

AGENDA
SHAKOPEE PUBLIC UTILITIES COMMISSION
REGULAR MEETING
February 1, 2021

Following the March 13, 2020 Declaration of Peacetime Emergency by Governor Walz (as amended), the Commission is holding its regular meeting on February 1, 2021 at 5:00pm by telephone or other electronic means (WebEx) according to MN Statutes, Section 13D.021. The Commission President has concluded that an in-person meeting is not practical or prudent because of the health pandemic declared under the Emergency Order and according to current guidance from the MN Department of Health and the CDC. The Commission President will be at the regular meeting location for the Commission. The public may monitor the meeting:

**Call-In Phone Number 1-408-418-9388
Enter Access Code 126 210 3000
When Prompted for Password, enter #**

1. **Call to Order** at 5:00pm in the SPUC Service Center, 255 Sarazin Street.

2. **Communications**

3. **Consent Agenda**
 - C=> 3a) Approval of January 19, 2021 Minutes
 - C=> 3b) Approval of Agenda
 - C=> 3c) February 1, 2021 Warrant List (JM)
 - C=> 3d) MMPA January Meeting Update (GD)
 - C=> 3e) Professional Service Contract with Del's Construction (GD)

4. **Liaison Report** (JB)

5. **Utilities Manager Report** (GD)

6. **Reports: Water Items**
 - 6a) Water System Operations Report – Verbal (LS)
 - 6b) SEH Presentation (LS)
 - 6c) Water Project Updates (JA)

7. **Reports: Electric Items**
 - 7a) Electric System Operations Report – Verbal (BC)
 - 7b) Electric Project Updates (JA)

8. **Reports: Human Resources**

9. **Reports: General**
 - 9a) 2021 Conservation Improvements Plan (SW)

10. **Items for Future Agendas**

11. **Tentative Dates for Upcoming Meetings**
 - Mid Month Meeting -- February 16, 2021 (Tuesday)
 - Regular Meeting -- March 1, 2021
 - Mid Month Meeting -- March 15, 2021

12. **Adjourn to 02-16-2021 at the SPUC Service Center, 255 Sarazin Street**

MINUTES OF THE
SHAKOPEE PUBLIC UTILITIES COMMISSION
Regular Meeting
January 19, 2021

1. Call to Order. President Amundson called the January 19, 2021 meeting of the Shakopee Public Utilities Commission to order at the SPU meeting room at 5:00 P.M.
2. Roll Call. President Amundson, Vice President Mocol, Commissioner Brennan, Commissioner Fox, and Commissioner Meyer were present.
3. Approval of Consent Agenda. Motion by Mocol, seconded by Brennan, to approve the consent agenda, namely: January 4, 2021 Minutes, January 19, 2021 Agenda, January 7, 2021 Warrant List Account Credit Request/Deposit Refunds, January 19, 2021 Warrant List, Water Dashboard, and MMPA December Meeting Update. Ayes: Amundson, Mocol, Brennan, Fox, and Meyer. Nays: None. Motion carried.
4. Liaison Report. Commissioner Brennan noted the Planning Commission has reviewed the PUD for 1868 Mystic Lake Drive, which has 56.2 acres and proposed 175 single family homes. The City Council will consider the project tonight.
5. Utilities Manager Report. Greg Drent, Interim Utilities Manager, provided an update on a number of pending projects. He observed that there are two Commissioner openings effective April 1, 2021 and that the City is accepting applications until January 23, 2021. Mr. Drent also noted that he has received multiple thanks for the customer service provided by SPU.
6. Water Report. Lon Schemel, Water Superintendent, provided his answer to a Commissioner question as to a potential shift in water usage because of COVID-19. The answer is yes; water pump usage is up 11% for residential, down 7% for commercial usage, and down 11% for industrial. Mr. Schemel noted that the Minnesota Department of Health will perform PFAS Testing on all SPU wells during 2021.

Mr. Adams, Planning and Engineering Director, presented Resolution 2021-02 Addressing Refunding of Past Water Capacity Charges due to the Recent Reduction in the WCC to Customers Meeting Certain Criteria. Motion by Meyer, seconded by Brennan, to approve Resolution 2021-02, with the change of adding “as provided above” after “refund in whole” in the second BE IT FURTHER RESOLVED clause. Ayes: Amundson, Mocol, Brennan, Fox, and Meyer. Nays: None. Motion carried.

7. Electric Report. Brad Carlson, Assistant Electric Superintendent, stated that there was one outage since the last meeting. He noted that crews are trimming trees around power lines.

8. West Shakopee Substation. Mr. Adams gave an update on the West Shakopee Substation. He presented Resolution 2021-03 Approving Amendment to Purchase Agreement and All Documents Necessary to Carry Out Purchase Agreement and Completion of Closing Under Purchase Agreement. Motion by Meyer, seconded by Fox, to approve Resolution 2021-03. Ayes: Amundson, Mocol, Brennan, Fox, and Meyer. Nays: None. Motion carried.

9. East Shakopee Substation. Mr. Adams provided an update, including an offer concerning 4.61 acres in the former Cretex site. Motion by Meyer, seconded by Fox, to go to closed session to develop or consider an offer or counteroffer for the purchase or sale of real property at 7070 Cretex Drive, Shakopee, under Minnesota Statutes, Section 13D.05, subd. 3(c)(3). Ayes: Amundson, Mocol, Brennan, Fox, and Meyer. Nays: None. Motion carried. The Commission proceeded to closed session. After returning to open session, President Amundson noted that staff was directed to provide a recent appraisal and related counteroffer to the owner.

10. General. Mr. Drent presented his memorandum concerning 2021 goals. Commissioner Fox requested pdf bookmarks for agenda materials. Mr. Adams provided an update of staff discussions with the City as to electric vehicle charging stations. Ms. Walsh, Director of Customer Relations/Marketing, gave an update on SPU Support, the COVID-19 Relief Fund. Staff was directed to reach out to customers who have outstanding balance to highlight the fund. Attorney Brennan noted that the LMCIT is not allowing in-person training due to the pandemic. Commissioners concluded that the collaborative services training should be delayed until the two new Commissioners begin their terms. Commissioner Brennan departed the meeting to attend a City Council meeting.

11. Adjourn. Motion by Meyer, seconded by Fox, to adjourn to the February 1, 2021 regular meeting. Ayes: Amundson, Mocol, Fox, and Meyer. Nays: None. Motion carried.



Greg Drent, Commission Secretary

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SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

February 1, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

57623	Allstream	\$2,494.67
57624	Altec Industries	\$314.13
57625	AAR Building Service Co.	\$3,610.00
57626	APPA	\$4,317.27
57627	Apple Ford of Shakopee	\$142.53
57628	Arrow Ace Hardware	\$158.84
57629	Aspen Equipment Co.	\$64.22
57630	Robert Berndtson	\$208.88
57631	Choice Electric Inc.	\$2,391.59
57632	Comcast	\$2.25
57633	Daily Printing Inc.	\$2,512.00
57634	Delta Dental Plan of MN	\$5,151.28
57635	E H Renner & Sons Inc.	\$3,601.55
57636	Ellingson Companies	\$234.00
57637	Fastenal Ind. & Const Supplies	\$35.79
57638	Ferguson Enterprises, LLC	\$216.89
57639	Further	\$6,730.90
57640	Grainger Inc.	\$1,822.11
57641	Matthew Griebel	\$84.02
57642	HealthPartners	\$81,396.26
57643	Hennen's Auto Service, Inc.	\$76.33
57644	High Point Networks, LLC	\$6,281.44
57645	Impact Mailing of Minnesota, Inc.	\$960.50
57646	Indelco Plastics Corp	\$808.10
57647	Irby - Stuart C Irby Co	\$94,210.84
57648	JT Services	\$917.94
57649	Matthew Kahle	\$150.00
57650	Eric King	\$129.79
57651	Michael & Gayle MacBride	\$144.97
57652	McGrann Shea Carnival Straughn & Lamb, Chartered	\$8,842.64
57653	Minn Valley Testing Labs Inc.	\$336.00
57654	Minnesota Life	\$1,280.36
57655	MMUA	\$43,046.38
57656	MN AWWA	\$150.00
57657	Napa Auto Parts	\$156.21
57658	NCPERS Group Life Ins.	\$176.00
57659	Gerry Neville	\$143.92
57660	Cindy Nickolay	\$194.79
57661	PLIC - SBD Grand Island	\$3,467.80
57662	Paymentus Corporation	\$16,222.65

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

February 1, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

57663	Schilz Ornamental Iron Inc.	\$285.00
57664	Short Elliott Hendrickson Inc.	\$22,913.86
57665	Summit Companies	\$1,116.09
57666	Gregory Triplett	\$162.40
57667	Ziegler Inc.	\$138.36

TOTAL

\$317,801.55

Gregg Idrent

Interim Commission Secretary

Commission Vice President

Jean McLann

Interim Director of Finance & Administration

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

February 1, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

57623	Allstream	\$2,494.67	Shakopee substation, Pike Lake, S. Sub & SPU
57624	Altec Industries	\$314.13	Elec. Dept. Hydraulic Oil, Nylon slings
57625	AAR Building Service Co.	\$3,610.00	Feb. Cleaning service
57626	APPA	\$4,317.27	DEED Program annual Dues
57627	Apple Ford of Shakopee	\$142.53	Water dept. truck oil change and mouldin
57628	Arrow Ace Hardware	\$158.84	Anchor, brush, roller cover, connector, washer, nut setter
57629	Aspen Equipment Co.	\$64.22	Blind Fastener - WO#2350
57630	Robert Berndtson	\$208.88	Mileage reimb.
57631	Choice Electric Inc.	\$2,391.59	Pumphouse #15 and #6, pipe for scales and pull earth grounds to each water meter
57632	Comcast	\$2.25	Cable bill for lunchrooms
57633	Daily Printing Inc.	\$2,512.00	SPU January Rate Insert
57634	Delta Dental Plan of MN	\$5,151.28	Jan. premiums for Dental
57635	E H Renner & Sons Inc.	\$3,601.55	Retainage request WO#2369 - Water dept.
57636	Ellingson Companies	\$234.00	Refund hydrant meter
57637	Fastenal Ind. & Const Supplies	\$35.79	Lime vest
57638	Ferguson Enterprises, LLC	\$216.89	Mapp Tank, epoxy cop split hngr & RPZ repair kit
57639	Further	\$6,730.90	Flex medical and dependent care reimb.
57640	Grainger Inc.	\$1,822.11	Hand crank hose reel, battery charger & battery, Thermometer
57641	Matthew Griebel	\$84.02	Safety boot reimb
57642	HealthPartners	\$81,396.26	Jan. premiums for Medical
57643	Hennen's Auto Service, Inc.	\$76.33	Elec. Dept. Oil change
57644	High Point Networks, LLC	\$6,281.44	1st Qtr. 2021 Budget Network Upgrade
57645	Impact Mailing of Minnesota, Inc.	\$960.50	Collection letters for 1/1-1/28/2021
57646	Indelco Plastics Corp	\$808.10	Elbows, nipples, valve bushing all for WO#2372
57647	Irby - Stuart C Irby Co	\$94,210.84	Single phase padmounts
57648	JT Services	\$917.94	Blue marking flags for water dept.
57649	Matthew Kahle	\$150.00	Safety boot reimb
57650	Eric King	\$129.79	Safety boot reimb
57651	Michael & Gayle MacBride	\$144.97	2020 Irrigation Controllers
57652	McGrann Shea Carnival Straughn & Lamb, Chartered	\$8,842.64	\$807.64 - WO#2377 West Sub., - \$8035.00 Municipal and Regulatory Fees
57653	Minn Valley Testing Labs Inc.	\$336.00	Coliform, Nitrate & Nitrite
57654	Minnesota Life	\$1,280.36	Jan. life ins. Premiums
57655	MMUA	\$43,046.38	1st Qtr. 4 yr. apprentice program, 1st Qtr. Safety Management Program, 2021 Electric Utility Member Dues, Brad C. reg. for Emergency Preparedness
57656	MN AWWA	\$150.00	Water dept. 2021 MN AWWA Spring Virtual Operator School
57657	Napa Auto Parts	\$156.21	Grease fitting for new wood chipper, star brite
57658	NCPERS Group Life Ins.	\$176.00	Feb. Life ins. Premiums
57659	Gerry Neville	\$143.92	Mileage reimb.
57660	Cindy Nickolay	\$194.79	Mileage reimb. & dog treat reimbursement
57661	PLIC - SBD Grand Island	\$3,467.80	LTD premiums for Feb.
57662	Paymentus Corporation	\$16,222.65	Dec. transaction fees

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

February 1, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

57663	Schilz Ornamental Iron Inc.	\$285.00	Small truck rack, aluminum
57664	Short Elliott Hendrickson Inc.	\$22,913.86	WO#2432 for \$8876.60 Feasibility Study WT, WO#2170 - \$1781.00 Canterbury Park N., WO#2389 - \$4110.00 Vierling Ind. - Opus, WO#2279- \$3836.00 Canterbury Southwest Development, WO#2259 - \$2859.86 Water Tank #8, WO#2408 - \$548.00 Windermere South, WO#2355 - \$902.40 Water Tower #3
57665	Summit Companies	\$1,116.09	Teardown, Hydro/Recharge, Dry Chem, O- ring - Electric Dept.
57666	Gregory Triplett	\$162.40	Mileage reimb.
57667	Ziegler Inc.	\$138.36	Couplings and adapter
TOTAL		<u>\$317,801.55</u>	

Interim Commission Secretary

Commission Vice President

Interim Director of Finance & Administration



PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

To: SPU Commissioners

From: Greg Drent, Interim Utilities Manager *G.D.*

Date: January 28, 2021

Subject: MMPA January Meeting Update

The Board of Directors of the Minnesota Municipal Power Agency (MMPA) met on January 19, 2021, via WebEx.

The Board reviewed 2020 performance. Management's presentation is attached.

The Board discussed the status of the renewable projects the Agency is pursuing.

The Board approved a program for MMPA to install one electric vehicle charger in each member community.

The Board received an update on how the Agency's energy education program has been modified for the 2020-2021 school year to be a virtual offering.

There was an increase of 17 customers participating in MMPA's residential Clean Energy Choice program from November to December. Customer penetration of the program for residential customers remains at 3.6%.



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DATE: January 28, 2021
TO: SPU Commissioners
FROM: Greg Drent, Interim Utilities Manager *GD*
Subject: Professional Service Contract with Del's Construction

Background:

In the 2021 CIP budget there are funds budgeted for a facility addition and improvements. We are making improvements to the warehouse area and will also be looking at a drive up window to better serve our customers. Attached is the professional service contract with Del's Construction to be the construction manager for the addition and improvements. SPU's attorney has reviewed the contract. All contracts will follow bidding requirements and any bids above \$175,000.00 will follow the sealed bids requirement. Those bids will come back to the commission for approval.

Del's Construction has many years of experience working in construction management and also worked on the Shakopee's Community Center project.

Recommendation:

Approve the professional service contract with Del's Construction for SPU's facility addition and improvements.

