OFFICIAL NOTICE AND AGENDA
of a meeting of a City Board, Commission, Department Committee, Agency, Corporation, Quasi-Municipal Corporation, or Sub-unit thereof.

A Meeting of **Wausau Water Works Commission** will be held in the **Council Chambers, 1st Floor City Hall, Wausau, WI 54403** at **1 : 30 p.m.** on **Tuesday, May 7, 2024.**

Members: Doug Diny (President), Becky McElhaney, Jim Force, Joe Gehin, John Robinson

AGENDA

1. Approve Minutes of April 10, 2024 Meeting.
2. Director's Report on Utility Operations
   - Rain Barrel Sales
   - Resin Disposal
   - Drinking Water Recruitment Updates
   - Wastewater Facility Construction Update
   - Wastewater Continues Discharging Quality Effluent and Highlighted in April 2024 Addition of WWOA "The Clarifier"
   - Wastewater Operations Tech Position Filled
   - Greenwood Hills Lift Station Project
3. Update on the Lead Service Line Replacement Project from Community Infrastructure Partners (CIP).
4. Discussion and Possible Action Approving 2025-2029 Capital Projects.
5. Discussion and Update on a Lead Service Line Replacement Ordinance.
6. Discussion and Possible Action Approving Next Steps of a Proposed Solar Array for the Drinking Water Treatment Facility.
7. Discussion and Possible Action Approving a Budget for Additional Staffing as Recommended.
8. Discussion on Wastewater PFAS Sampling Results from March 2024.
9. Discussion and Possible Action Approving the Purchase of a Truck Chassis That Will be Converted into Tanker Truck Used for Collection System Flushing Maintenance.

Adjourn.

Next meeting scheduled for **June 4th 2024 @ 1:30 PM.*

Signed by: /s/ Doug Diny, Mayor
Presiding Officer or Designee

THIS NOTICE POSTED AT CITY HALL AND EMAILED TO CITY PAGES AND DAILY HERALD: May 3, 2024 at 3:45 p.m.

This meeting is being held in person. Members of the public who do not wish to appear in person may view the meeting live over the internet, cable TV, Channel 981, and a video is available in its entirety and can be accessed at https://tinyurl.com/wausaucitycouncil. Any person wishing to offer public comment not appearing in person may e-mail gina.vang@ci.wausau.wi.us with "Water Commission Public Comment" in the subject line prior to the meeting start. All public comment, either by email or in person, will be limited to items on the agenda at this time. The messages related to agenda items received prior to the start of the meeting will be provided to the Chair.

In accordance with the requirements of Title II of the Americans with Disabilities Act of 1990 (ADA), the City of Wausau will not discriminate against qualified individuals with disabilities on the basis of disability in its services, programs or activities. If you need assistance or reasonable accommodations in participating in this meeting or event due to a disability as defined under the ADA, please call the ADA Coordinator at (715) 261-6622 or ADAServices@ci.wausau.wi.us to discuss your accessibility needs. We ask your request be provided a minimum of 72 hours before the scheduled event or meeting. If a request is made less than 72 hours before the event the City of Wausau will make a good faith effort to accommodate your request.

Minutes of April 10, 2024

A meeting of the Wausau Water Works Commission was called to order at 10:33 a.m. in City Hall on Wednesday, April 10, 2024. In compliance with Wisconsin Statutes, this meeting was posted and receipted for by the Wausau Daily Herald on April 5, 2024.

Members Present: President Rosenberg, Commissioners Herbst, Robinson, Force, Gehin
Others Present: Scott Boers, Eric Lindman, Ben Brooks, MaryAnne Groat, Susan Wojtkiewicz/Donohue, Gema Kite/Horsley Witten
Webex: Nick Cohen/Horsley Witten, Sarah Simon/Horsley Witten, Janet Cherry/Eastern Research Group (ERG)

1) **Approve Minutes of February 5th, 2024 Meetings.**

Herbst motioned to approve minutes. Seconded by Gehin.
Motion Carried 5-0.

2) **Director's Report on Utility Operations.**

Lindman asked if there were any questions on any of the items.

Robinson stated from last meeting we talked about the demands placed on staff relative to fiber installation and was wondering if there were any staffing plans or ability to recoup costs associated with locates?

Lindman replied we don't have the ability to recoup but we do charge a permit fee in engineering. The plan for now is just allocating the resources as they come in. We are working on developing a spreadsheet showing the work hours, demands, along with last couple of years with demands between what's happened the last couple of years and with new regulation demands that will be placed on the utility. We'll bring this back to the Commission so they can review and would be Additional data to support the staffing support for staffing increase at the utility. Possibly bringing in May no later than June. Fiber installations won't be just this year, it would be the next several years.

Gehin stated reduction in our 101 environmental fee speaks volume, it tells the quality and efficiency of the new facility, so thank you. Applicants turned down our offer? Did they take on other jobs and what rate were they offered?

Brooks replied the two candidates that declined were working at utilities in the local area in hopes we could capture them but we couldn't offer them enough as where we are at mid-market. They most likely stayed where they were at.

Rosenberg stated she didn't receive a request for higher wage approval.

