



CITY OF LE SUEUR
REQUEST FOR COUNCIL ACTION

TO: Mayor and City Council
FROM: Richard Kucera, Public Services Director
SUBJECT: 2020 Comprehensive Water System Plan
DATE: For the City Council Meeting of Monday, June 22nd, 2020

PURPOSE

Approve and adopt the 2020 Comprehensive Water System Plan.

SUMMARY

At the July 8th, 2019 City Council meeting, the City Council approved SEH to complete the Comprehensive Water Supply Plan and Water System Master Plan for the City. This plan will help guide the City and staff with water system needs and financial planning for the water enterprise.

At the May 11th, 2020 City Council meeting, Chad Katzenberger with SEH gave a presentation with the draft Comprehensive Water System Plan. City Council members were asked to review the plan and submit questions to staff.

At the May 26th, 2020 City Council meeting, the City Council approved the Water System Plan. In the plan, Alternative A was recommended by staff for future CIP-CEP items. Following this schedule, staff is recommending that the City enter into a Scope of Work agreement with Bolton & Menk for well siting study and preliminary engineering, new water tower final design and water treatment plant optimization/rehabilitation study. These three items are identified for 2021 in the table below.

Alternative A		
2021	Well 8	\$1,210,000.00
	Treatment Plant Optimization Study	\$40,000.00
	Low Zone 1 MG Tower	\$3,652,000.00
	SCADA Conversion Phase 1	\$500,000.00
	Water Main Condition Assessment	\$150,000.00
	Yearly Total:	\$5,552,000.00
2022	High Zone Redundant Water Line & Service Flow Booster	\$1,717,000.00
	Treatment Plant Upgrades	\$1,500,000.00
	High Zone Booster Station Generator	\$200,000.00
	SCADA Conversion Phase 2	\$500,000.00
	Yearly Total:	\$3,917,000.00
2023	Low to Middle Booster Station	\$600,000.00
	Truck Fill w/Hydropneumatic Tank	\$350,000.00
	SCADA Conversion Phase 3	\$500,000.00
	Yearly Total:	\$1,450,000.00
2024	Flushing Station/UDF	\$30,000.00
	SCADA Conversion Phase 4	\$500,000.00
	Yearly Total:	\$530,000.00
	Overall Total:	\$11,449,000.00

As stated in the proposal from Bolton & Menk, these three projects were submitted to PFA (Public Funding Authority) for funding in 2021. By starting this now, we will be able to begin these projects in the spring of 2021.

ACTION REQUESTED

Staff recommends the City Council approve the attached proposal for scope of work for three water projects from Bolton & Menk.



**BOLTON
& MENK**

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VIA E-MAIL

June 16, 2020

Rich Kucera, Public Services Director
City of Le Sueur
203 S. 2nd St.
Le Sueur, MN 56058
rkucera@cityoflesueur.com

RE: Engineering Scope and Fee
Water System Improvements
City of Le Sueur, Minnesota

Dear Mr. Kucera,

Below is our scope of work for the three water projects we have submitted to PFA for funding. Bolton & Menk is pleased to assist the City of Le Sueur with these water system improvements and appreciate your confidence in us. These projects include a well siting study and preliminary engineering for a new well in the Mt. Simon Aquifer, the design of a new water tower replacing the City's existing aged legged elevated storage tank, and prepare a study for optimizing/rehabilitating the City's water treatment facility to obtain the needed throughput of water to meet the community's water demands.

I. Well Siting Study and Preliminary Engineering

A. Project Understanding

The City currently obtains water from four wells built from 1953-1993 that pump from the Jordan and Mt. Simon aquifers. The City has selected to drill a new Mt. Simon well to increase the firm capacity of raw water supply as there is currently only one well in this aquifer. The purpose of the study is to identify possible locations for the City to consider for a new well and to identify the best selection considering the land ownership, proximity to water plant and other wells. To meet the objectives, our team will complete the following tasks:

B. Scope

- Meet with City to obtain potential locations that have been identified by the City considering parcel ownership, infrastructure, existing wells, and setback requirements. Our team will work with the City to evaluate the criteria.
- Consider and evaluate existing wells within the City for possible conversion and use as municipal water source.
- Consider known and potential contaminant sources based on the information in the City's Wellhead Protection Plan.
- Consider MDH's setback requirements.