Professional Services Agreement

This agreement (the "Agreement") to provide professional services between Shakopee Public Utilities ("SPU") and the service provider, Del's Construction (the "Consultant"), is dated as of January 20, 2021.

Article 1: Services to be Performed; Independent Contractor; Payment

- 1.01 Consultant shall perform services (the "Services") as described in and in accordance with the Agreement and the proposal presented to SPU on January 15, 2021, attached hereto as Exhibit A. Consultant will perform the Services and deliver such deliverables with the standard of professional care and skill customarily provided. In performing the Services, the Consultant shall comply with all applicable federal, state, and local laws and regulations. Completeness of work product shall be determined by SPU in its sole discretion, and Consultant agrees to make all revisions, additions, deletions or alterations as requested by SPU. Consultant shall maintain any and all required governmental licenses, certificate, approvals, and permits that are required to perform the Services.
- 1.02 The parties acknowledge that Consultant, while performing Services hereunder, is acting as an independent consultant and not as an employee of SPU. As a result, Consultant shall not be treated as an employee of SPU for federal or state income or employment tax or workers' compensation purposes and Consultant shall not be eligible to participate in SPU's employee benefit programs.
- 1.03 Nothing is intended or should be construed in any manner as creating or establishing the relationship of co-partners between the parties hereto or as constituting the Consultant as the agent, representative, or employee of SPU for any purpose or in any manner whatsoever. The Consultant represents that it has or will secure at its own expense all personnel required in performing Services under the Agreement. Any and all personnel of the Consultant or other persons while engaged in the performance of any work or Services required by the Consultant under the Agreement shall have no contractual relationship with SPU, and shall not be considered employees of SPU.
- 1.04 Consultant shall have no right or authority to enter contracts on behalf of or in the name of SPU, without SPU's prior written consent. Consultant shall not have any right to make any representation or warranty to a third party with respect to the Services performed by Consultant without SPU's prior written consent.
- 1.05 The total cost of this Agreement shall not exceed \$79,350 for construction management services and \$92,000 for on-site superintendent services (to be billed on an hourly basis of \$95/hour), as set forth in Exhibit A, without prior authorization by SPU. In addition, Consultant will evaluate and make recommendations to SPU whether certain on-site general condition expenses detailed in Exhibit A, not to exceed \$83,000, are necessary, and whether Consultant or another entity should incur these costs. In the event that Consultant incurs any of these costs, SPU will be invoiced for actual costs, without

markup. No other fees and/or expenses will be paid to Consultant, unless such fees and/or expenses have been approved in advance by the authorized SPU representative in writing.

- 1.06 Consultant shall be responsible for all costs and expenses incident to the performance of the Services, including but not limited to, all costs of tools and equipment provided by Consultant and all fees, fines, licenses, bonds, or taxes required of or imposed against the Consultant. Consultant shall also be responsible for any costs related to any time spent by Consultant's employees or subcontractors. Consultant shall be solely responsible for any and all taxes, Social Security contributions or payments, disability insurance, unemployment taxes, and other payroll type taxes applicable to such compensation. SPU shall not be responsible for expenses incurred by the Consultant in performing the Services.

Article 2: Insurance

Consultant shall provide evidence of the insurance specified in this Article 2.

- 2.01 Workers' Compensation. Workers' Compensation insurance in compliance with all applicable law. Unless agreed by SPU in advance for good cause shown, such policy (or, if applicable, separate policy) shall provide employer's liability coverage with limits of at least \$1,000,000 for each coverage provided thereunder.
- 2.02 General Liability. Commercial General Liability Insurance, providing coverage on an "occurrence", rather than on a "claims made" basis, under a policy form that provides coverage at least as broad in all material respects as that provided under a standard Insurance Services Office ("ISO") form CG 00 01, unless agreed by SPU in advance for good cause shown. Such policy shall include, but not be limited to, coverage for bodily injury, property damage, personal injury, contractual liability (applying to the Agreement), independent consultants, and products-completed operations liability. Such policy shall not exclude coverage for explosion, collapse and underground ("XC&U") hazards. Consultant agrees to maintain at all times specified above a combined general liability policy limit of at least \$2,000,000 each occurrence and, if applicable, aggregate, applying to liability for bodily injury and property damage, and a combined limit of at least the same amount applying to liability for personal injury and advertising injury.
- 2.03 Professional Liability. Professional (or "Errors & Omissions") Liability Insurance in the amount of at least \$1,000,000 each occurrence (or "wrongful act", or equivalent) and, if applicable, aggregate, covering Consultant's liability for negligent acts, errors or omissions in the performance of professional services under the Agreement. Consultant's Professional Liability Insurance may afford coverage on an occurrence basis or on a claims-made basis. However, Consultant acknowledges and agrees that under claims-made coverage changes in insurers or in insurance policy forms could result in the impairment of the liability insurance protection intended for SPU hereunder. Consultant therefore agrees that it will not seek or voluntarily accept without providing

notice to SPU any such change in its Professional Liability Insurance coverage for a period of at least one (1) year following its last act of performance under the Agreement if such impairment of the protection for SPU could result; and further, that it will exercise its rights under any "Extended Reporting Period" ("tail coverage") or similar claims-made policy option if necessary or appropriate to avoiding the impairment of such protection.

- 2.04 Limits. The minimum liability insurance required hereunder may be satisfied by the limits afforded under Consultant's primary insurance policy(ies), or by such policy(ies) in combination with the limits afforded by an Umbrella or Excess Liability Policy (or policies); provided, that the coverage afforded under any such Umbrella or Excess Liability Policy is in all material respects at least as broad as that afforded by the underlying policy(ies), and further, that SPU is included as an Additional Insured thereunder. When SPU is to be included as an Additional Insured it shall be included as an Additional Insured to the full extent of the coverage limits available to Consultant in excess of the minimum limits set forth in this Agreement.
- 2.05 Primary Insurance. With respect to liability arising out of Consultant's performance under the Agreement, all insurance required of Consultant shall respond on a primary (not excess or contributory) basis with respect to any similar insurance maintained by SPU hereunder, notwithstanding any policy language to the contrary.
- 2.06 Duty to Notify. Consultant shall promptly notify SPU of any claim, action, cause of action or litigation brought against Consultant, its employees, officers, agents or subconsultants, which arises out of the Services. Consultant shall also notify SPU whenever Consultant has a reasonable basis for believing that Consultant and/or its employees, officers, agents or subconsultants, and/or SPU, might become the subject of a claim, action, cause of action, criminal arrest, criminal charge or litigation arising out of and/or related to the Services. Failure to provide the notices required by this section is a material violation of the terms and conditions of the Agreement.
- 2.07 Release and Waiver. Consultant agrees to rely entirely upon its own property insurance (or self-insurance) for recovery with respect to any damage, loss, or injury to the property interests of Consultant. Consultant hereby releases SPU, its officials, employees, agents and others acting on SPU's behalf, from all claims, and all liability or responsibility to Consultant, and to anyone claiming through or under Consultant, by way of subrogation or otherwise, for any loss of or damage to Consultant's property or business interests caused by fire or other peril or event, even if such fire or other peril or event was caused in whole or in part by the negligence or other act or omission of SPU or other party who is to be released by the terms hereof, or by anyone for whose conduct such party may be legally responsible.

Article 3: Work Delegation

- 3.01 Consultant shall not enter into any subcontract for performance of any Services nor novate or assign any interest in the Agreement without the prior written approval of

SPU. Permission to subcontract shall under no circumstances relieve Consultant of its liabilities and obligations under this Agreement. Consultant shall be fully responsible for the acts, omissions, and failure of its subconsultants in the performance of the herein specified Services, and of person(s) directly or indirectly employed by subconsultants who perform such Services.

Article 4: Liability

- 4.01 Consultant agrees that any personal injury to Consultant, Consultant's personnel, or third parties, and any property damage incurred in the course of performance of this Agreement, shall be the responsibility of the Consultant. Consultant agrees to indemnify, defend, and hold harmless SPU and its officials, officers, employees, and agents from and against any and all costs, losses, damages, liabilities, expenses, demands, actions, and judgments, including court costs and reasonable attorney's fees, which may arise out of:
- a. Consultant's performance of or omission in performing the Services;
 - b. Consultant's breach of this Agreement;
 - c. A claim by a third party alleging that the Services (or any work product) infringes a validly existing U.S. patent or copyright, or other intellectual property right of a third party; or
 - d. The payment or non-payment of fines, fees, interest, and penalties, except to the extent caused by the sole negligence of SPU.

Article 5: Compliance with the Law

- 5.01 Consultant shall exercise the degree of care and skill that can be reasonably expected from similarly situated professionals, and shall, to the best of its knowledge and belief, abide by all federal, state or local laws, statutes, ordinances, rules and regulations now in effect or hereinafter adopted insofar as they relate to the Consultant's performance of the provisions of this Agreement.

Article 6: Termination

- 6.01 The Agreement may be terminated by either party without cause or default providing the other party with not less than thirty (30) days advance written notice of termination. Notwithstanding any other term or provision set forth in the Agreement, the Agreement may be terminated without notice by the mutual agreement of the parties hereto.
- 6.02 SPU reserves the right to suspend indefinitely or terminate this Agreement and the Services to be rendered by Consultant for any reason upon ten (10) days' prior written notice. In the event of termination prior to completion of the phase of Services then underway, the amount of the total fee to be paid to the Consultant shall be determined by SPU on the basis of the portion of the total work actually completed up to the time of such termination. In addition, if the Consultant (or its employee, agent, or subcontractor) is convicted of any crime or offense, fails or refuses to comply with the

reasonable directive of SPU, is guilty of serious misconduct in connection with performance hereunder, or materially breaches provisions of this Agreement, SPU at any time may terminate the engagement of the Consultant immediately and without prior written notice to the Consultant.

Article 7: Data Practices; Work Product

- 7.01 Consultant, its officers, agents, owners, partners, employees, volunteers and subconsultants shall abide by the provisions of the Minnesota Government Data Practices Act, Minnesota Statutes, Chapter 13 (MGDPA), the Health Insurance Portability and Accountability Act and implementing regulations if applicable, and all other applicable state and federal laws, rules, regulations and orders relating to data privacy or confidentiality, and as any of the same may be amended. If Consultant creates, collects, receives, stores, uses, maintains or disseminates data because it performs functions of SPU pursuant to this Agreement, then Consultant must comply with the requirements of the MGDPA as if it were a government entity, and may be held liable under the MGDPA for noncompliance. Consultant agrees to promptly notify SPU if it becomes aware of any potential claims, or facts giving rise to such, under the MGDPA. The terms of this Section shall survive the cancellation or termination of this Agreement.
- 7.02 All right, title, and interest in all copyrightable material which Consultant shall conceive or originate either individually or jointly with others, and which arises out of the performance of the Agreement, shall become the property of SPU upon payment of Consultant's undisputed invoices (provided, however, SPU does not have to pay any invoice in the event Consultant is in default under the Agreement) and are by the Agreement assigned to SPU along with ownership of any and all copyrights of the copyrightable material.
- 7.03 Consultant agrees that any intellectual property, including but not limited to computer programs, software, documentation, copyrightable work, discoveries, inventions, or improvements developed by the Consultant solely, or with others, resulting from the performance of Services pursuant to this Agreement is a work for hire and constitutes SPU's property. To the extent the intellectual property developed hereunder is not deemed to be a work for hire, the Consultant hereby assigns all rights therein to SPU and agrees to provide SPU with any assistance which SPU may require to obtain patents, trademark, or copyright registrations, including the prompt execution of any documents submitted by SPU. This provision shall survive expiration and termination of this Agreement.

Article 8: Representations and Warranties

- 8.01 Consultant represents and warrants the following:

- a. That it is financially solvent, able to pay its debts as they mature, and possessed of sufficient working capital to provide the equipment and goods, complete the Services, and perform its obligations hereunder;
- b. That it is able to furnish any of the tools, materials, supplies, equipment, and labor required to complete the Services and perform all of its obligations hereunder and has sufficient experience and competence to do so;
- c. That it is authorized to do business in Minnesota, properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over it and the Services, equipment, and goods required hereunder, and has or will obtain all licenses and permits required by law;
- d. That the Services and any work product thereof are the original work of Consultant, do not and will not infringe upon, violate, or misappropriate any patent, copyright, trade secret, trademark, contract, or any other publicity right, privacy right, or proprietary right of any third party;
- e. That Consultant's personnel performing Services under this Agreement have sufficient expertise, training, and experience to accomplish the Services;
- f. That Consultant is not prohibited from doing business with either the federal government or the State of Minnesota as a result of debarment or suspension proceedings; and
- g. That Consultant's personnel shall be compensated, taxes withheld, and other benefits made available as required by applicable law and regulations.

Article 9: Miscellaneous

- 9.01 Entire Understanding; Headings. This document and any exhibit attached constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect. In the event of a conflict between the terms of the Agreement and any exhibit, the terms of this Agreement shall govern. Headings are not to be considered a part of this Agreement and are not intended to be a full and accurate description of the contents hereof.
- 9.02 Assignment. All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, if any, successors, and assigns. The Consultant shall not assign any of its rights under this Agreement, or delegate the performance of any of its duties hereunder, without the prior written consent of SPU.

9.03 Choice of Law. The laws of the state of Minnesota shall govern the validity of this Agreement, the construction of its terms, and the interpretation of the rights and duties of the parties hereto.

9.04 Dispute Resolution. In the event that a dispute arises between the parties as to the interpretation or performance of this Agreement, then upon written request of either party, representatives with settlement authority for each party shall meet and confer in good faith to resolve the dispute. If the parties are unable to resolve the dispute, they shall make every effort to settle the dispute through mediation or other alternative dispute resolution methods. If the parties are unable to resolve the dispute through these methods, either party may commence an action in Scott County District Court.

9.05 Notices. Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States mail addressed to the party to whom such notice, demand or other communication is to be given as follows:

If to the Consultant:
Del's Construction
Attn: President
35832 Ottawa Rd.
Le Sueur, Minnesota 56058

If to SPU:
Shakopee Public Utilities
Attn: Utilities Manager
255 Sarazin Street
Shakopee, Minnesota 55379

Any party hereto may change its address for purposes of this paragraph by written notice given in the manner provided above.

9.06 Modification or Amendment; Waiver. No amendment, change, or modification of this Agreement shall be valid unless in writing signed by the parties hereto. Waiver by one party hereto of breach of any provision of this Agreement by the other shall not operate or be construed as a continuing waiver.

9.07 Unenforceability of Provisions. If any provision of this Agreement, or any portion thereof, is held to be invalid and unenforceable, then the remainder of this Agreement shall nevertheless remain in full force and effect.

- 9.08 Drafting. The parties agree that they participated equally in, and are jointly responsible for, the drafting of this Agreement. In the event of any dispute, any ambiguity in this Agreement shall not be construed against either party.
- 9.09 The parties agree that certain covenants and obligations of Consultant shall survive the termination of this Agreement, including, but not limited to: Sections 1.02, 1.04, 2.02-2.07, 4.01, 7.01- 7.03.
- 9.10 Non-Discrimination. Consultant agrees that it shall not exclude any person from full employment rights or participation in, or the benefits of, any program, service or activity on the grounds of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public assistance status, or national origin; and no person who is protected by applicable Federal or State laws against discrimination shall be otherwise subjected to discrimination. Consultant agrees to comply with all applicable equal opportunity and affirmative action laws, directions, and regulations of federal, state, and local governing bodies or agencies thereof.
- 9.11 Counterparts. This Agreement may be executed in counterpart copies by the Parties and each counterpart, when taken together with the other, shall be deemed one and the same executed Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed by an authorized representative as of the date first above written.