Brooks replied she did not simply because it would put them above what existing employees were at and we offered close to $28- $29 per hour.

Force questioned why locates couldn't be charged to the requesters producing revenue for them and the status of the LSL Ordinance?

Lindman replied we own those lines and per State Statues it is our responsibility to locate. We have a draft LSL ordinance in place but there were several questions to the commission that were not answered. We could bring that back next month. We talked if it was feasible to get this

by end of June when we close on the loans but that did not seem practical with the number of unanswered questions, but we do plan to pursue an ordinance and you will see drafts as we move forward.

Rosenberg suggested talking with State legislator about changing the law as she will no longer be here but that's a start.

Director's Report Placed on File.

3) Presentation by Ehler's Related to Debt Service, Possible Projects, and New Staffing.

Lindman began hardcopies provided as this came in late this morning- see packet pages 33-39. This looks at Water and Sewer's debt capacity and current debt. The utility has capacity to complete these projects without adjusting any rates. Projects approved for 2024 Safe Drinking Water and Clean Water Fund for principal forgiveness and loans program are listed in the memo. Please see the spreadsheet from Ehlers attached. The only project not included is the Lead Service Line project which has a loan of $2.1 million because the work is on the private side, we cannot use water rates to pay for that work. The loan with that project would have to come from some other source.

Robinson questioned cash flow and when debt services done to time future issues to minimize impact on rates. Do we have additional capital projects/needs not reflected in current borrowing that could impact our total debt service going forward? If we had the LSL Ordinance in place, does that change the dynamics relative to the private side lead replacement in using rate dollars for that? If so, we could use this as a factor to evaluate and change this, is our goal to maintain debt service we got in 3 years it will drop off? Could we structure debt to minimize future impacts and discuss this at a future meeting?

Lindman replied we would be able to use up to 50% rate dollars to pay 50% cost on private side if an ordinance was in place and the PSC approves the request. We certainly will continue to pursue the ordinance. We are preparing the 5-year capital plan right now and that's really what significantly impacts our debt as we look at our priority projects and priority conflicts; This will be a discussion with the commission on how we address those priority conflicts.

Force questioned the summary in appendix A & B, when we say we have enough borrowing capacity, what is that number?

Groat replied that as we focus on appendix A- water system revenues, comparing historic 2021-2022 financial results for the water utility as compared to what we are looking at today for 2023. We are still in the process of closing our 2023 financial records these are our best estimates. Because water rates were not implemented until July 1st, we had more than ½ year without those current rates in effect so Ehler's projecting that rate. At first, we thought that looked a little high, I calculated this morning too and feel it's a good rate. He's saying in 2024 if we had that full amount then it would be around $12 million. Our operating expenses in 2023 was $4.5 million and that leaves us net revenue available for debt service in 2023 at the $5.5 million projected out next year given expenses have not shown any inflation would have $7.8 million. Listed debt services maximum for each one of the existing issues and then the big water treatment plant construction $2.8 million. Based on the projects expecting to issue debt, the $13 million which is the GAC refinancing that we took out $17.5 million so that's $800,000 so the debt issuance is $4.3 million, we are required to have 110% debt coverage we must have in reserves. This year we would have $826,000 left but next year that would increase with the expense inflation unknown at this time. We will have new projects in 2025. 2022-2023 we financed most of our underground replacement projects with ARPA. Water looks good, impact of conservation, we don't know what impacts would take place. Sewer shows similar results, we planned future rate increases but we won't have to pull the trigger on those in the foreseeable future. $11 million in revenue for sewer $3.8 million in expenses leaving $7.5 million for debt service. Maximum is $5.2 million leaving us $1.7 million

for reinvestment. We have several lift stations that need to be updated, so we are sitting in a good place.

Force questioned if it showed the PILOT expense?

Groat replied it does not show it.

No Action Taken.

4) **Presentation by Horsley Witten (USEPA LSL Accelerator Program) on Funding Options and Overview.**

Lindman advised Horsley has been working with us through the USEPA accelerator program and presented a couple months ago, this presentation will walk the commission through lead service line potential funding programs through the DNR, what is out there and what other communities are doing.

Kite began she is a senior environmental engineer with Horsley Witten group and other colleagues are joined via Webex. Horsley Witten group and ERG are contractors to the EPA and providing technical assistance to Wausau under EPA Lead service line accelerator program initiative. We are not employees of EPA but are technical support and assistance.

Presentation by Cherry. View presentation at 22 minutes, 49 seconds.

Lindman added in October of this year, we would need to be forward facing with the public on where our inventory is at. Dan and CIP have been working together on the inventory, not only city wide for lead service lines unknown but breaking it down to census tracts for different areas of the city. The inventory is updated in current time, it's not live yet but will be sometime late summer this year as part of the lead/copper rule with the EPA.

