SD	Standard Details
116	SD	Standard Details
117	SD	Standard Details
118	SD	Standard Details
119	SD	Standard Details