SHAKOPEE PUBLIC UTILITIES

By: _____
Kathi Mocol
Its Vice President

By:  _____
Greg Drent
Its Interim Utilities Manager

DEL'S CONSTRUCTION

By: _____
Its:



po box 470 • 255 sarazin street
shakopee, mn 55379
main # 952.445-1988 • fax # 952.445-7767
www.shakopeeutilities.com

TO: Greg Drent, Interim Utility Manager *GD*
FROM: Lon R. Schemel, Water Superintendent *L. Schemel*
SUBJECT: Memorandum No. 2 of the Comprehensive Evaluation for Municipal
Water Treatment
DATE: January 29, 2021

Task 2 of the evaluation was to have the water quality model completed and have memorandum No. 2 presented to the Commission. This evening, February 1, 2021, members of the team from Short Elliott Hendrickson Inc. will be presenting the memorandum. In virtual attendance are:

- Miles Jensen, Principal/Water Market Leader
- Ryan Hanson, EIT, Process Engineer
- Kristin Petersen, AIA, NCL, LEED AP, Public Engagement Specialist



Building a Better World
for All of Us®

MEMORANDUM

TO: Lon Schemel
FROM: Miles Jensen
DATE: January 29, 2021
RE: Memorandum 2 - Water Quality & Treatment Alternatives
SEH No. SHPUC 157387 14.00

Dear Lon Schemel,

The following memorandum is submitted to satisfy the Task 2 – Water Quality Model Memorandum No. 2 that we proposed for this project. This will be a stepping stone to further evaluate the design, layout, and cost estimate of treatment for the Shakopee Public Utility's (SPU) system.

Water Quality

As discussed in the Memorandum 1 – Water Quality Assessment, the water quality for SPU's wells is of good quality. SPU water quality meets all Environmental Protection Agency (EPA) enforceable standards for safety, or Maximum Contaminant Levels (MCLs), except for Arsenic in Well 14 (emergency well) and Radium in Well 10 and Well 14. **Well 10 is used less than 1% of the total yearly pumpage and is the last well turned on as demands in the system increase and is always blended with water from Well 6 and Well 7 at the pumphouse. The concentration of radium in the blended water that enters the distribution system is well below the MCL. Well 3 and Well 14 have concentrations of arsenic that exceed the EPA MCL of 10 ug/L. SPU regards Well 3 and Well 14 as emergency wells and does not use them.**

In addition, EPA has established Secondary Standards that set non-mandatory water quality guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. Looking at testing over the last three (3) years, Well 14 and Well 10 have exceeded the Secondary Standard of 0.30 mg/L for iron and Well 12, Well 15, and Well 10 have exceeded the Secondary Standard of 0.05 mg/L for manganese. Well 15 is the only well that has seen manganese concentrations above the HBV of 0.10 mg/L. **Based on the wells that SPU uses as primary wells, Well 12 and Well 15 are the only wells necessary to be treated to reduce manganese below the Secondary Standard. Both Well 12 and Well 15 have the ability to be blended at the pumphouse house to reduce manganese concentrations, prior to entering the distribution system.**

To reduce the formation of insoluble and colored iron and manganese, the form that can cause "red" and "black" water issues, SPU adds polyphosphates at Well 12 and is approved to start adding it to Well 15. The addition of polyphosphates prior to chlorination delays the precipitation of oxidized manganese and iron, thereby greatly reducing the likelihood of aesthetic issues. It should be noted that the iron and manganese is not directly removed from the water, it is merely sequestered.

Lastly, nitrate (a primary contaminant) has historically been present in most SPU wells. The EPA Maximum Contaminant Level (MCL) for nitrate is 10 milligrams per liter (mg/L), below which the water is considered safe to drink. The levels of nitrate in SPU wells has ranged from <1.0 mg/L to 7.42 mg/L in the past 3 years. Nitrate levels, in all of SPU's wells, have mostly stayed the same or gotten lower over

Engineers | Architects | Planners | Scientists

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the past 20 years and can be expected to follow this trend as agriculture land is developed into residential and commercial properties throughout the watershed.

The water quality tables from Memorandum 1 are attached in Appendix A for reference.

Water Modeling

A hydraulic computer model was generated to evaluate the performance of the City's current water distribution system. The model used the most recent GIS information for SPU's water system assets, and was created using WaterGEMS®, a pipe network program developed by Bentley®. The previously calibrated model was verified using hydraulic and pumping data supplied by SPU from June 2020.

Since pressures in the current system are not of concern, the model was utilized to assess water quality throughout the system. The model demands were based on an average day demand of 7 MGD. Using four (4) pump priority or "steps" used by the Utility, shown in the following table, the system was modeled for water age (Appendix B) and nitrate distribution (Appendix C) throughout the system.

Well No.	Zone	Tank Level Controls	Week 1 Steps	Week 2 Steps	Week 3 Steps	Week 4 Steps
2	Normal	Tank 1	3	1	2	1
3	Normal	Tank 1	Not Used	Not Used	Not Used	Not Used
4	Normal	Tank 1	1	3	3	2
5	Normal	Tank 1	1	3	3	2
6	Normal	Tank 1	3	1	1	1
7	Normal	Tank 1	3	1	1	1
8	Normal	Tank 1	1	2	1	1
9	Normal	Tank 1	1	3	1	3
10	Normal	Tank 1	5	5	5	5
11	Normal	Tank 1	2	1	2	1
12	1 st High	Tank 4	2	1	2	1
13	1 st High	Tank 4	1	2	1	2
14	1 st High	Tank 4	Emergency	Emergency	Emergency	Emergency
15	Normal	Tank 3	3	2	1	3
16	Normal	Tank 3	1	3	2	1
17	Normal	Tank 3	2	1	3	2
20	1 st High	Tank 4	2	1	2	1
21	1 st High	Tank 4	1	2	1	2

The water age maps were run through a 50-day age simulation to generate water ages throughout the system. In general, most of the service area is under 24-hours of age in the system. The areas with higher water age are in the vicinity of the larger ground storage tanks. This is caused by a low turnover of water in these larger tanks, causing older water to be supplied nearest the tank. The fear in the higher water age areas of the system is chlorine residual being too low, causing various taste and odor issues. SPU has indicated that there has not been taste and odor issues commonly occurring anywhere throughout the system. It is the goal of SPU to have a chlorine residual of 0.9 mg/L in the distribution system. Recent tests show that the chlorine residual at Tank 5 & Tank 6, which have the highest water age in the system, are maintaining a chlorine residual of 0.3-0.4 mg/L, which is still above the typical minimum recommendation of 0.2 mg/L.

As for the nitrate distribution throughout the system. The system was modeled using a max concentration (over the last 3 years) at each well, to create a "worst-case" scenario. The modeling results indicate that enough wells in the main zone have high enough concentrations of nitrate that a majority of the zone

could potentially receive elevated blended nitrate concentrations (>5.0mg/L). Conversely, the modeling results indicate that the 1st High Zone is utilizing lower nitrate concentration wells and could potentially receive blended nitrate concentrations of 1.0 to 3.0 mg/L.

Water Treatment

SPU does not currently filter their raw water supplied to their customers. Drinking water is supplied directly from wells where it is treated with the addition of chlorine, and fluoride, as well as polyphosphates at Well 12. Based on the water quality information; with proper blending and prioritizing better water quality wells, SPU could continue to supply untreated, good quality water to its' customers. Nevertheless, because of SPU's commitment to public health and the provision of abundant high-quality water to its customer, SPU is engaged in a comprehensive evaluation of water treatment alternatives. The following treatment systems are included in this evaluation. This evaluation will help present the cost of treatment to SPU's customers to determine if municipally treated water is something to be desired.

Iron & Manganese Removal

The most common and most cost-effective option for manganese and iron removal is chemical oxidation followed by sand filtration. In groundwater, the manganese and iron ions are in solution. When a strong oxidant is added to the water, it converts the manganese and iron to filterable solids.

The oxidant that is added for iron oxidation is typically oxygen via aeration or chlorine. The chemical oxidant that is added for manganese oxidation is typically sodium permanganate. Chlorine is a less expensive chemical oxidant, but the reaction with manganese is too slow to be used in a filtration process. Options for either gravity or pressure filtration are being evaluated.

Nitrate Removal

Nitrates are very difficult contaminants to eliminate from water. Nitrates will not be removed by sediment filters, carbon filters, or by the hollow fiber membrane of an ultrafiltration system. Similarly, a traditional cation exchange water softener will not reduce or remove nitrates. To remove nitrate from drinking water, a few common methods are anion exchange, reverse osmosis, biological denitrification over fluidize beds, and electrodialysis reversal (EDR). Each of these processes come with advantages and disadvantages and will be discussed in more detail in the next phase of the project.

Hardness Removal

Hardness in water is caused by excess calcium and magnesium ions in the water. Hard water causes scaling on fixtures and can plug pipes. Hardness can be removed from water on a municipal scale by lime softening or cation exchange softening.

Lime softening involves adding lime to water to raise the pH to a point where the calcium carbonate is no longer soluble in the water. By forming calcium carbonate precipitate, the calcium can be removed by filtration. A lime softening water treatment plant requires sedimentation, clarification, and filtration and is very expensive.

Cation exchange softening involves exchanging calcium and magnesium ions for sodium ions with an cation exchange resin. This is exactly the same process that is used in a home water softener. To regenerate a cation exchange softener, the resin is flushed with a concentrated solution of brine. For every million gallons of water treated, approximately 2 tons (4,000 lbs) of salt and 45,000 gallons of water is required, which will eventually be discharged to the sewer.

Systemwide Treatment Options

After reviewing the SPU's system, three (3) systemwide treatment alternatives were developed. These alternatives will each provide treated water to the entire system. See Appendix D for the complete maps representing each of the following options. All three of these options designed to satisfy an ultimate demand of 25 MGD

Option 1 – Satellite Treatment

This satellite treatment option reduces the amount of transmission mains required to provide systemwide treatment by constructing treatment facilities at each of the existing pump houses, with exception to Pump House 2, which is most feasible to route to Pump House 3. This option allows each treatment facility to be tailored to the specific water quality at the site-specific wells and treat accordingly.

Option 2 – Central Treatment

The central treatment option would bring all wells to one central location providing equally treated water to the entire system and is the most economical cost for the processes and equipment required to provide systemwide treatment. This would likely be the most feasible option to provide softened water, if that was desired. The main pitfall to a central plant would be the transmission mains required to convey the raw water from each of the wells to one central location.

Option 3 – Hybrid Treatment

The last option is a blend of the two (2) above options. The hybrid model would include a central facility where nearby wells will send their water to be treated, while less convenient wells will construct satellite plants at the existing pump houses. This option will reduce the amount of transmission mains required and reduce the treatment processes and equipment required to provide systemwide treatment.

Systemwide Treatment Costs

High level project cost estimates for the new wells, transmission mains, and treatment for each of the systemwide treatment options are provided in the table in Appendix E. The table also includes a descriptive breakdown of each of the options.

Public Involvement

The public involvement process incorporates citizens and stakeholders in the early stages of the planning process and encourages their participation throughout a project's lifecycle. Collaborating with the public allows policy makers to foster a shared project vision and enjoy a higher level of acceptance among planners, citizens, and other project stakeholders. The planning process can come to life when the community emerges to share their voices. Now, we also recognize there is no single technique that works for all situations.

As a result, for this feasibility study, led by our SEH's Public Engagement Specialist, Kristin Petersen, our project team has worked with SPU to put together some questions to pose to SPU's customers on their satisfaction with their water quality. These questions were designed to focus on the desire for municipal treatment throughout SPU's system. The survey's goal is to ask customers to weigh in on issues like:

- Customers' perception of the current quality of water they receive,
- Provide information collected from Task 1 that compares Shakopee's current water quality to Regulatory standards, and those related health (and age) based issues.
- Any desire on the customers' part for changes, including municipal water treatment,
- Current cost of water service (water rates),
- Seek input from customers on their interest, or willingness, to pay more for advanced water treatment.

The survey will be online and links to the survey will be sent through various avenues. The intention is to include flyers in both February and March utility bills (goes out 3rd week of the month), as well as an email, so that paperless customers see the survey. Links to the survey will also be provided through Facebook and NextDoor applications, to increase participation. The survey is anticipated to remain open from the February utility bill and close March 31st, after a reminder in the March utility bill.

A draft of the water quality survey questions is attached in Appendix F. Before we send the surveys, we would like to get feedback from SPU on the quality of the questions, and further calculate the water rate increases that would occur from the above systemwide treatment options.