Robinson questioned if we had broken down where the lead service lines were in terms of census tracking in maximizing principal forgiveness? What would be helpful is if we could identify those costs on public side then look at the private side, and lingering issue of inspection in compliance, it would be good to identify the costs and with staffing so we could look at the capital costs. We are putting in the application this year for next year, we don't have a lot of rounds left, so the sooner we get that information the better like a multi-year projection, mapping it out going forward. Hypothetically, we could run into a situation with safe drinking water funding where we make assumptions relative to future eligibility, there's always some funding but we must be prepared for what if we stay beyond 2026 or go back to historic funding levels and what that might mean for ratepayers? Its all information we will need for that ordinance if we go with 5-year mandatory replacement and at one time we were talking about 10-15 years replacement. That's discussion that both this commission and the city council will need to have going forward.

Lindman replied as we move forward working with Horsley Witten, they will be breaking each of those down and run potential scenarios on maximizing potential principal forgiveness scoring for when we apply for the project in 2025. He questioned if Robinson was looking at 2025, 2026, 2027 for capital and debt potential broken out on what you would see in this track we are on and thanked Robinson on what he mentioned that would help with some of those questions we need answered going forward.

Rosenberg questioned Wausau was 2nd to Milwaukee in getting funding, they submitted multiple applications, what that looks like as a percentage to what the principal forgiveness we are getting and if that's something we should aspire to?

Force questioned if there is a deadline on spending the money received.

Kite replied the time frame depends on if you are using municipal contract or prequalified list of plumbers. If municipal contract, then it falls under the duration of the contract so if you secure a 5-year contract to do the work, that's when the funding would need to be spent by, if it's prequalified, the timeframe I believe is 3 years.

Cherry explained there is a timeframe but it's finding the contractors to do the work. Has that been an issue yet for Wausau just finding qualified contractors?

Linman replied yes, there's a lot of questions, we have some smaller contractors with a capacity of maybe 100 or so replacements per year and when we talk about 500-600 replacements in a year it may need to be multiple contractors. As we ramp this project up, we have some local contractors but we have some larger contractors as well. We could extend it year to year, it doesn't have to be spent in that year but it looks better when you go in the following year if you are already spending that money when the DNR reviews new applications.

Cohen confirmed with DNR, if qualified plumber is used, the funding required is 2 years but if it's municipal contract, then it's the life of the contract.

Cherry shared a spreadsheet also available on the DNR website. These are cities that submitted application for lead service line replacements order of score and ranks. Here is a summary at 58 min, 42 sec. View spreadsheet SFY 24 CWFP Funding List.

Force questioned the largest category is unknown, how do we deal with it and if the commission could get a report from CIP regarding the lead service communication status.

Lindman replied for the inventory we must physically get eyes on them, for homeowners online, they could do their own inspection, take a photo and upload on the website for us to review, this self-inspection has been available online for about a month. Otherwise, we are setting appointments in the census tracts we are working to get eyes on. The city is older, there are areas where there used to be meters in pit, if those meters were brought up, then copper was used to bring those up that was tied into the lead, so it looks like copper coming through, but then we would have to go outside and hydro excavate. We have a list about 50 homes so far that we would have to excavate outside of the home to verify.

Gehin reiterated that we need to clarify, this was not changing the plumbing of the home. The service line from the water main to the property line/curb stop is the utility ownership. The line from the curb going into the home where the water meter would be what we are referring to and nothing else. I hope these resolves some of the questions I've received under the terminology to special assess private side or loan assessment.

Lindman replied if that was the decision by the commission for the homeowner to pay a portion of that the private side, there would be an assessment and a payment plan set up with them to pay with their real estate taxes. We have bids coming up with CIP, we will have something formal or updated at the next commission meeting in May.

Cohen stated the importance that each municipality need to look at how they want to approach the scoring for the funding strategically. The communication/ mitigation piece is an element we could support, if necessary, we don't want to duplicate effort going on but if it's helpful we could coordinate with CIP and help where needed as appropriate.

No Action Taken.

5) **Discussion and Possible Action Deferring the 2024 Annual Loan Payment from the Water Utility to the Sewer Utility.**

Groat began that one of the metrics that Moody looks at for bond rating, is available cash. The water utility was at a bit of disadvantage because they had to wait for the PSC to change rates. The cash of Sewer as shown for the projection for bond capacity test was better than the water. We thought of the annual payment of $140,000, we are suggesting delaying the 2023 payment then consider that payment for 2024 to help with the cash position of the water utility, it would be a onetime deferral.

Robinson questioned if this was a function of the audit showing same revenues, continuing to carry obligations but no expense?

Groat replied yes, money would be transferred later, at year end it would show the transfer over for that payment. This would help with the cash position and no interest in the computation it's just letting water utility hold that cash till the end of the year for a better cash position.

Robinson moved to defer the 2024 annual loan payment from the sewer utility to the water. Seconded by Force.

Motion Carried 5-0.

6) **Discussion and Possible Action Approving the Proposal and Service Agreement for the Renewal of the Cross Connection Program Through HydroCorp.**

Boers began HydroCorp has been doing commercial/industrial sites since 2016, this is another 2-year contract, price is relatively stagnant from the last contract 2 years ago.

Gehin motioned to approve the proposal and service agreement for the renewal of the cross-connection program through HydroCorp. Seconded by Herbst.