- Obtain and evaluate historical water level and pumping rate data for the City’s Mt. Simon wells, and projected rates for existing and new wells to determine if a detailed interference study is needed by a professional geologist.
- Summarize results and recommend possible well sites including raw water piping routes.
 - Include a pros and cons list for selected sites.
- Identify need for additional Mt. Simon well.
- Provide opinions of probable cost for the design and construction of the well on the identified best site or conversion of existing well.
- Meet with City staff to present and discuss the final report.

After the completion of this study, the City will be able to authorize final design of the new well and well house (in the fall of 2020, approximately), or conversion of existing well. This will allow application of the design documents to MDH by March of 2021, and construction to begin in the spring/summer of 2021 for completion in 2022.

C. Estimated Fee

The estimated cost for the well siting study and preliminary engineering is **\$18,700**. This fee would be billed on an hourly basis and would not be exceeded without approval from the City of Le Sueur. Depending on the final location of the well, this fee could be significantly less with a selection of a site near the Water Treatment Plant. Below is a breakdown of the estimated fee and major tasks.

Meeting and identification of potential sites	\$ 2,500
Evaluation of potential sites to identify selected site	4,500
Evaluation of raw watermain route	3,500
Identification of best site, preliminary site plan and well drawings, opinion of probable construction cost, and preparation of memorandum	6,000
Meeting to present report and modifications to finalize report	2,200
Total Estimated Fee (Approximately 125 hours)	\$18,700

II. New Water Tower Final Design

A. Project Understanding

The City of Le Sueur has decided to replace the existing 500,000-gallon multi-leg tower due to its age and the high cost of refurbishment. It is proposed to replace the tower with a 1 MG tower. The location of the new tower will be adjacent to the existing multi-leg tower.

B. Scope

This project was placed on the FY2021 Project Priority List (PPL) and Intended Use Plan (IUP) and is very likely to receive a Drinking Water Revolving Fund low interest loan for 2021 construction. This will require the design to be completed and submitted to the Minnesota Department of Health before the March 2021 deadline. Our timeline to complete

the design takes into consideration this deadline. Bid timing is flexible to meet the City's goals and objectives and we would anticipate bidding in spring 2021, construction in 2021, and completion in spring or summer of 2022.

This project will involve numerous disciplines including structural engineering, civil engineering, geotechnical engineering, electrical engineering, process engineering, and graphics and communication specialists. Our project team includes engineers and professionals that have worked on similar projects for over 20 years, completing more than 200 similar projects during that period.

Our proposed scope of work includes preliminary and detailed final design services through bidding of the project. A list of some of the key scope items are as follows:

- Minnesota Department of Health (MDH) coordination and construction permit application (fee by City).
- FAA permit application (fee by City).
- Assist City in selecting final site.
- Perform data collection including mapping/survey of existing site boundary, topography, and existing surface and subsurface conditions at selected site.
- Geotechnical soil borings and report for the foundation and structural design of the tank.
- Review of tank style options with the City of Le Sueur including legged, fluted column, composite, hydropillar, or others. Provide graphic rendering of selected option.
- Review of site and piping layout, valving, telemetry, mixing and coating options with City of Le Sueur staff.
- Coordination with City of Le Sueur and telecommunications companies on the relocation of existing communications facilities on the existing tower, and possibility for addition of Wi-Fi to the new tower.
- Detailed layout and design of the proposed elevated storage tank including the following major components:
 - Tank style schematic including operating ranges and elevations
 - Foundations
 - Piping
 - Safety climb and access hatches
 - Coatings including city logo on the exterior of the tank
 - Telemetry
 - Private cellular communications accommodations
 - Electrical and lighting design for the tower
 - Demolition of existing "Low Zone Tower"
 - Surface restoration/improvements, including access to site

- AutoCAD based design of all major items mentioned in the bullets above.
- Civil, electrical, and schematic design of all facilities.
- Review meetings and modifications with City of Le Sueur staff, as well as periodic updates to the council as requested.
- Modifications and preparation of final plans and specifications for contract documents and bidding.
- Bidding services through the evaluation of bids.