Schedule

- I. *Task 1 – Project Initiation & Data Collection (COMPLETED)*
 - A. Memorandum No. 1 (Water Quality Assessment)

- II. *Task 2 – Water Quality Model (COMPLETED)*
 - A. Prepare Memorandum No. 2 (For February 1, 2021 Commission Meeting)

- III. *Task 3 – Public Involvement (In Progress, Due April 2021)*
 - A. Public Involvement Process
 1. Water Quality Survey
 - B. Public Open House (Anticipated March, 2021)
 - C. Rate increases

- IV. *Task 4 – Preliminary Analysis (In Progress, Due February 2021)*
 - A. Water Treatment Plant layout design.
 - B. Utility site locations.
 - C. Water Modeling
 - D. Prepare Memorandum No. 3

- V. *Task 5 – Conduct Technical Analysis (Due March 2021)*
 - A. Review feasible facility layouts and major process element sizing.
 - B. Prepare Memorandum No. 4

- VI. *Task 6 – Cost Estimates (Due March 2021)*
 - A. Prepare Memorandum No. 5

- VII. *Task 7 - Feasibility Report (Due April 2021)*
 - A. Incorporate customer feedback and previous Memorandums

RAH

APPENDIX A
WATER QUALITY TABLES

Table 1 - 2018 Water Quality Summary

Parameter	Well No.										HBV	Secondary Standard	EPA MCL
	2	3	4	5	6	7	8	9	10				
Copper (mg/L)	< 0.005	NA	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		1	1.3
Arsenic (µg/L)	< 1		< 0.5	< 0.5	< 1	< 0.5	< 1	< 2	1.81				10
Chloride (mg/L)	32		113	147	87.6	139	55.4	77	13.7			250	
Iron (mg/L)	< 0.015		< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.03	0.422			0.3	
Manganese (mg/L)	< 0.005		< 0.005	0.025	< 0.005	< 0.005	< 0.005	< 0.005	0.008	0.1		0.05	
Sulfate (mg/L)	19.3		11.8	15	10.5	10.4	13.8	21.1	6.9			250	
Alkalinity, Total (as CaCO ₃)	269		249	260	250	271	258	328	207				
Calcium (mg/L)	83.2		93.2	103	76.2	86.4	87.3	110	39.4				
Magnesium (mg/L)	33.6		32.3	35.4	31	34.7	35.5	46.8	15.8				
Sodium (mg/L)	13.1		39.3	46.4	35.2	63.6	19.2	20.8	32.1				
Zinc (mg/L)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	2		5	
Hardness, Total	346		366	403	318	359	364	467	163				

Parameter	Well No.										HBV	Secondary Standard	EPA MCL
	11	12	13	14	15	16	17	20	21				
Copper (mg/L)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		1	1.3
Arsenic (µg/L)	< 2	< 0.5	< 1	25.3	< 1	< 1	< 1	< 1	< 1	< 1			10
Chloride (mg/L)	32.8	16.3	23.5	< 3	32.5	48.6	44.3	32.8	34.7			250	
Iron (mg/L)	< 0.015	< 0.015	< 0.015	1.2	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015		0.3	
Manganese (mg/L)	< 0.005	0.076	0.013	0.041	0.036	< 0.005	0.037	< 0.005	< 0.005	0.1		0.05	
Sulfate (mg/L)	20	15.3	15.9	42.8	11.8	15.4	16	7.69	14.4			250	
Alkalinity, Total (as CaCO ₃)	336	315	315	280	274	292	294	230	283				
Calcium (mg/L)	100	81.5	86.5	87.4	82.9	93.4	91.3	70.2	88.9				
Magnesium (mg/L)	44	35.3	37.6	29.2	34.9	36.8	39.4	24.8	35				
Sodium (mg/L)	12.1	8.35	11.6	8.97	15.3	17.5	17.4	11.4	11				
Zinc (mg/L)	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	2		5	
Hardness, Total	431	349	371	338	351	385	390	277	366				

* EPA has set forth a lifetime health advisory value of 0.3 mg/L for manganese

Table 2 - 2019 Water Quality Summary

Parameter	Well No.									HBV	Secondary Standard	EPA MCL	
	2	3	4	5	6	7	8	9	10				
Copper (mg/L)	< 0.005	NA	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005		1	1.3	
Arsenic (µg/L)	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.95			10
Chloride (mg/L)	37.1		155	72.7	76.3	124	48.2	63.6	12.1		250		
Iron (mg/L)	< 0.03		< 0.015	< 0.015	< 0.03	< 0.015	< 0.03	< 0.015	0.417		0.3		
Manganese (mg/L)	< 0.005		< 0.005	< 0.005	0.026	< 0.005	< 0.005	< 0.005	0.006	0.1	0.05		
Sulfate (mg/L)											250		
Alkalinity, Total (as CaCO ₃)	266		259	240	256	262	261	329	200				
Calcium (mg/L)	73.7		83.4	105	73.8	85.4	76.8	97.9	42.8				
Magnesium (mg/L)	32.6		29.6	34.7	32.6	36.6	34.4	43	16.8				
Sodium (mg/L)	14.7		26.7	54	32.6	56.3	15.3	18.2	24.9				
Zinc (mg/L)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	2	5		
Hardness, Total	318		330	405	319	364	333	422	176				
Radium 226/228 (pCi/L)									6.2				5 (combined)
Radon 222 (pCi/L)								280				300	

Parameter	Well No.									HBV	Secondary Standard	EPA MCL
	11	12	13	14	15	16	17	20	21			
Copper (mg/L)	< 0.005	< 0.01	< 0.01	< 0.005	< 0.01	0.005	< 0.005	< 0.005	< 0.005		1	1.3
Arsenic (µg/L)	< 0.5	< 0.5	< 0.5	18.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5			10
Chloride (mg/L)	42.1	14	21.4	3	43.5	51.7	43	34.2	36.2		250	
Iron (mg/L)	< 0.015	< 0.015	< 0.015	0.633	< 0.015	< 0.015	< 0.03	< 0.03	< 0.03		0.3	
Manganese (mg/L)	< 0.005	0.082	0.01	0.032	0.118	< 0.005	0.036	< 0.005	< 0.005	0.1	0.05	
Sulfate (mg/L)											250	
Alkalinity, Total (as CaCO ₃)	338	323	329	289	279	299	295	214	259			
Calcium (mg/L)	95	83.3	85.6	78.6	82.2	95.4	82.9	62.7	73.6			
Magnesium (mg/L)	43.2	40	41.8	28.6	35.4	38.4	38.5	22.7	30			
Sodium (mg/L)	14.7	8.42	10.5	8.16	17.3	17.9	16	12.4	12.2			
Zinc (mg/L)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	2	5	
Hardness, Total	415	373	386	314	351	396	366	250	307			
Radium 226/228 (pCi/L)				7.2								5 (combined)
Radon 222 (pCi/L)				274								300

* EPA has set forth a lifetime health advisory value of 0.3 mg/L for manganese

Table 3 - 2020 Water Quality Summary

Parameter	Well No.										HBV	Secondary Standard	EPA MCL
	2	3	4	5	6	7	8	9	10				
Copper (mg/L)	< 0.005	0.017	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.01	0.046			1	1.3
Arsenic (µg/L)	< 0.5	2.21	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	4.8				10
Chloride (mg/L)	16.5	11	83	158	63.1	123	56.9	70.8	13.7			250	
Iron (mg/L)	< 0.015	1.75	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	1.98			0.3	
Manganese (mg/L)*	< 0.005	0.034	< 0.005	< 0.005	0.033	< 0.005	< 0.005	< 0.005	0.009	0.1		0.05	
Sulfate (mg/L)	14.7	13.1	8.8	11.2	9.8	13.3	10.4	18.2	9			250	
Alkalinity, Total (as CaCO ₃)	271	267	243	261	256	270	250	337	205				
Calcium (mg/L)	77	62.3	80.6	102	76.7	89.4	78.9	104	46.4				
Magnesium (mg/L)	30.8	25.6	29.6	34.7	31	34.9	31.4	45.2	18.5				
Sodium (mg/L)	14.4	20.8	33.4	61.9	26.3	53.9	19.1	18.7	13.6				
Zinc (mg/L)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	2		5	
Hardness, Total	319	261	323	398	319	367	326	446	192				

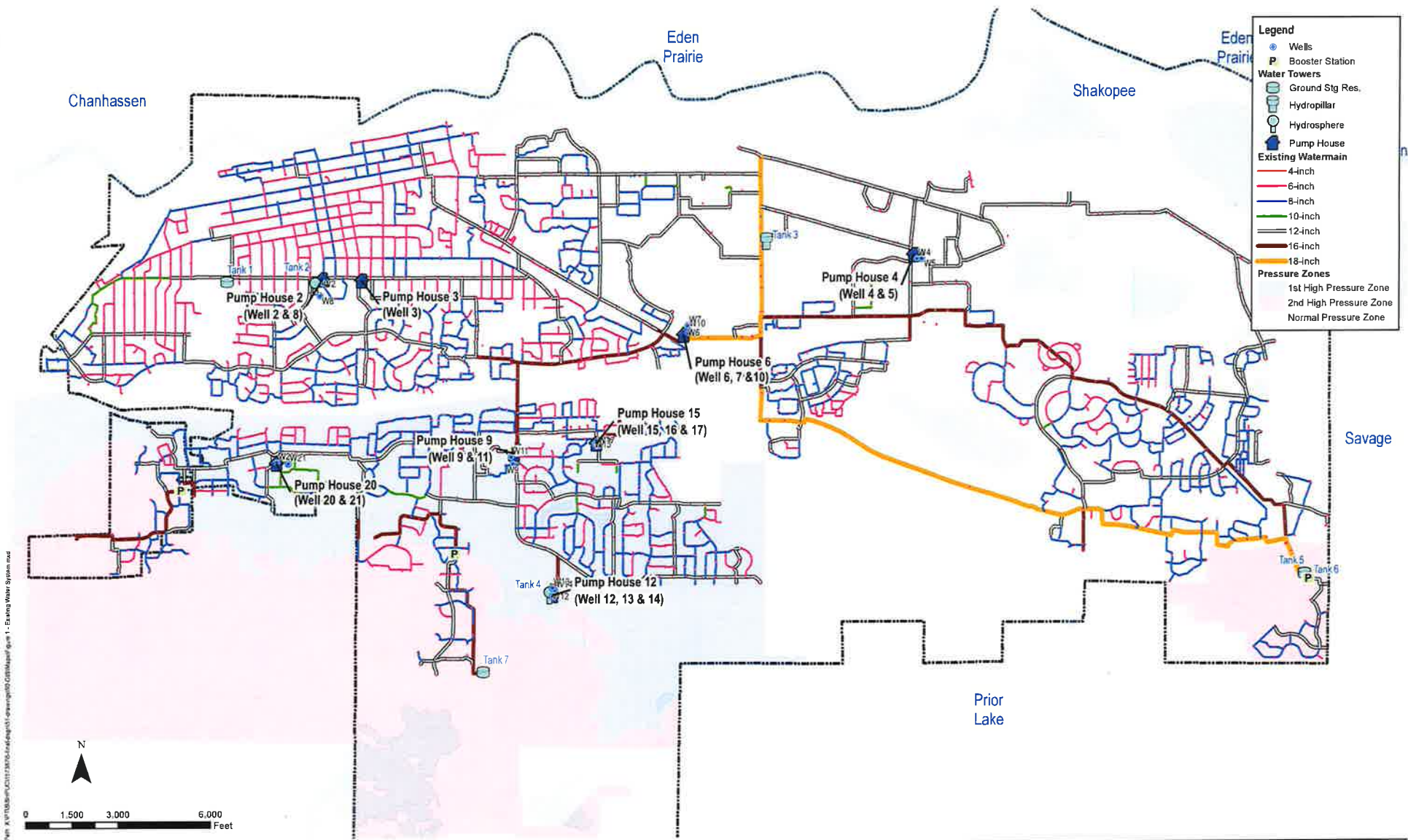
Parameter	Well No.										HBV	Secondary Standard	EPA MCL
	11	12	13	14	15	16	17	20	21				
Copper (mg/L)	< 0.005	< 0.01	< 0.005	< 0.005	< 0.01	0.005	< 0.005	< 0.01	< 0.005			1	1.3
Arsenic (µg/L)	< 0.5	< 0.5	< 0.5	19.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5				10
Chloride (mg/L)	41.7	18.3	24.3	3	44.6	46.4	51.4	34.6	35.9			250	
Iron (mg/L)	< 0.015	< 0.015	< 0.015	0.776	< 0.015	< 0.015	< 0.03	< 0.015	< 0.015			0.3	
Manganese (mg/L)*	< 0.005	0.074	0.006	0.036	0.084	< 0.005	0.029	< 0.005	< 0.005	0.1		0.05	
Sulfate (mg/L)	17.4	15	17.6	62.7	11.2	14	14.9	5.1	5			250	
Alkalinity, Total (as CaCO ₃)	337	326	334	287	286	305	303	231	242				
Calcium (mg/L)	99.8	87.3	86.7	81.2	88.5	89.7	92.7	72.3	72.5				
Magnesium (mg/L)	45.3	37.7	38.6	28.5	34	34.6	36.1	24.2	26.7				
Sodium (mg/L)	15.1	8.92	10.3	8.27	16.8	15.7	16.6	12.5	12.9				
Zinc (mg/L)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	2		5	
Hardness, Total	436	373	375	320	361	366	380	280	291				

* EPA has set forth a lifetime health advisory value of 0.3 mg/L for manganese

Table 4 - Nitrate Water Quality Summary

Well No.	2018			2019			2020			HBV (mg/L)	EPA MCL (mg/L)
	Nitrate Conc. (mg/L)			Nitrate Conc. (mg/L)			Nitrate Conc. (mg/L)				
	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.		
2	2.20	3.68	6.32	2.52	3.78	5.50	2.36	4.10	5.18	10	10
4	2.40	4.28	5.50	3.11	4.16	6.50	3.10	4.07	6.69		
5	5.70	6.96	7.88	6.10	6.67	7.42	5.50	6.11	6.69		
6	4.30	4.75	5.10	4.48	4.98	5.40	5.13	5.44	5.60		
7	4.30	4.60	4.90	4.10	4.55	4.80	4.84	5.05	5.30		
8	4.89	5.67	6.08	5.08	5.35	5.60	4.62	4.96	5.25		
9	1.87	3.75	4.45	2.23	3.10	3.68	2.99	3.40	4.07		
10	N/D			< 0.05			N/D				
11	2.25	2.58	2.95	2.31	2.73	3.07	2.40	2.63	2.86		
12	0.58	0.60	0.62	0.53	0.65	0.74	0.62	0.67	0.73		
13	1.08	1.16	1.28	0.95	0.99	1.01	0.98	1.06	1.11		
14	< 0.05			N/D			N/D				
15	4.04	4.95	5.54	4.70	4.96	5.11	2.82	4.81	5.54		
16	4.60	5.25	6.76	3.99	4.54	6.50	3.73	4.04	4.30		
17	5.00	6.10	7.12	4.77	5.56	6.56	4.92	5.72	6.30		
20	1.24	1.28	1.30	1.15	1.48	1.79	1.59	1.81	2.01		
21	2.13	3.25	3.60	0.33	2.04	2.82	2.04	2.22	2.38		
6, 7, & 10 Blended	2.59	3.15	3.68	2.96	3.32	3.89	3.26	4.33	5.52		
12, 13, & 14 Blended	0.67			0.78			0.86				