Motion Carried 5-0

7) **Discussion on the Wastewater PFAS Sampling Results from January & February 2024.**

Brooks advised the spreadsheet on page 104 of the packet summarizes the results. For January- Influent PFOA: 6.11 ng/L, PFOS: 22.6ng/L, Effluent PFOA: 5.73 ng/L, PFOS 4.91 ng/L, Biosolids PFOA/PFOS combination 8.5ng/g below DNR standards, no further action required. February- Influent PFOA: 5.84 ng/L, PFOS: 6.03ng/L, Effluent PFOA: 7.39 ng/L, PFOS 5.41 ng/L, Biosolids PFOA/PFOS combination 6.3ng/g once again below DNR standards where no further action required. March samples sent out awaiting results, will review them with the commission. That would conclude the 6 months testing period agreed up. Please advise if further recommendation if further testing is wanted but this is the same testing upon issuance of our new discharge permit once received.

Robinson stated EPA came out with the maximum contaminant level this morning, not directly impacting these numbers but the effluent discharge numbers in the future. The number went down, State standard of 70ppt or DHS recommendation of 20ppt down to 4 PFOA/PFOS. There are standards for Perfluorononanoic Acid (PFNA) and Perfluorohexanesulfonic Acid (PFHxS) of 10, then the hazard index concept of cumulative impact. Have we begun to look at the issue of source from some of the industrial generators, there may be long term implications to our system and cost to the utility if the source isn't identified? We got the regulatory standards then we got the permit numbers, this is something we should keep an eye on to identify a point source to mitigate or reduce the numbers.

Brooks replied we been working with the City of Schofield, who discharges to Wausau Wastewater collection system. They been testing alongside with us for 3 months. We have those results; they are not extremely elevated but there will be some potentials to look into.

Lindman added that he and Brooks have started discussions to look at the basins in the city and have that broken up to take samples in those basins from lift stations and multiple areas and narrow down any areas that may have elevated levels, we'll compile those number as we move forward and bring it back to this commission as well.

Gehin questioned when the new permit would be issued?

Brooks replied sometime mid-Summer for a draft.

Force questioned we have Phosphorus limit based on the maximum contamination level based on the river water quality, will we see similar rules regarding PFAS, do we know what the PFAS content in the WI River?

Wojtkiewicz replied it's been a while since looking at it but the background testing the data is limited but its at that 10-20ish level, at this point I haven't heard specific discharge limits. I think there is nothing specific on the discharge limits from the DNR. The DNR process for

reissuing the WPDES permit is focusing on monitoring and source reduction at this point from the information we are seeing right now.

Rosenberg stated while the EPA noted the maximum contaminant level PFOA/PFAS 4ppt, they have set a non-enforceable mcl at 0.

No Action Taken.

8) **Discussion and Possible Action Approving a Bi-annual Contract for Septic Hauler Dumping at the Wastewater Treatment Facility.**

Brooks explained part of the NR281.49 code, there's verbiage permits required for haulers to dump at our wastewater facility, currently the city does not have any contracts with these haulers, so I propose we follow the code and implement a contract with each of these haulers that will allow us to have more enforcement and discipline, keep track of who's coming in. I had someone show up and was caught on camera and we've had a conversation with them. They can dump but are now being surcharged for it but it would help to have these contracts in place with these haulers.

Robinson motioned to approve biannual contract for septic hauler dumping. Seconded by Force.

Motion Carried 5-0.

9) **Discussion and Possible Action Approving the Contract with IT Pipes for the Purchase of Sewer Televising Software in Conjunction with the new TV Van.**

Brooks began the old software is not supported anymore, this new one will allow us to do more in depth tracking/trending and its cooperative pricing. 3-year contract, the first year is a little elevated due to implementation and transfer of old software into new software then less in the subsequent years, this will be invoiced annually.

Robinson questioned if we had access to the cloud after the contract period, as we will be using their cloud for storage? I would like to encourage that we have the terms of that transfer data spelled out, I'd hate to say we need to access that data and they say that's another $50,000, if we could get clarity relative to the terms of transfer and minimize that exposure on the back end.

Dwelly advised IT Pipes will be storing and managing it and stated upon separation, we will get our information at that time and could convert it into a different company. It's a lot of storage when you're televising and will be needing to do a lot more for all the laterals in the future too. CCIT and Attorney's office reviewed the contract. IT Pipes would be good support on the backend, they seem like a solid company and answer phone calls, our current one doesn't really provide answers for a week or two. This will help track what we've done in the city. They have a local representative based near Milwaukee. This will help with asset management going forward.

Herbst motioned to approve the contract with IT Pipes for the purchase of Sewer Televising Software in conjunction with the new TV van. Seconded by Robinson.

Motion Carried 5-0.

10) **Adjourn.**

Rosenberg stated it has been a privilege to serve this commission the last 4 years and thanked alder Herbst for her dedication to this cause, it's been hard work, we did it!

Herbst motioned to adjourn. Seconded by Gehin.

Link to view meeting in its entirety: *https://tinyurl.com/wausaucitycouncil*
Gina Vang, Recording Secretary
S:\WaterWorks\Common\WaterCommission\2024\May\WWWC_20240410_Minutes.doc.

WAUSAU WATER WORKS
FOR YOU!