C. Estimated Fee

Based on estimated hours for our design staff, we have calculated a fee of **\$152,400** for design, or approximately 4.5 percent of the estimated construction cost of \$3.4 million. This fee would not be exceeded without prior authorization by the City. This proposal represents approximately 10 plus staff members and approximately 1,000 engineering and technical staff hours to complete the design of this important improvement for the City of Le Sueur. Below is a general schedule for your planning purposes.

Engineering Schedule	
Data collection, survey, and geotechnical coordination	Summer 2020
Completion of preliminary design	Fall 2020
Completion of final plans and submittal to MDH (no later than January 31, 2021)	Winter 2020/2021
Receive bids and provide bid evaluation	Feb./March 2021

Due to the nature of construction and the possibility of unforeseen conditions and schedules, we would propose an estimated hourly fee for construction related services. We anticipate that this fee will be similar to or more than the design fee, as it will require a number of on-site construction observation hours and project management. For the Construction Observation and Management Phase of the project, I suggest budgeting between six and eight percent of the construction cost, or approximately \$240,000. We anticipate an eight-month construction schedule. Overall, the total engineering fee (preliminary engineering, final design, and construction services) is estimated to be in the range of 11-12 percent of the anticipated project construction cost.

III. Water Treatment Plant Optimization/Rehabilitation Study

A. Project Understanding

The City of Le Sueur's water treatment plant was originally constructed for gravity filtration removal of iron and manganese. The facility consists of aeration, detention, gravity filters, a clearwell or reservoir, and high service pumps. The facility is in relatively good shape for being over 20 years old and is well maintained. The facility's filters are currently biologically active and have been operating at a reduced capacity from the original design. The primary goal of the report is to review water needs now and, in the future, determine treatment

capacity, and develop a strategy to achieve treatment capacity for the next 20 years. Options may include operational changes, rehabilitation of existing systems, and/or addition of treatment components. It is anticipated that aging equipment will need replacement or rehabilitation at a minimum.

B. Scope of Services

Bolton & Menk will provide the following scope of work separated into major tasks. It is anticipated that this study will take approximately six months to complete.

Task 1 – Project Meeting and Data Request (NOTE, this task is mostly completed)

A project meeting will be held with key members of our project team and the Utility staff. The project meeting provides an opportunity for the project team members to exchange information and review scope of work items and overall objectives with the staff.

A summary of the major activities that will be requested and discussed during the project meeting are as follows:

- Review and summarize previous well construction and water supply data.
- Review and collect information on historical water usage and projected future demand.
- Review water treatment facility (a detailed site visit of the water treatment plant was completed on 3/11/2020).
- Review water storage.
- Review water quality data and treatment goals.
- Review project schedule.
- Data collection. Collect historical water usage, well records, pumping records, and water quality data.

Task 2 – Water Demand Projection

Estimates of the future (20 year) water usage will be developed based on available planning documents, and discussions with staff and officials. The projected demand will be used as the basis of water supply and treatment facility analyses.

Task 3 – Evaluate Water Quality and Treatment Facility

The existing data regarding water supply quality will be reviewed.

The existing treatment process will be evaluated for adequacy in meeting the projected water demand and treatment goals.

The design team will review the physical condition of the existing water treatment plant and reservoir.

Recommendations for plant improvements or replacement items will be developed.

Task 4 – Evaluate Treatment Alternatives

The existing facility and layout will be evaluated for varying treatment alternatives including:

- Gravity filtration as originally designed and/or addition of more filters and storage.
- Biological filtration and/or addition of biological filtration prior to gravity filters (piloting is not included in this proposal but would be required by MDH if this option is selected).
- Operational changes or optimization to meet treatment goals.

The most feasible alternative will be developed further including opinions of probable cost and potential implementation schedule.