APPENDIX B
WATER AGE MODELING MAPS



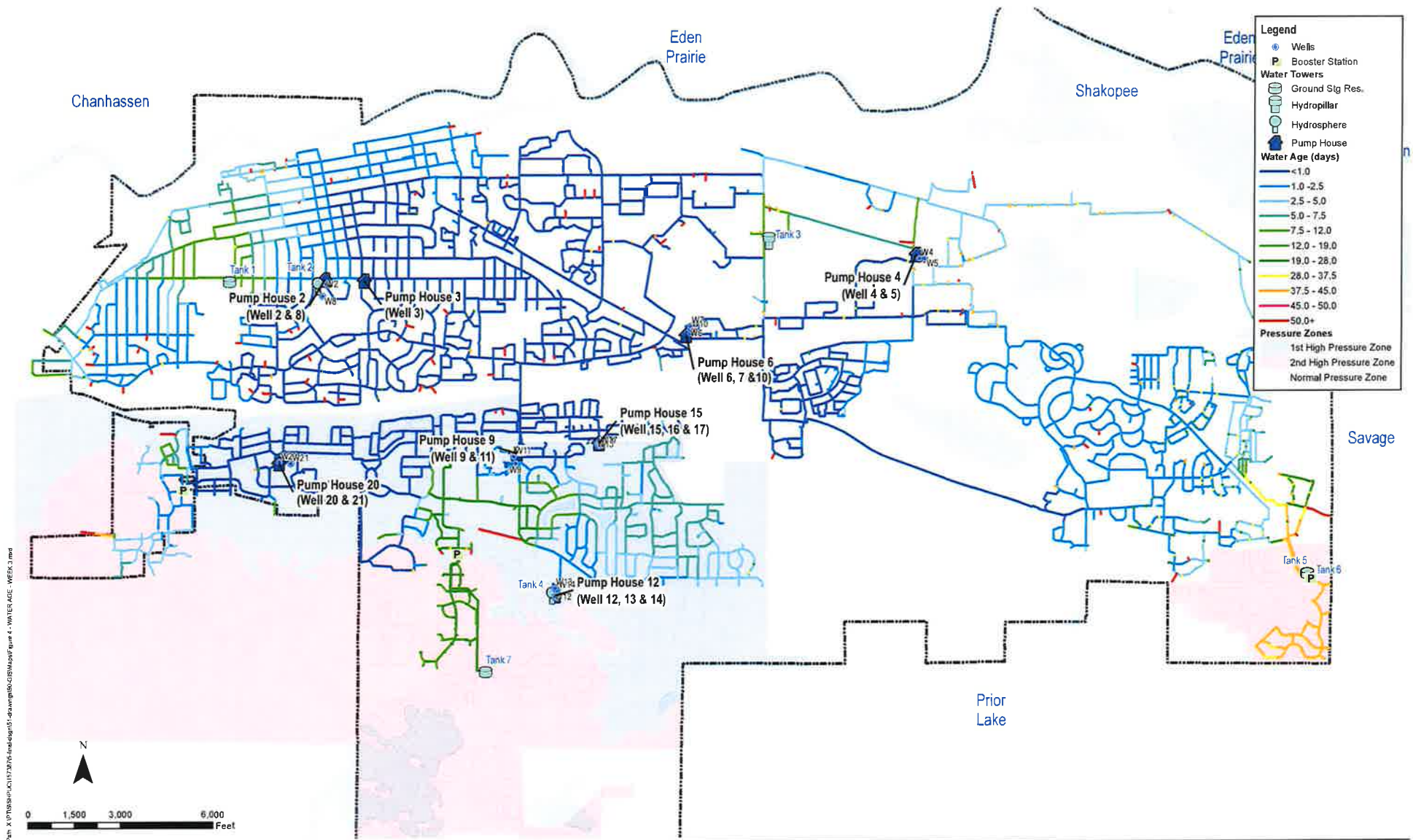
Project Number: SHPUC 157987
 Print Date: Print Date: 1/27/2021

SEH
 Staff by
 Projection
 South



Existing Water System Map Shakopee Public Utilities Shakopee, Minnesota

FIGURE 1
 Existing Water System Map



Legend

- Wells
- P Booster Station
- Water Towers
- Ground Stg. Res.
- Hydropillar
- Hydrosphere
- Pump House

Water Age (days)

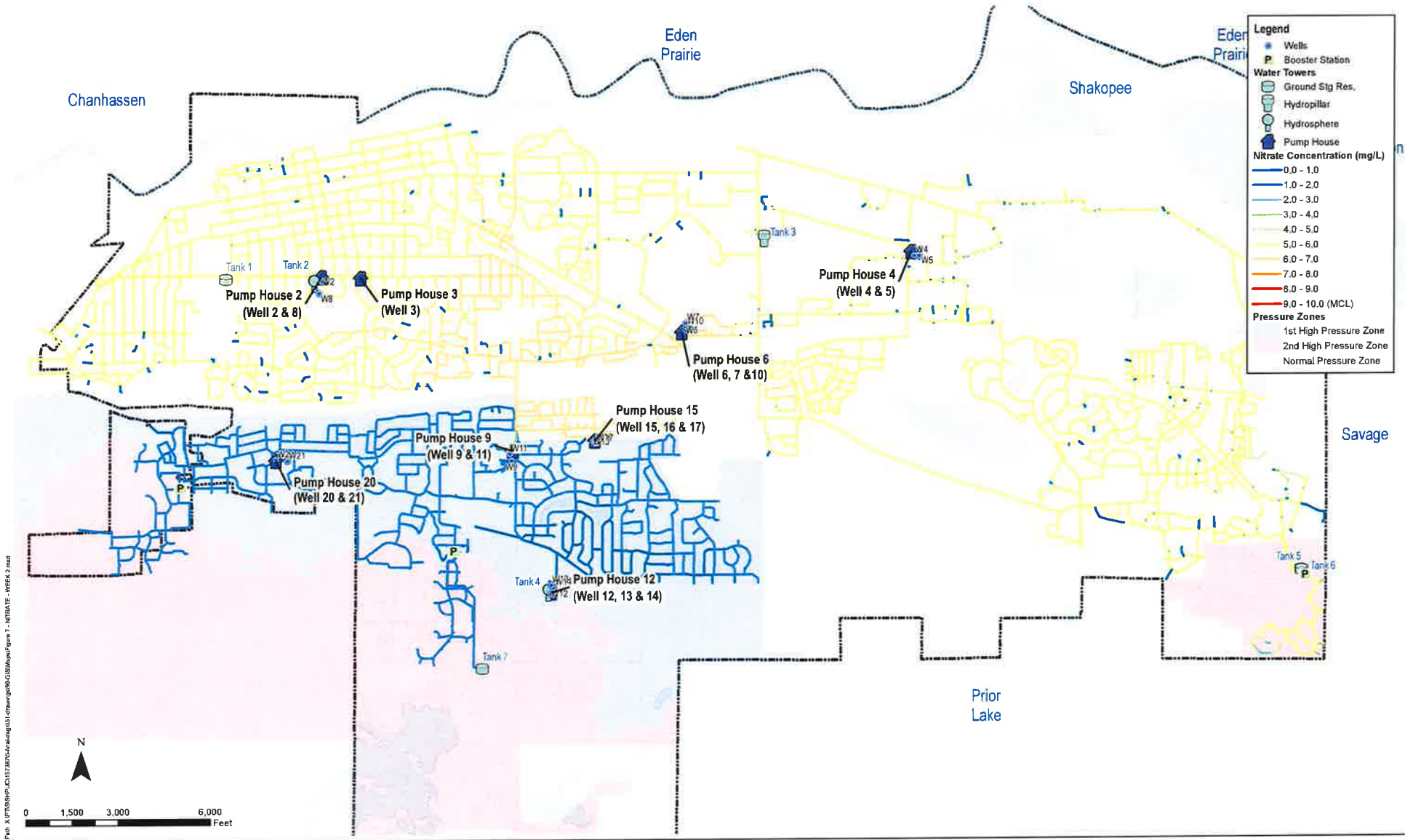
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- 5.0 - 7.5
- 7.5 - 12.0
- 12.0 - 19.0
- 19.0 - 28.0
- 28.0 - 37.5
- 37.5 - 45.0
- 45.0 - 50.0
- 50.0+

Pressure Zones

- 1st High Pressure Zone
- 2nd High Pressure Zone
- Normal Pressure Zone

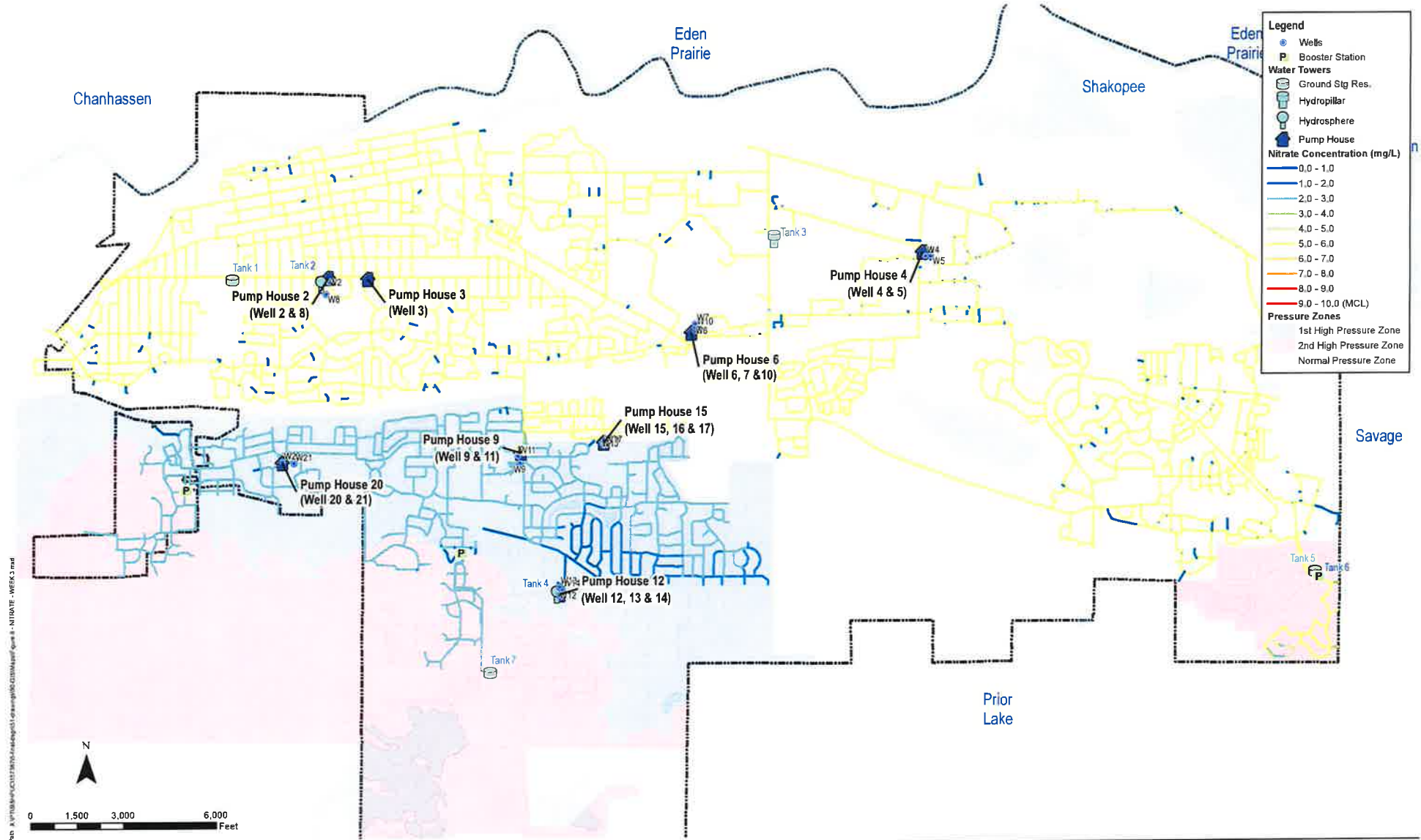
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APPENDIX C
NITRATE DISTRIBUTION MODEL MAPS



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FIGURE 7
 Existing Water System Map



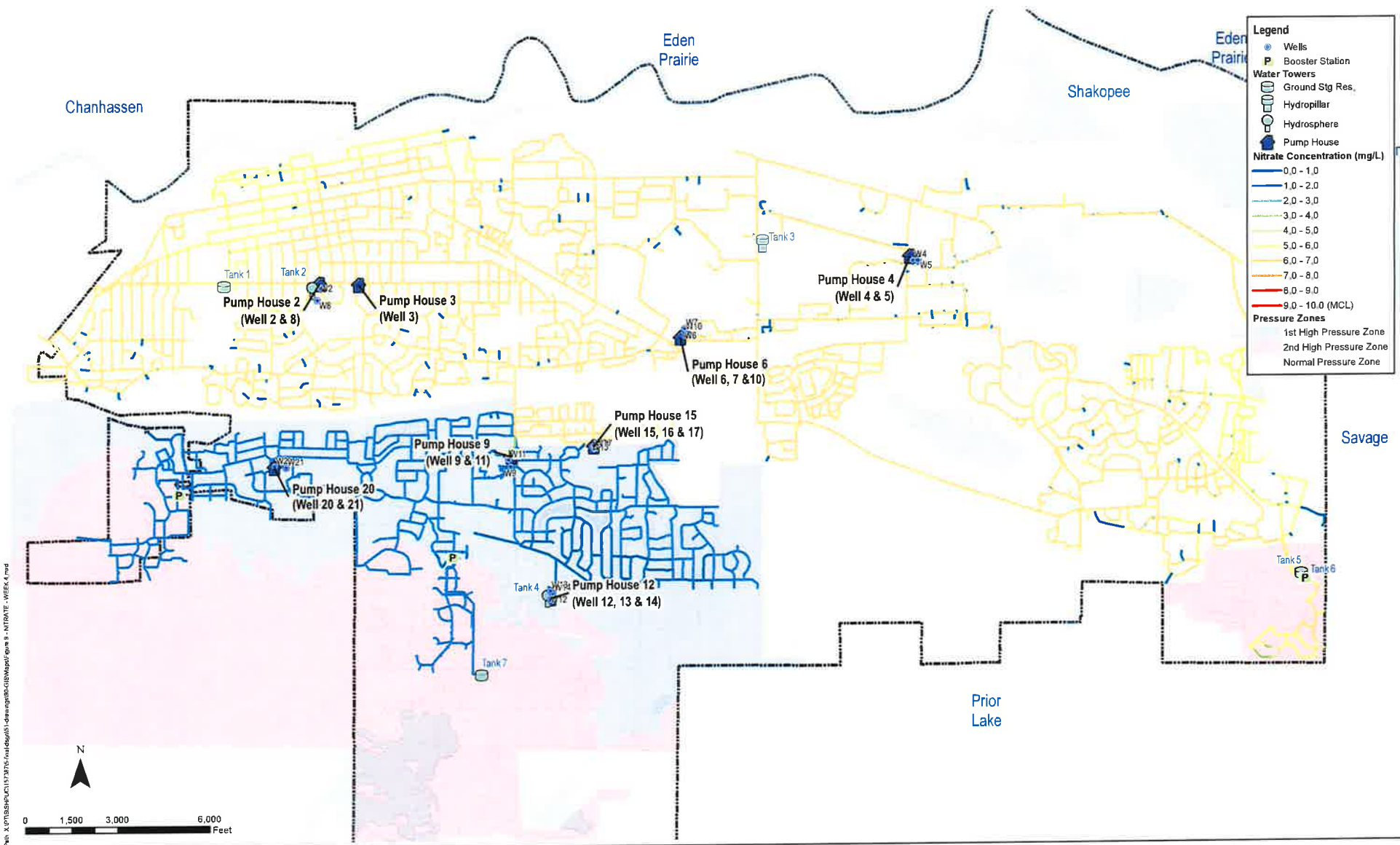
Nitrate - Week 3 Well Steps
 Shakopee Public Utilities
 Shakopee, Minnesota