MEMORANDUM

TO: President Rosenberg
Commissioner Herbst
Commissioner Force
Commissioner Gehin
Commissioner Robinson

FROM: Eric Lindman, P.E.
Director of Public Works & Utilities

SUBJECT: Director's Report – May 2024

Rain barrel sales ended April 24th and we sold about 300 barrels this year. Pick up days are scheduled for May 7th & 8th from 3pm-7pm.

Resin disposal is being scheduled currently with Clean Harbors, Hazardous Waste Landfill. The total cost of the disposal is about $130,000.

WATER DIVISION

1. Current Recruitment Water Division

    a. Second posting for the distribution position was unsuccessful. The position was posted again for the third time and will close on 5/5.

    b. As of 5/3 our Water Plant Operations Technician Position is still vacant. We had four candidates who interviewed for the position, 3 declined an offer. The fourth candidate was contemplating the offer while this was being written. Hopefully an update for both positions will be available at the time of the meeting.

WASTEWATER DIVISION

1. Wastewater Facility Construction Update: See attached.

2. The Wastewater Treatment Plant continues to discharge a quality effluent.

Optimization throughout the plant continues to ensure that a quality effluent is being discharged. The Wausau Wastewater Treatment Facility was highlighted in the April 2024 addition of the WWOA "The Clarifier". In the packet, please find the front cover of "The Clarifier" along with article.

3. Wastewater Operations Technician: This position has been filled and we welcome Austin Uttech to the team. Austin began employment with the City on 4/29/24.

4. Greenwood Hills Lift Station project commenced on January 29, 2024 with a project deadline of April 30, 2024. Lift Station is currently in service and working well. Pavement restoration is scheduled for May 10, 2024. The City and Greenwood Hills Golf Course agreed that this date was acceptable. The Northwester lift station project is well underway and waiting on new natural gas line to be installed by WPS.

Project Status Report

Wastewater Treatment Facility Improvements Project – Engineer During Construction

City of Wausau, Wisconsin

Donohue Project Number 13229

Period | March 10, 2024 – April 13, 2023

Invoice 82

Engineer Activities This Period

- The Project is currently in its Correction Period, and Warranty Items continue to be added and addressed by the Contractor.
- The Engineer's application engineering staff continues to make SCADA edits for various systems as unit process systems are being operated.
- The Engineer's operations staff has prepared final standard operating procedures (SOPs) and are ready to issue to the Owner.
- Prepared Dryer Trends since previous WDNR meeting.

Engineer Near-Term Activities

- Assist with Warranty Items List; status meetings scheduled for Mechanical and Electrical Items. On-site pavement review with Contractor scheduled for April 29, 2024.
- Issue final SOPs.
- Deliver Record Drawings.
- Provide final zero dollar pay application and closeout letter to Owner.
- Assist Owner with WDNR Class A biosolids approval, submit to Owner for review recent Dryer Trends before submitting to WDNR.
- Submit CWF final disbursement request(s).

Project Status Report

Wastewater Treatment Facility Improvements Project – Engineer During Construction