Task 5 – Draft Report

The results of the evaluations will be summarized in a draft report for review and discussion with the City of Le Sueur. The report will include the following major components:

- Projected Water Demand
- Finished Water Quality Goals
- Water Treatment Facility Evaluation and Recommendations
- Capital Improvement Schedule and Cost Opinions
- Funding and Grant Options

Task 6 – Final Report Presentation

The final report will be provided to the City. The report will be summarized in a presentation to the Utility staff and/or the City of Le Sueur City Council.

C. Estimated Fee

Bolton & Menk has calculated the time and effort required to complete the water system study and proposes an hourly not to exceed fee of **\$28,500**. This fee represents approximately 200 hours of engineering and technical time for developing options, preparing the plan and report, attending meetings, and presenting details to the City of Le Sueur, and providing the information for future funding options.

IV. Summary

The water system improvements in the three above projects represent a significant investment for the City. Bolton & Menk recognizes that completing these projects at the same time provides efficiencies (less meetings, coordination, travel, etc.) and an economy of scale if all are approved and proceed this summer. For this reason, if the City of Le Sueur authorizes all three projects to proceed at this time, we would propose a total fee of **\$185,500** (a discount of \$14,100 from the proposed \$199,600 in recognition of the efficiencies). The projects would be invoiced as part of one project with separate tasks for tracking purposes.

Rich Kucera, Public Services Director
City of Le Sueur
June 16, 2020
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If you have any questions, please contact me or Cory Bienfang. Thanks again for the opportunity to work with you and the City.

Sincerely,

Bolton & Menk, Inc.



Kristopher J. Swanson, P.E.
Principal Environmental Engineer

Enclosure: 2020 Schedule of Fees

cc: Foster Transburg – City of Le Sueur
Cory Bienfang – Bolton & Menk, Inc.
File

2020 SCHEDULE OF FEES

The following fee schedule is based upon competent, responsible professional services and is the minimum, below which adequate professional standards cannot be maintained. It is, therefore, to the advantage of both the professional and the client that fees be commensurate with the service rendered. Charges are based on hours spent at hourly rates in effect for the individuals performing the work. The hourly rates for principals and members of the staff vary according to skill and experience. The current specific billing rate for any individual can be provided upon request.

The fee schedule shall apply for the period through December 31, 2020. These rates may be adjusted annually thereafter to account for changed labor costs, inflation, or changed overhead conditions.

These rates include labor, general business, and other normal and customary expenses associated with operating a professional business. Unless otherwise agreed, the above rates include vehicle and personal expenses, mileage, telephone, survey stakes, and routine expendable supplies; no separate charges will be made for these activities and materials. Expenses beyond the agreed scope of services and non-routine expenses, such as large quantities of prints, extra report copies, outsourced graphics and photographic reproductions, document recording fees, outside professional and technical assistance, and other items of this general nature will be invoiced separately. Rates and charges do not include sales tax, if applicable.

Employee Classification	Hourly Billing Rates
Senior Principal	\$195-280/Hour
Principal Engineer/Surveyor/Planner/GIS/Landscape Architect	\$145-225
Senior Engineer/Surveyor/Planner/GIS/Landscape Architect	\$120-210
Project Manager (Inc. Survey, GIS, Landscape Architect)	\$115-200
Project Engineer/Surveyor/Planner/Landscape Architect	\$90-175
Design Engineer/Landscape Designer/Graduate Engineer/Surveyor	\$90-190
Specialist (Nat. Resources; GIS; Traffic; Graphics; Other)	\$70-175
Senior Technician (Inc. Construction, GIS, Survey ¹)	\$90-180
Technician (Inc. Construction, GIS, Survey ¹)	\$60-155
Administrative/Corporate Specialists	\$55-135
Structural/Electrical/Mechanical/Architect	\$120-150
GPS/Robotic Survey Equipment	NO CHARGE
CAD/Computer Usage	NO CHARGE
Routine Office Supplies	NO CHARGE
Routine Photo Copying/Reproduction	NO CHARGE
Field Supplies/Survey Stakes & Equipment	NO CHARGE
Mileage	NO CHARGE

¹ No separate charges will be made for GPS or robotic total stations on Bolton & Menk, Inc. survey assignments; the cost of this equipment is included in the rates for Survey Technicians.