FIGURE 8
 Existing Water System Map

Project Number: SHPUC 157387
 Print Date: Print Date: 1/29/2021



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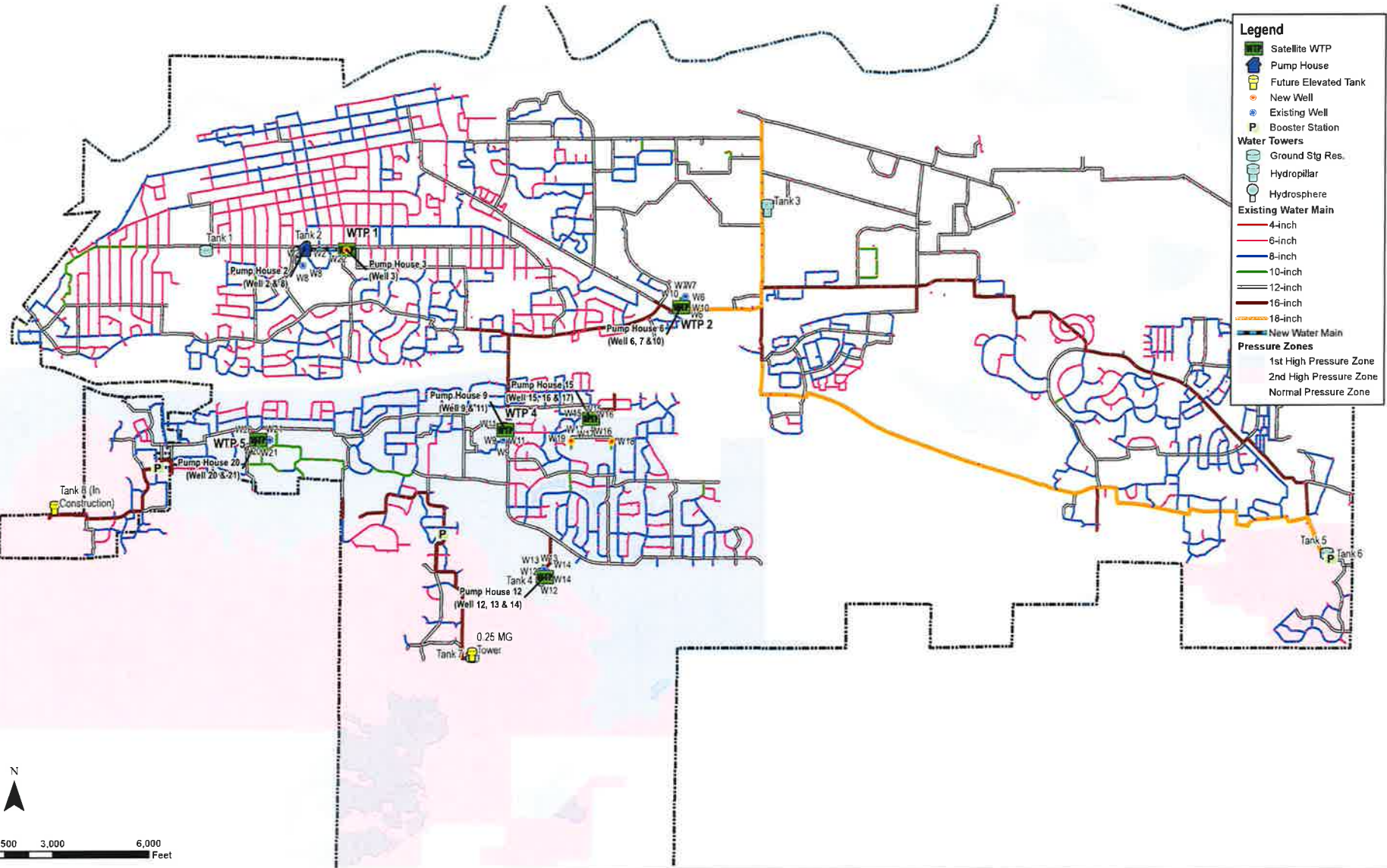


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APPENDIX D
WATER TREATMENT OPTIONS MAPS

Path: X:\PT\8583\proj\GIS\8583\Map\8583_SatelliteWTP.mxd - WTP Option 1 - ShakePU.mxd



Option 1 - Satellite Water Treatment Alternative
Shakopee Public Utilities
Shakopee, Minnesota

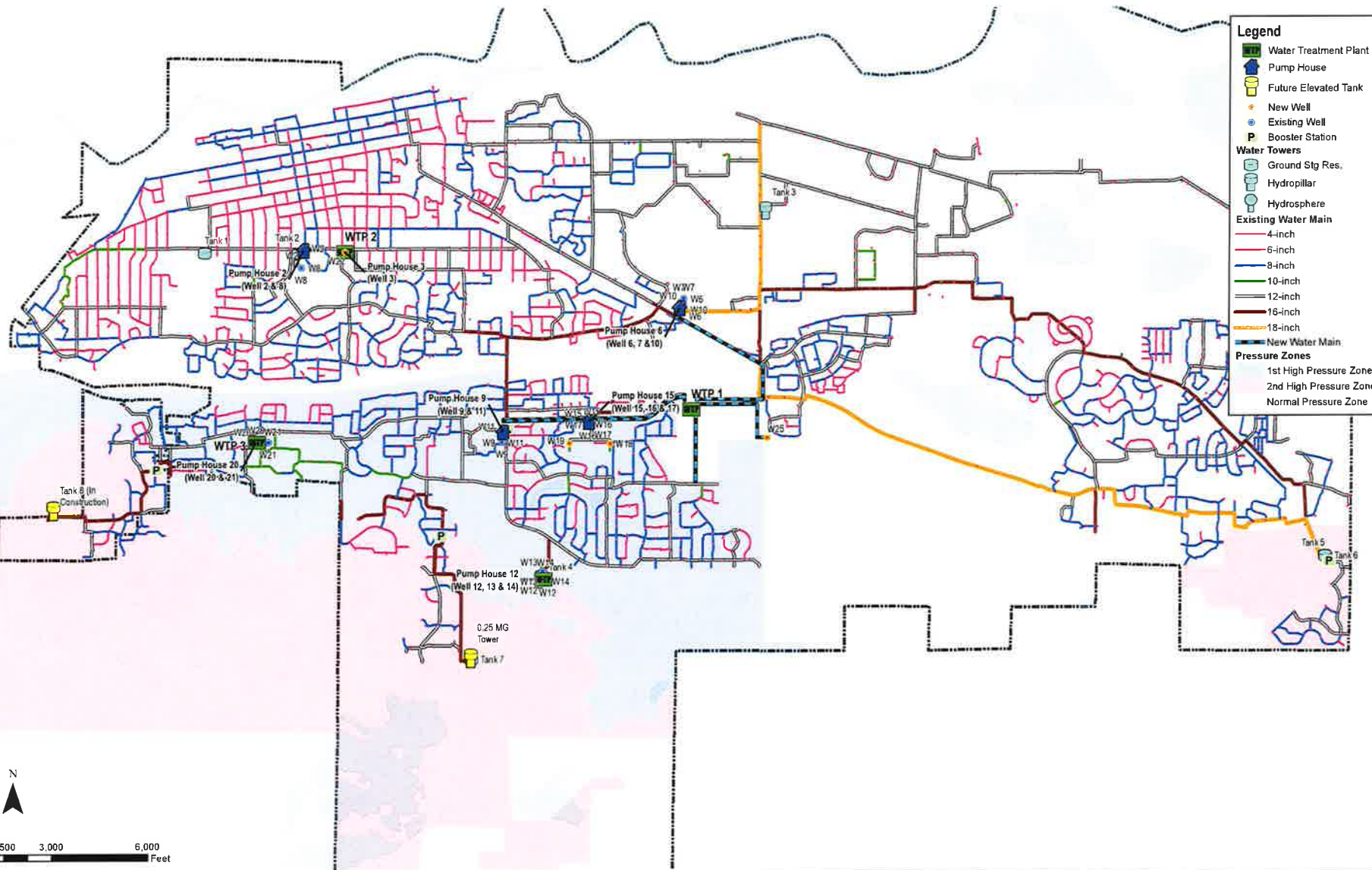
FIGURE 10
Water System Map



Project Number: SHPUC 157387
Print Date: Print Date: 1/28/2021



Made by
Project
Status



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APPENDIX E
WATER TREATMENT COSTS TABLE

Table 5 - Systemwide Water Treatment Alternatives

Option No.	WTP Type	Zone	Site Location	Supply Wells				Decommission Wells	Water Quality (2018 - 2020)				Potential Treatment	WTP Size (MGD)
				Existing Wells	New Wells	Capacity ^[3]			Iron ^{[1][4]}	Manganese ^{[1][4]}		Nitrate ^{[1][4]}		
						gpm	MGD			Secondary Standard: 0.30 mg/L	Secondary Standard: 0.05 mg/L			
OPTION 1 (Satellite)	SATELLITE	Main	Pump House 3	Well 2 & 8	Well 22	2,300	3.3	Well 3, 4 & 5	0.00	0.00	3.5-6.1	Nitrate Removal	3.0	
	SATELLITE	Main	Pump House 15	Well 15, 16, & 17	Well 18 & 19	6,400	9.2		0.00	0.06 ^[2]	3.5-6.5	Iron & Manganese & Nitrate Removal	9.0	
	SATELLITE	Main	Pump House 9	Well 9, 11	NONE	2,050	3.0		0.00	0.00	2.0-3.8	Nitrate Removal	3.0	
	SATELLITE	1st High	Pump House 12	Well 12, 13, & 14	NONE	2,227	3.2		0.21	0.04	0.6-0.9	Iron/Manganese Removal	3.0	
	SATELLITE	1st High	Pump House 20	Well 20 & 21	NONE	2,317	3.3		0.00	0.00	0.7-2.8	Nitrate Removal	3.0	
	SATELLITE	Main	Pump House 6	Well 6, 7, 10	NONE	3400	4.9		0.66 ^[2]	0.01	2.7-3.7	Iron/Manganese Removal	5.0	
TOTAL:						18,694	26.9						26.0	
OPTION 2 (Central)	CENTRAL	Main & 1st High	Gravel Site (North West Corner)	Well 6, 7, 10, 15, 16, 17, 9, 11, 20, 21, 12, 13, 14, 2, 8, & 3	Well 18, 19, 22, & 25	21,019	30.3	Well 4 & 5	0.20	0.03	2.53-4.40	Iron/Manganese, Nitrate, & Lime Softening	25.0	
TOTAL:						21,019	30.3						25.0	
OPTION 3 (Hybrid/Satellite Option)	SATELLITE	Main	Pump House 3	Well 2 & 8	Well 22	2,300	3.3	Well 4 & 5	0.00	0.00	2.20-6.32	Iron/Manganese & Nitrate Removal	3.0	
	HYBRID	Main (w/ Connection to 1st High)	Gravel Site (North West Corner)	Well 6, 7, 10, 15, 16, 17, 9, & 11	Well 18, 19, & 25 (Development East of Gravel Site)	13,050	18.8		0.17	0.04	3.13-5.25	Iron/Manganese & Nitrate Removal	18.0	
	SATELLITE	1st High	Pump House 12	Well 12, 13, & 14	NONE	2,227	3.2		0.21	0.04	0.6-0.9	Iron/Manganese Removal	3.0	
	SATELLITE	1st High	Pump House 20	Well 20 & 21	NONE	2,317	3.3		0.00	0.00	0.7-2.8	Nitrate Removal	3.0	
TOTAL:						19,894	28.6						27.0	

NOTES:

^[1] Mass balance calculated using maximum concentrations (2018-2020) with all wells running.

^[2] Exceeds water quality standard.

^[3] New wells capacity assumed to be 1,200 gpm.

^[4] Concentration of new wells assumed from an average of nearby wells.

Table 6 - Systemwide Pressure Water Treatment Opinion of Probable Costs

Option No.	WTP Type	Zone	Site Location	Supply Wells		Decommission Wells	Potential Treatment	WTP Size (MGD)	NEW WELLS	+	TRANSMISSION MAIN	+	DECOMMISSION WELLS	+	Pressure WTPs						
				Existing Wells	New Wells										IRON & MANGANESE REMOVAL			NITRATE REMOVAL ¹²			Total Probable Cost for Nitrate, Iron & Manganese Removal
															Iron & Manganese WTP	Construction Total	Total Probable Cost for Iron & Manganese Removal	Nitrate Removal Process	Construction Total	Total Probable Cost for Nitrate Removal	
OPTION 1 (Satellite)	SATELLITE	Main	Pump House 3	Well 2 & 8	Well 22	Well 3, 4 & 5	Nitrate Removal	3.0	\$1,000,000	+	\$455,000	+	-	+	-	-	\$5,000,000	\$5,455,000	\$8,907,900	\$8,907,900	
	SATELLITE	Main	Pump House 15	Well 15, 16, & 17	Well 18 & 19		Iron & Manganese & Nitrate Removal	9.0	\$2,000,000	+	-	+	\$50,000	+	\$12,000,000	\$14,050,000	\$19,389,000	\$6,000,000	\$6,000,000	\$8,280,000	\$27,669,000
	SATELLITE	Main	Pump House 9	Well 9, 11	NONE		Nitrate Removal	3.0	-	+	-	+	-	+	-	-	\$4,000,000	\$4,000,000	\$5,520,000	\$5,520,000	
	SATELLITE	1st High	Pump House 12	Well 12, 13, & 14	NONE		Iron/Manganese Removal	3.0	-	+	-	+	-	+	\$4,000,000	\$4,000,000	\$5,520,000	-	-	-	\$5,520,000
	SATELLITE	1st High	Pump House 20	Well 20 & 21	NONE		Nitrate Removal	3.0	-	+	-	+	-	+	-	-	-	\$4,000,000	\$4,000,000	\$5,520,000	\$5,520,000
	SATELLITE	Main	Pump House 6	Well 6, 7, 10	NONE		Iron/Manganese Removal	5.0	\$1,000,000	+	-	+	-	+	\$6,000,000	\$7,000,000	\$9,660,000	\$3,000,000	\$3,000,000	\$4,140,000	\$13,800,000
TOTAL								25.0	\$4,000,000	+	\$455,000	+	\$50,000	+	\$22,000,000	\$25,030,000	\$34,569,000	\$22,000,000	\$23,455,000	\$32,367,900	\$66,936,900
OPTION 2 (Central)	CENTRAL	Main & 1st High	Gravel Site (North West Corner)	Well 6, 7, 10, 11, 20, 21, 12, 13, 14, 2, 8, & 3	Well 18, 19, 22, & 25	Well 4 & 5	Iron/Manganese, Nitrate, & Lime Softening	25.0	\$4,000,000	+	\$25,742,500	+	\$30,000	+	\$27,000,000	\$56,772,500	\$78,346,050	\$13,500,000	\$13,500,000	\$18,630,000	\$96,976,050
TOTAL								25.0	\$4,000,000	+	\$25,742,500	+	\$30,000	+	\$27,000,000	\$56,772,500	\$78,346,050	\$13,500,000	\$13,500,000	\$18,630,000	\$96,976,050
OPTION 3 (Hybrid/Satellite Option)	SATELLITE	Main	Pump House 3	Well 2 & 8	Well 22	Well 4 & 5	Iron/Manganese & Nitrate Removal	3.0	\$1,000,000	+	\$1,942,500	+	-	+	-	-	\$5,000,000	\$7,942,500	\$10,960,650	\$10,960,650	
	HYBRID	Main (w/ Connection to 1st High)	Gravel Site (North West Corner)	Well 6, 7, 10, 15, 16, 17, 9, & 11	Well 18, 19, & 25 (Development East of Gravel Site?)		Iron/Manganese & Nitrate Removal	18.0	\$3,000,000	+	\$6,825,000	+	\$30,000	+	\$20,000,000	\$29,855,000	\$41,199,900	\$10,000,000	\$10,000,000	\$13,800,000	\$54,999,900
	SATELLITE	1st High	Pump House 12	Well 12, 13, & 14	NONE		Iron/Manganese Removal	3.0	-	+	-	+	-	+	-	-	\$4,000,000	\$4,000,000	\$5,520,000	\$5,520,000	
	SATELLITE	1st High	Pump House 20	Well 20 & 21	NONE		Nitrate Removal	3.0	-	+	-	+	-	+	-	-	\$4,000,000	\$4,000,000	\$5,520,000	\$5,520,000	
	TOTAL								27.0	\$4,000,000	+	\$8,767,500	+	\$30,000	+	\$10,000,000	\$29,855,000	\$41,199,900	\$23,000,000	\$25,942,500	\$35,800,650

NOTES:

¹² Price only represents the additional process and residual handling costs to a iron & manganese removal facility. If iron and manganese removal is not needed, the complete capital costs of the facility will be included in this price.