City of Wausau, Wisconsin

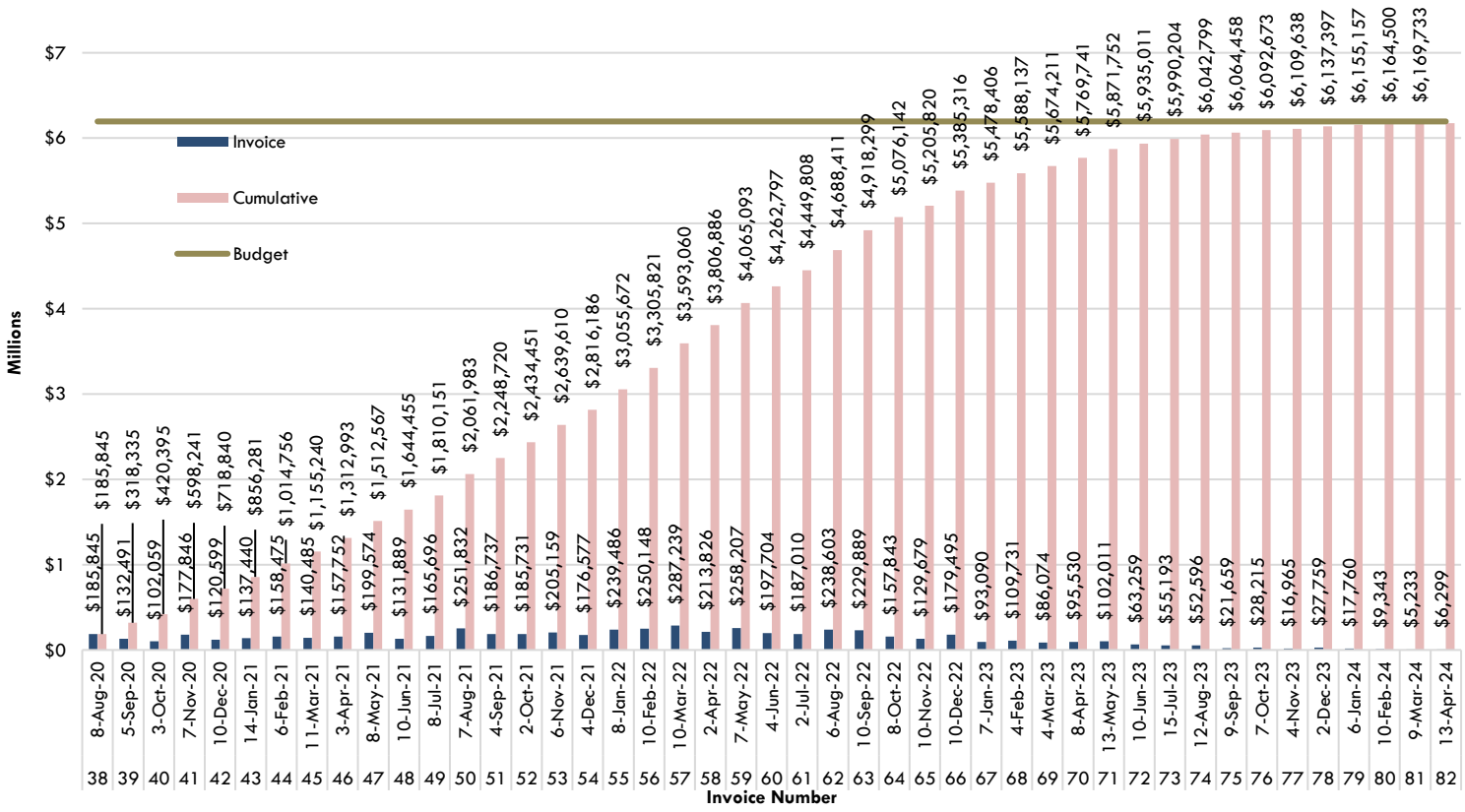
Donohue Project Number 13229

Period | March 10, 2024 – April 13, 2023

Invoice 82

Project Related Budget Snapshot

Construction Engineering Budget



Project Status Report

Wastewater Treatment Facility Improvements Project – Engineer During Construction