Table 8 - Central Gravity Water Treatment with Hardness Removal Opinion of Probable Costs

Option No.	WTP Type	Zone	Site Location	Supply Wells		Decomission Wells	Potential Treatment	WTP Size (MGD)	NEW WELLS	+	TRANSMISSION MAIN	+	DECOMISSION WELLS	+	Total Probable Cost for Nitrate, Iron & Manganese Removal	Gravity WTPs		Total Probable Cost for Nitrate, Iron & Manganese, AND Hardness Removal		
				Existing Wells	New Wells											Hardness Removal ⁽¹⁾				
																Hardness Removal Process	=	Total Probable Cost		
OPTION 2 (Central)	CENTRAL	Main & 1st High	Gravel Site (North West Corner)	Well 6, 7, 10, 15, 16, 17, 9, 11, 20, 21, 12, 13, 14, 2, 8, & 3	Well 18, 19, 22, & 25	Well 4 & 5	Iron/Manganese, Nitrate, & Lime Softening	25.0	\$4,000,000	+	\$25,742,500	+	\$30,000	+	\$103,876,050	+	\$25,000,000	=	\$34,500,000	\$138,376,050
TOTAL:								25.0	\$4,000,000		\$25,742,500		\$30,000		\$103,876,050	\$0	\$25,000,000	\$0	\$34,500,000	\$138,376,050

Cost Estimate

NOTES:
⁽¹⁾ Price only represents the additional process and residual handling costs to a Iron & Manganese, and Nitrate removal WTP.

Table 9 - Systemwide Water Treatment Options Opinion of Probable Costs Comparison

Option No.	WTP Type	Zone	Site Location	Supply Wells		Decommission Wells	Potential Treatment	WTP Size (MGD)	Pressure WTPs		Gravity WTPs	
				Existing Wells	New Wells				Total Probable Cost for Nitrate, Iron & Manganese Removal	Total Probable Cost for Nitrate, Iron & Manganese Removal	Total Probable Cost for Nitrate, Iron & Manganese, AND Hardness Removal	
OPTION 1 (Satellite)	SATELLITE	Main	Pump House 3	Well 2 & 8	Well 22	Well 3, 4 & 5	Nitrate Removal	3.0	\$8,907,900	\$8,907,900	N/A	
	SATELLITE	Main	Pump House 15	Well 15, 16, & 17	Well 18 & 19		Iron & Manganese & Nitrate Removal	9.0	\$27,669,000	\$31,809,000		
	SATELLITE	Main	Pump House 9	Well 9, 11	NONE		Nitrate Removal	3.0	\$5,520,000	\$5,520,000		
	SATELLITE	1st High	Pump House 12	Well 12, 13, & 14	NONE		Iron/Manganese Removal	3.0	\$5,520,000	\$8,280,000		
	SATELLITE	1st High	Pump House 20	Well 20 & 21	NONE		Nitrate Removal	3.0	\$5,520,000	\$5,520,000		
	SATELLITE	Main	Pump House 6	Well 6, 7, 10	NONE		Iron/Manganese Removal	5.0	\$13,800,000	\$16,560,000		
TOTAL:								26.0	\$66,936,900	\$76,596,900		
OPTION 2 (Central)	CENTRAL	Main & 1st High	Gravel Site (North West Corner)	Well 6, 7, 10, 15, 16, 17, 9, 11, 20, 21, 12, 13, 14, 2, 8, & 3	Well 18, 19, 22, & 25	Well 4 & 5	Iron/Manganese, Nitrate, & Lime Softening	25.0	\$96,976,050	\$103,876,050	\$138,376,050	
TOTAL:								25.0	\$96,976,050	\$103,876,050	\$138,376,050	
OPTION 3 (Hybrid/Satellite Option)	SATELLITE	Main	Pump House 3	Well 2 & 8	Well 22	Well 4 & 5	Iron/Manganese & Nitrate Removal	3.0	\$10,960,650	\$10,960,650	N/A	
	HYBRID	Main (w/ Connection to 1st High)	Gravel Site (North West Corner)	Well 6, 7, 10, 15, 16, 17, 9, & 11	Well 18, 19, & 25 (Development East of Gravel Site)		Iron/Manganese & Nitrate Removal	18.0	\$54,999,900	\$61,899,900		
	SATELLITE	1st High	Pump House 12	Well 12, 13, & 14	NONE		Iron/Manganese Removal	3.0	\$5,520,000	\$5,520,000		
	SATELLITE	1st High	Pump House 20	Well 20 & 21	NONE		Nitrate Removal	3.0	\$5,520,000	\$5,520,000		
TOTAL:								27.0	\$77,000,550	\$83,900,550		

Cost Estimate

APPENDIX F
PUBLIC INVOLVEMENT SURVEY

DRAFT Survey – Shakopee Water Treatment Plant Feasibility

Survey Advertisement/Schedule

- Include flyers in both February and March utility bills (goes out 3rd week of the month)
 - Email to paperless customers
- Consider Facebook Ad / NextDoor Posts to increase participation
- Survey opens mid-February, closes March 31st
- Results available 1st week of April

Water System Background

The Shakopee Public Utilities (SPU) supplies water and utilities to the City of Shakopee with water from eighteen (18) groundwater wells throughout the city. Throughout the year, SPU collects and tests water from these clean water source wells that originate from the rich and clean Jordan Aquifer.

SPU's water is tested frequently in order to ensure that it meets or exceeds Environmental Protection Agency (EPA) standards for safety and SPU is proud to share that we have consistently tested below levels that would require treatment.

The SPU currently supplements these naturally clean water sources with fluoridation and chlorination treatment systems for the prevention of tooth decay in young children and ongoing health disinfection throughout the distribution system piping.

- *In addition to these baseline efforts, the SPU is considering investing in additional water quality treatment facilities that would lower manganese and nitrate levels even further below the EPA standards, which would also likely raise the per unit cost of water in Shakopee. We also want to know if you are interested in city-wide water softening.*
- *We want your feedback to understand what is important to you, and what additional costs you would support to increase water quality above what we have already achieved.*

We hope you will provide your input by responding to the following survey.

DRAFT Questions

(Required) Account # _____ or Account Name _____

Are you comfortable with the quality of your water today?

- Yes, very comfortable
- Yes, mostly comfortable
- Neutral / I'm not sure / I don't know
- No, not comfortable

- I'm not sure

Have you ever had any taste and/or odor issues with your water?

- Yes, frequently
- Yes, on occasion
- I'm not sure
- No

How do you feel about your water rates?

- Lower than expected
- Adequate / Neutral
- Higher than expected

Manganese (Add infographic to support text)

Manganese has an EPA advisory level of 0.3 mg/L and a Minnesota Department of Health (MDH), Health Based Value (HBV) of 0.1 mg/L. Only one sample out of the 18 SPU wells in the past 3 years has exceeded the MDH HBV of 0.1 mg/L. None of the SPU wells are close to the EPA advisory level of 0.3 mg/L for manganese.

Are you comfortable with these values?

- Yes, very comfortable
- Yes, mostly comfortable
- Neutral/I don't know
- No, not comfortable

Many communities around the upper Midwest have issues with Iron and Manganese that cause aesthetic issues. Some communities have decided to municipally remove the manganese.

Do you feel your water should have the manganese removed municipally?

- Yes, definitely
- Maybe
- Neutral/I don't know
- No

If yes, how much would you be willing to pay to for city wide manganese reduction?

- \$5.00 to \$10.00 extra per month
- \$10.00 to \$15.00 extra per month
- \$15.00 to \$20.00 extra per month
- \$20.00 to \$25.00 extra per month
- Change to X,Y,Z% more?

Nitrate (Add infographic to support text)

The EPA MCL for nitrate is 10 mg/L. Consuming levels of nitrate above 10 mg/L can affect how blood carries oxygen and can cause methemoglobinemia (also known as blue baby syndrome). Currently, the Shakopee wells range from 0-7.42mg/L (2019) in the past three (3) years. The wells of concern are strategically blended to try and keep levels between 0-5 mg/L.

Are you comfortable with these values?

- Yes, very comfortable
- Yes, mostly comfortable
- Neutral/I don't know
- No, not comfortable

How much would you be willing to pay to reduce nitrate levels further below EPA standards?

- \$5.00 to \$10.00 extra per month
- \$10.00 to \$15.00 extra per month
- \$15.00 to \$20.00 extra per month
- \$20.00 to \$25.00 extra per month
- Change to X,Y,Z% more?

Hardness (Add infographic to support text)

Water above 100 mg/L of hardness is considered hard. The raw water from all of the wells is hard with total hardness ranging from the SPU wells ranges from 163 mg/L to 446 mg/L.

Are you comfortable with these values?

- Yes, very comfortable
- Yes, mostly comfortable
- Neutral/I don't know
- No, not comfortable

Do you currently soften your water at home?

- Yes
- I don't know
- No, and I do not want to
- No, but I wish I had soft water

The installation costs for a traditional ion exchange water softener is \$1000 to \$2,500 on average, depending on system size, type, brand, and labor, and cost around \$10 to \$20 per month to run and refill salt. In total, the cost to build a central water treatment plant would be around \$110,000,000 to provide softened water for all of SPU's customers. The average residential customer using about 2,000 to 3,000 gallons per month (Average: 71 gallons per person per day) the average monthly bill will cost around \$10/person (\$40 for a family of four). If a central water treatment plant was to be constructed, residents can be expected to see water rate increases to around

Some metro area communities, including Minneapolis, soften their water municipally; do you feel your water should be softened municipally? *(Do you think your water should be softened city-wide before reaching your house?)*

- Yes, definitely
- Maybe
- Neutral/I don't know
- No

If yes, how much would you be willing to pay to for city wide softened water?

- \$5.00 to \$10.00 extra per month
- \$10.00 to \$15.00 extra per month
- \$15.00 to \$20.00 extra per month
- \$20.00 to \$25.00 extra per month
- Change to X,Y,Z% more?



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TO: Greg Drent, Interim Utilities Manager *GD*
FROM: Joseph D. Adams, Planning & Engineering Director *JDA*
SUBJECT: Water Projects - 2021
DATE: January 29, 2021

ISSUE

Attached are the updated quarterly list and map of current water projects.

BACKGROUND

Staff has combined the SPU 2021 Capital Projects and City, County and Developer Projects that impact the water utility into one comprehensive list and mapped them for review and discussion purposes. Projects are placed onto the list and map when they have been officially announced, either by an application being filed with the city or by being included in either the city, county or utility's capital improvement plan.

Projects are removed when the construction of our facilities is completed and no additional new usage or demand is anticipated or associated from the project area.

REQUESTED ACTION

No action by the Commission is necessary at this time.

	Development	Address/Location	Type	Development Timing	Development Status	Projected Water demand (Equiv. SAC Units)	Residential Units Left to Build/Rent	Public Water Improvements
	Countryside 2nd Addition	Lusitano/Pena	Single-Family	2018-Ongoing	Completed	31	20	Watermain
1	Menden Addition	Jennifer Lane	Single-Family	2017-Ongoing	Completed	12	5	Watermain
2	MT Olive Church Addition	Windermere Way	Single-Family	2019-2020	Completed	3	2	Watermain
3	Prairie Meadows - 1st	Jennifer Lane	Single-Family	2017-Ongoing	Completed	26	12	Watermain
4	Prairie Meadows - 2nd	Jennifer Lane	Single-Family	2019-Ongoing	Completed	24	14	Watermain
5	Ridge Creek 1st Addition	Oakridge Trail	Single-Family	2017-2020	Completed	44	9	Watermain
6	Ridge Creek 2nd Addition	Crossings BLVD	Single-Family	2019-2020	Completed	29	9	Watermain
7	Ridge Creek 3rd Addition	Crossings BLVD	Single-Family	2019-2022	Completed	31	29	Watermain
8	South Parkview 5th Addition	Vierling west of Adams St	Single-Family	2012-Ongoing	Completed	21	4	Watermain
9	Southbridge @ Stagecoach	Stagecoach/Riverside	Single-Family	2018-Ongoing	Completed	59	37	Watermain
10	Windermere	17th Ave and CR 15	Single & Multi-Family	2018-2019	Completed	64	0	Watermain
11	Windermere 2nd Addition	17th Ave and CR 15	Single-Family	2017-2018	Completed	27	0	Watermain
12	Windermere South 1st	Windermere Way	Single-Family	2018-Ongoing	Completed	31	3	Watermain
13	Windermere South 2nd	128th St & CR 15	Single-Family	2019-2020	Completed	125	105	Watermain
14	Sarazin Flats II	1595 Sarazin Street	Multi-Family	2020	Completed	51	1	Watermain
15	SB Crossings Apartments - 1st BLDG	1341 Crossings BLVD	Multi-Family	2018-2021	Completed	102	17	Watermain
16	Sixton (West Vierling Acres)	1601 Harvest Lane	Multi-Family	2018-Ongoing	Completed	136	9	Watermain
17	Canterbury Business Park North	3200 4th Ave E	Industrial	2020	Completed	43		Watermain
18	The Willows Apartments	1655 Willow Cir	Multi-Family	2020-Ongoing	Construction	48	34	Service Line Only
19	Triple Crown - 1st Phase	830 Shenandoah Drive	Multi-Family	2020-Ongoing	Construction	323	222	Service Line Only
20	Triple Crown - 2nd Phase	850 Shenandoah Drive	Multi-Family	2021	Construction	307	305	Service Line Only
21	The Deco Apartments	129 Holmes ST	Mixed Use	2021	Construction	92	89	Service Line Only
22	BHS - Senior Living	1705 Windermere Way	Commercial	2020	Construction	118		Watermain
23	Cargo Van-Go (Messenbrink)	7380 CR 101 E	Commercial	2020	Construction	2	0	Service Line Only
24	Scott County Government Center 2	200 4th Ave W	Government	2021	Construction	42		Service Line Only
25	KEB America - Expansion	5100 Valley Ind BLVD S	Industrial	2020	Construction	18		Service Line Only
26	Krystal Estates	CR 79	Single Family	2021 - 2022	Design	8	8	Watermain
27	Jefferson Court	Jefferson Street	Single Family	2021 - 2022	Design	8	8	Watermain
28	Whispering Waters	Eagle Greek Blvd	Single Family	2021 - 2022	Design	134	134	Watermain
29	Schneider Property	Thrush Street	Single Family	2021 - 2022	Design	175	175	Watermain
30	Summerland Place Addition	17th Ave/Phillip Dr	Single & Multi-Family	2020-2023	Design	288	288	Watermain
31	Canterbury Park 12th Addition - Town Homes	Shenandoah Drive	Multi-Family	2021	Design	160	160	Watermain
32	SB Crossings Apartments - 2nd BLDG	1341 Crossings BLVD	Multi-Family	2021	Design	140	140	Watermain
33	Summerland Place Addition - Apartments	17th Ave	Multi-Family	2023	Design	300	300	Watermain
34	Trident Apartments - Powers 2nd Addition	Lusitano Street/Marystown Rd	Multi-Family	2021	Design	140	140	Watermain
35	Suites of Shakopee - Windermere	Windermere Way	Multi-Family	2021-2022	Design	32	32	Service Line Only

	Development	Address/Location	Type	Development Timing	Development Status	Projected Water demand (Equiv. SAC Units)	Residential Units Left to Build/Rent	Public Water Improvements
36	Prairie Pointe Apartments	4th Ave/Sarazin St	Multi-Family	2021-2022	Design	40	40	Service Line Only
37	Core Crossings Apartments	Southbridge Crossings East	Multi-Family	2021-2022	Design	62	62	Service Line Only
38	Shakopee Flats	Levee & Scott	Mixed Use	2021	Design	150	125	Watermain
39	Canterbury Park Ninth Addition	Shenandoah/Vierling	Commercial	2020-2022	Design	200		Watermain
40	Canterbury Park 12th Addition - Senior Housing	Shenandoah Drive	Commercial	2021	Design	100		Watermain
41	Greystone Corporate Office	Canterbury Ninth	Commercial	2021	Design	10	10	Service Line Only
42	Texas Roadhouse	8170 Old Carriage CT N	Commercial	2020 - 2021	Design	25		Service Line Only
43	VA Clinic - Powers Addition	12312 Marystown Rd	Commercial	2021	Design	6		Watermain
44	Medical Office - Powers 2nd Addition	Lusitano Street/Marystown Rd	Commercial	2021	Design	20		Watermain
45	Chipolte	Vierling Drive	Commercial	2021	Design	0	0	Existing
46	Planet Fitness	17th Avenue	Commercial	2021	Design	0	0	Existing
47	Cherne - Vierling Industrial	2300 Vierling Dr W	Industrial	2021	Design	37		Watermain
48	Hentges Industrial Park	70th and Cretex	Industrial	2021-2022	Design	unknown	unknown	Watermain
49	Hansen Ave/Maras St	Hansen and Maras	Industrial	2020-2021	Design	unknown	unknown	Watermain

Totals:**3844****2548****CIP Projects**

1	Stone Meadows Lateral WM	Stone Meadows	Utilities	2020 - 2021	Construction	Watermain
2	SPU Water Tank #8	Windermere South 2nd	Utilities	2020 -2021	Construction	Storage
3	Thrush Street Trunk WM (Schneider)	Schneider Property	Utilities	2021	Design	Watermain
4	CP 83 - 24 Trunk WM Replacement	CR 83	Utilities	2020 -2021	Design	Watermain
5	River Bluff Lateral WM	River Bluff	Utilities	2020 -2021	Design	Watermain
6	Summergate Trunk WM	17th Avenue	Utilities	2021 - 2022	Design	Watermain
7	City Recon WM Replacement	Scott St	Utilities	2021	Design	Watermain
8	Krystal Estates Trunk WM	Krystal Estates	Utilities	2022	On Hold	Watermain
9	Jordan Well #22	PH #3 @ 10th Avenue	Utilities	2021	On Hold	Well



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TO: Greg Drent, Interim Utilities Manager *GD*
FROM: Joseph D. Adams, Planning & Engineering Director *JDA*
SUBJECT: Electric Projects - 2021
DATE: January 29, 2021

ISSUE

Attached are the updated quarterly list and map of current electric projects for Commission review.

BACKGROUND

Staff has combined the SPU 2021 Capital Projects and City, County and Developer Projects that impact the electric utility into one comprehensive list and mapped them for review and discussion purposes. Projects are placed onto the list and map when they have been officially announced, either by an application being filed with the city or by being included in either the city, county or utility's capital improvement plan.

Projects are removed when the construction of our facilities is completed and no additional new loading or demand is anticipated or associated from the project area.

REQUESTED ACTION

No action by the Commission is necessary at this time.

	Development	Address/Location	Type	Development Timing	Development Status	Projected Load (kW)	Additional Load for 2021
1	Countryside 2nd Addition	Lusitano/Pena	Single-Family	2018-Ongoing	Completed	125	50
2	Menden Addition	Jennifer Lane	Single-Family	2017-Ongoing	Completed	50	20
3	MT Olive Church Addition	Windermere Way	Single-Family	2019-2020	Completed	10	5
4	Prairie Meadows - 1st	Jennifer Lane	Single-Family	2017-Ongoing	Completed	100	40
5	Prairie Meadows - 2nd	Jennifer Lane	Single-Family	2019-Ongoing	Completed	90	40
6	Ridge Creek 1st Addition	Oakridge Trail	Single-Family	2017-2020	Completed	175	40
7	Ridge Creek 2nd Addition	Crossings BLVD	Single-Family	2019-2020	Completed	115	55
8	Ridge Creek 3rd Addition	Crossings BLVD	Single-Family	2019-2022	Completed	125	50
9	SMSC Tinta Otunwe	Tiwahe Drive/Tintaocanku	Single-Family	2019-Ongoing	Completed	720	300
10	South Parkview 5th Addition	Vierling west of Adams St	Single-Family	2012-Ongoing	Completed	85	25
11	Southbridge @ Stagecoach	Stagecoach/Riverside	Single-Family	2018-Ongoing	Completed	235	70
12	Trillium Cove - 3rd Phase	Prior Lake - Meadowlawn Trail	Single-Family	2019-2022	Completed	100	50
13	Windermere 2nd Addtion	17th Ave and CR 15	Single-Family	2017-2018	Completed	110	0
14	Windermere South 1st	Windermere Way	Single-Family	2018-Ongoing	Completed	125	15
15	Windermere South 2nd	128th St & CR 15	Single-Family	2019-2020	Completed	500	250
16	Trillium Cove - 1st Phase	Prior Lake - Meadowlawn Trail	Single & Multi-Family	2017-2020	Completed	330	75
17	Trillium Cove - 2nd Phase	Prior Lake - Meadowlawn Trail	Single & Multi-Family	2018-2021	Completed	370	100
18	Windermere	17th Ave and CR 15	Single & Multi-Family	2018-2019	Completed	105	0
19	Sarazin Flats II	1595 Sarazin Street	Multi-Family	2020	Completed	170	0
20	SB Crossings Apartments - 1st BLDG	1341 Crossings BLVD	Multi-Family	2018-2021	Completed	350	50
21	Sixton (West Vierling Acres)	1601 Harvest Lane	Multi-Family	2018-Ongoing	Completed	465	35
22	SMSC Cultural Center	2300 Tiwahe Cir	Commercial	2019	Completed	600	400
23	Canterbury Business Park North	3200 4th Ave E	Industrial	2020	Completed	600	400
24	Jonaco Machine	1157 Valley Park Drive	Industrial	2020	Completed	800	300
25	The Deco Apartments	129 Holmes ST	Mixed Use	2021	Construction	350	300
26	The Willows Apartments	1655 Willow Cir	Multi-Family	2020-Ongoing	Construction	200	150
27	Triple Crown - 1st Phase	830 Shenandoah Drive	Multi-Family	2020-Ongoing	Construction	1200	800
28	Triple Crown - 2nd Phase	850 Shenandoah Drive	Multi-Family	2021	Construction	1200	50
29	BHS - Senior Living	1705 Windermere Way	Commercial	2020	Construction	700	500
30	Scott County Government Center 2	200 4th Ave W	Government	2021	Construction	500	400
31	KEB America - Expansion	2100 Valley Ind BLVD S	Industrial	2020	Construction	400	350
32	Distinctive Shores	Beach Street - Prior Lake	Single-Family	2020-2021	Design	25	25
33	Whispering Waters	Eagle Creek Blvd.	Single-Family	2021 - 222	Design	500	0
34	Summerland Place Addition	17th Ave/Phillip Dr	Single & Multi-Family	2020-2023	Design	1100	0
35	Canterbury Park 12th Addition - Town Homes	Shenandoah Drive	Multi-Family	2021	Design	500	0
36	SB Crossings Apartments - 2nd BLDG	1341 Crossings BLVD	Multi-Family	2021	Design	480	0

	Development	Address/Location	Type	Development Timing	Development Status	Projected Load (kW)	Additional Load for 2021
37	Summerland Place Addition - Apartments	17th Ave	Multi-Family	2023	Design	1000	0
38	Trident Apartments - Powers 2nd Addition	Lusitano Street/Marystown Rd	Multi-Family	2021	Design	500	500
39	Suites of Shakopee - Windermere	Windermere Way	Multi-Family	2021-2022	Design	125	25
40	Core Crossings Apartments	Southbridge Crossings East	Multi-Family	2021-2022	Design	200	0
41	Prairie Pointe	4th Ave/Sarazin St	Multi-Family	2021	Design	120	0
42	Krystal Estates	CR 79	Multi-Family	2021 -2022	Design	50	0
43	Jefferson Court	Jefferson Street	Multi-Family	2021	Design	35	0
44	Shakopee Flats (River Bluff Apartments)	Levee & Scott	Mixed Use	2021	Design	850	800
45	Canterbury Park Ninth Addition	Shenandoah/Vierling	Commercial	2020-2022	Design	800	0
46	Canterbury Park 12th Addition - Senior Housing	Shenandoah Drive	Commercial	2021	Design	300	0
47	Texas Roadhouse	8170 Old Carriage CT N	Commercial	2020	Design	200	100
48	VA Clinic - Powers 2nd Addition	Lusitano Street/Marystown Rd	Commercial	2021	Design	100	100
49	Medical Office - Powers 2nd Addition	Lusitano Street/Marystown Rd	Commercial	2021	Design	150	0
50	Greystone Corporate Office	Canterbury Ninth	Commercial	2021	Design	150	150
51	Chipolte	1120 Vierling Drive E	Commercial	2021	Design	50	50
52	Planet Fitness	17 Ave East	Commercial	2021	Design	25	25
53	Hentges Industrial Park	70th and Cretex Ave	Industrial	2021-2022	Design	Unknown	0
54	Cherne - West Shakopee Gateway 2nd	2300 Vierling Dr W	Industrial	2021	Design	400	350
55	SPUC Tank 8	Windermere South 2nd	Utilities	2020-2021	Design	15	0
56	Unbridled Ave	Canterbury Park	Street Lighting	2020 - 2021	Construction	5	5

Totals:

18685

7045

CIP Projects

1	DL - 98 Extension	Canterbury/Unbridled Ave	Utilities	2020 - 2021	Construction
2	West Shakopee Substation Site	Hentges Industrial	Utilities	2020	Preliminary
3	East Shakopee Substation Site	Hwy 169/CR 69	Utilities	2020	Preliminary
4	DL - 41/44/55 Circuit - CR 83 Relocation	Dean Lake Sub	Utilities	2020-2021	Design
5	Heritage Lateral Reconfiguration	Vierling Drive E	Utilities	2021	Design
6	DL 9X Exit Circuits	Dean Lake Substation	Utilities	2021 - 2022	Design
7	SH-8 Reconductor	Spencer Street	Utilities	2021	Design
8	PL-75 Extension	Stagecoach Road	Utilities	2021-2022	Design
9	BL-22 Rebuild OH	Stagecoach Road	Utilities	2021	Design
10	PL-73 Underground Lateral	Mulenhart Road	Utilities	2021	Design



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January 27, 2021

TO: Greg Drent, Interim Utilities Manager *GD*
FROM: Sharon Walsh, Director of Marketing and Customer Relations *SNW*
SUBJECT: 2021 Conservation Improvement Plan Overview

Overview

At the time of this memo we are awaiting the Final Compliance Letter that provides the 2019 CIP results and approval of the 2021 Conservation Improvement Plan.

Absent the Final Compliance Letter, staff would like to share the proactive actions taken to re-evaluate our overall conservation program for 2021 and the notable proposed changes intended to improve the program for our customers. Items reviewed and/or implemented:

1. Distribution of conservation dollars based on funds collected vs. rebate payouts
2. Allocation of funding based on program type
3. Reassessment of rebate values to kWh savings
4. Rebate opportunities – new eligible products and programs
5. Utilization of external resources - conservation expertise and key account support
6. Enhanced technology – online submissions, automated kWh/kW savings tracking, EIA reporting, and paperless processing
7. Extended program duration – keeping program open longer throughout calendar year

The following modifications will be implemented with the launch of the 2021 program:

1. Energy Star Rebates – rebate amounts will be reduced to better align with kWh savings and neighboring conservation programs; however, the amounts will still put SPU conservation payouts in a favorable comparison. The reduction in rebate payouts will allow for more rebates to more customers.
2. Solar Rebates – individual solar rebate amounts will be significantly reduced in 2021, but the fund balance will remain the same. This reduction is somewhat overdue as solar system costs have been continually declining; SPU has provided one of the richest, upfront payouts; and attractive rebate subsidies are no longer necessary to drive solar installation. The 2021 program will allow for six times the number of solar customers to receive a rebate and the rebate amount will still be generous when compared to other conservation programs.

3. C&I Programs – nearly all of SPU’s C&I programs have been custom vs prescriptive. With a custom program, rebates are paid based on annualized kWh savings. The savings have been rebated at \$0.095/kWh. In 2021, the rebate will be reduced to \$0.08/kWh saved. Based on information from Frontier Energy this is still 3¢ - 4¢/kWh higher than other successful C&I savings programs. NOTE: The per kWh savings rebate was increased in 2018 when SPU had been unable to spend our annual CIP funding and balances were rolling over from year to year; this has not been the case since 2018. Funding has been exhausted midyear or shortly thereafter. The goal is to reward more customers and keep the program open longer to reward Q3 and Q4 customer projects.
4. Frontier Energy and P3 – SPU has partnered with Frontier Energy to assist with our conservation program and improve the customer experience. Frontier brings expertise and knowledge of MN’s conservation plans, formulas and eligible earning opportunities. They will assist SPU with the administration of the program, but more importantly will provide conservation proficiencies that our customers can utilize. Frontier will work directly with the Director of Customer Relations/Marketing and will accompany SPU staff on key account calls as needed (but never without SPU personnel) or provide direction or consultative input as requested by staff. P3 is the software utilized for online submissions and processing of those submissions. Downloading, printing and mailing of submissions will no longer be required. Customers will receive email confirmations throughout the submission and approval process, with inhouse support available as always. For internal tracking and EIA reporting purposes, this software will contain predetermined/programmed algorithms that will calculate the appropriate savings and spend by category/submission thus eliminating the manual tracking and calculating that is currently being done.

Action Requested

Staff is seeking approval to proceed with the 2021 Conservation Improvement Plan as described and open the program to our customers. The 2019 Results and 2021 Program Plan details will be provided at a future meeting, following receipt of the Final Compliance Letter.