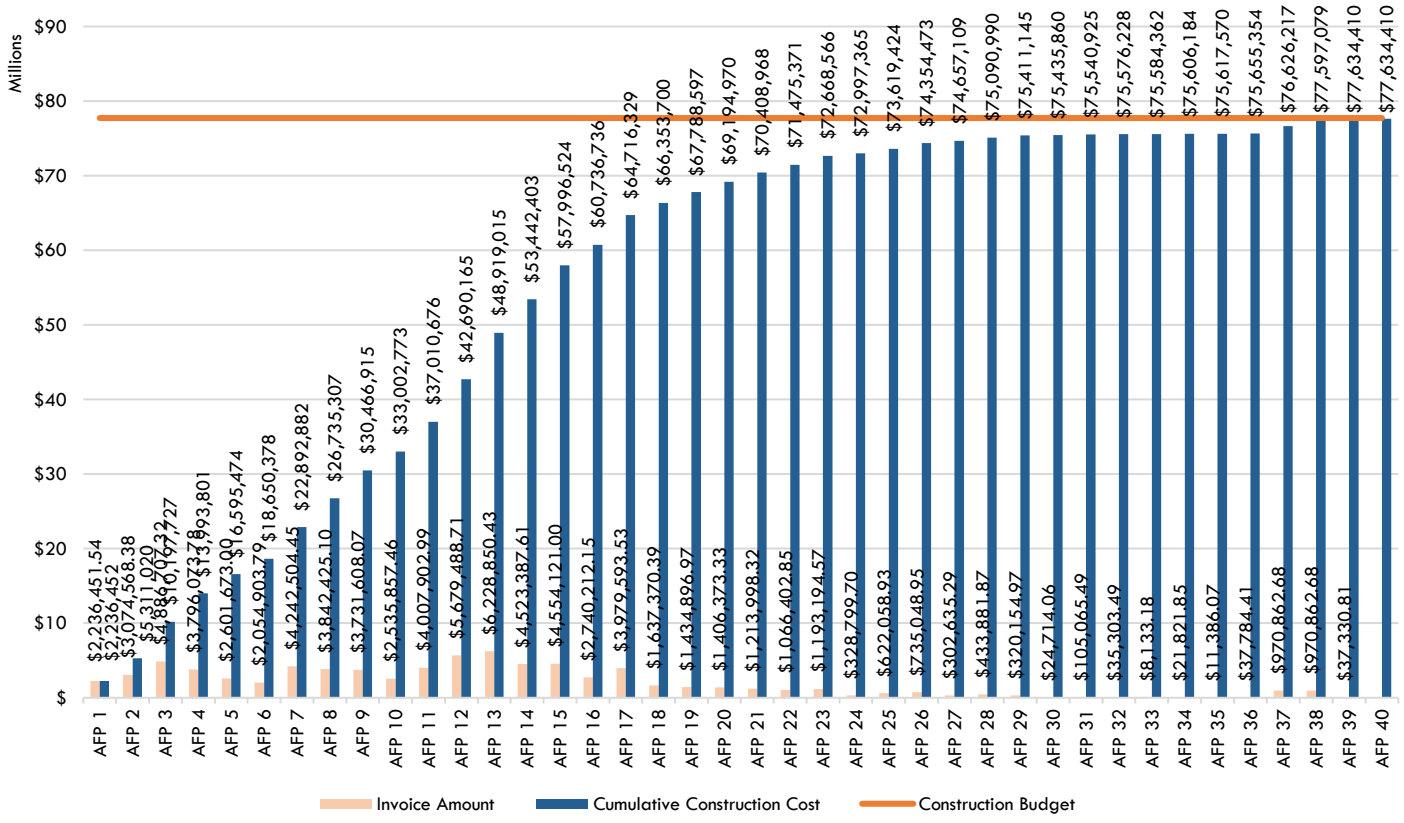
City of Wausau, Wisconsin

Donohue Project Number 13229

Period | March 10, 2024 – April 13, 2023

Invoice 82

Construction Budget: Pay Applications Approved by Engineer



Project Status Report

Wastewater Treatment Facility Improvements Project – Engineer During Construction

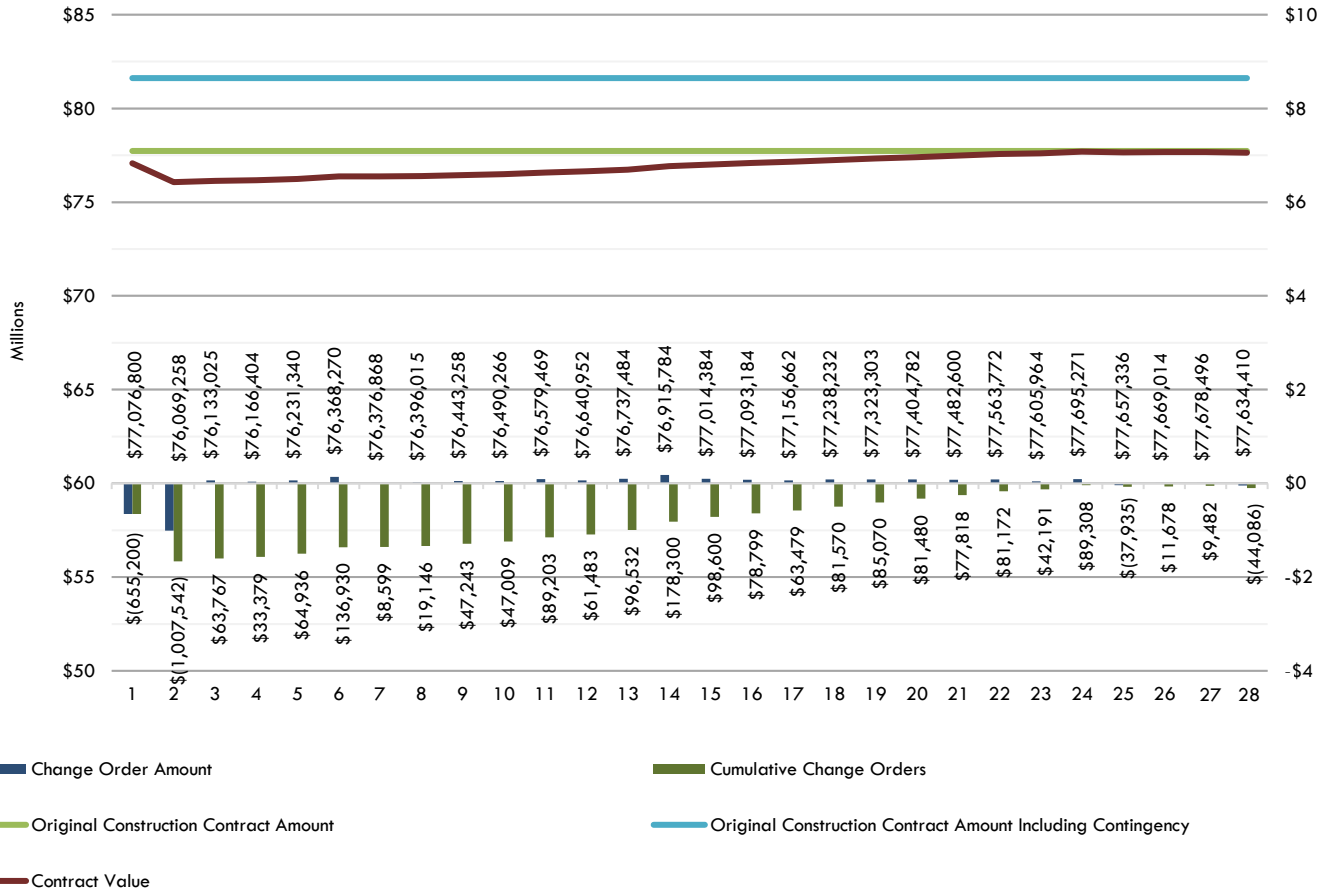
City of Wausau, Wisconsin

Donohue Project Number 13229

Period | March 10, 2024 – April 13, 2023

Invoice 82

Overall Project Budget



Budget Notes:

1. No budget issues at this time.

Remarks

1. Construction is complete except for punch list corrective work; therefore, construction photographs are no longer beneficial to document project progress.

INVOICE

DONOHUE

3311 Weeden Creek Road
Sheboygan, WI 53081
Phone: 920-208-0296
www.donohue-associates.com

Invoice To:

City of Wausau
Attn: Ben Brooks
407 Grant Street
Wausau, WI 54403

Invoice Date:	April 18, 2024
Donohue Project No.:	13229
Invoice No:	13229-82
Project Manager:	Mike Gerbitz
Terms:	Net 30 Days
Billing Period:	03/10/24 - 04/13/24

Project Description: Wastewater Facilities Plan & Design

Your Authorization:
Engineering Services Agreement, Signed 03/29/17
Amendment No. 1, Signed 06/28/18
Amendment No. 2, Signed 03/05/19
Amendment No. 3, Signed 01/27/20
Amendment No. 4, Signed 05/07/20
Permit Review Fees Payment Request, 02/27/20

Compensation:

Time and Expense		$	129,220.00
Time and Expense		$	984,565.00
Time and Expense		$	3,323,900.00
Time and Expense		$	4,351,831.00
Time and Expense		$	1,843,325.00
Permit Review Fees		$	12,534.50
	Total	$	10,645,375.50

Billing Summary:

Total Charges to Date		$	10,627,266.76
Charges Previously Billed		$	10,620,967.55
Current Charges		$	6,299.21

Summary of Current Charges

Labor (30.0 hours)		$	5,505.00
Reimbursable Expenses		$	794.21
Permit Review Fees		$	-
Subconsultants		$	-
	Total	$	6,299.21

Current Charges Due	**$**	**6,299.21**

Please Remit to:

Donohue & Associates, Inc.
3311 Weeden Creek Road
Sheboygan, WI 53081
Phone: 920-208-0296
Fax: 920-208-0402

Aged Receivables

Current	31 - 60 Days	61 - 90 Days	91 - 120 days	>120 days
$6,299.21	$5,232.50	$9,343.34	$0.00	$0.00

WISCONSIN WASTEWATER OPERATORS ASSOCIATION

58TH ANNUAL W.W.O.A. CONFERENCE

October 22-25, 2024
Hilton Appleton Paper Valley
Appleton

AERIAL VIEW OF
CITY OF WAUSAU WASTEWATER TREATMENT FACILITY, WAUSAU WISCONSIN

The Clarifier

VOL. 255 APRIL 2024

City of Wausau Wastewater Treatment Facility

By: Ben Brooks, Brad Wendtland/City of Wausau and Bill Marten/Donohue & Associates

Superintendent: Ben Brooks
Wastewater Supervisor: Brad Wendtland
Collections Supervisor: Ryan Dwelly
Wastewater Operators: Jeremy Steinman, Jason Ladwig, Jason Schill (Lab Technician), Austin Trinko and Mike Bradberry
Collection System Technicians: Bill Olsen, Steve Celona, Matt Stockman, Benn Her and Jared Johnson.

Facility History

The City of Wausau wastewater treatment facility (WWTF) was born in 1939, beginning operation alongside the City's garbage incinerator at its current location. At the time wastewater treatment included grit removal, primary clarification, chlorine disinfection and lagoon filtering prior to discharging into the Wisconsin River. Primary sludge was thickened, anaerobically digested, and then applied to drying beds prior to agricultural land application.

1969-Plant Upgrades: This upgrade included improved influent screening, grit removal, higher capacity Influent pumps, the addition of one primary clarifier, six new aeration basins, a new blower building with three engine-driven blowers and the addition of two secondary

continued on page 6

continued from page 4

clarifiers. Sludge handling improvements included new WAS pumps, a new wet air oxidation treatment system for the digestion of sludge, and a vacuum drum filter to dewater the oxidized sludge prior to land application.

1989-Plant Upgrades: This upgrade included new influent screening, adding two additional primary clarifiers, adding a third secondary clarifier, along with the addition of an effluent filtration/UV disinfection building. For the solids handling system, the existing gravity sludge thickener was replaced with a gravity belt thickener, and the wet air oxidation sludge treatment/vacuum sludge dewatering equipment was replaced with a belt filter press. Also included in this upgrade was the addition of an emergency generator, two new larger secondary anaerobic digesters, and the existing secondary digester was converted into a second primary digester.

2010 Upgrades: This upgrade included upgrades to the raw wastewater screening, aeration blowers, UV disinfection and for the solids handling system, primary digester heating and mixing improvements were made. Two biogas turbine generators with a gas conditioning system were also added

at this time along with rehabilitation of the digester gas storage sphere.

2020-2024 Plant Upgrades: These plant upgrades began in 2020 and will be complete in 2024. This upgrade encompassed an entire plant upgrade, and included improvements for plant staff in general, the entire liquid handling and treatment trains as well as the solids handling and treatment trains.

For plant staff in general, a new administration building and garage were added to better serve management,

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continued from page 6

New administration building

Operators and Collection System staff. The new Admin. building includes:

- Multiple offices for Management, Operations and Collections System staff.
- A control room that allows staff to monitor and control the plant via SCADA and also monitor lift stations.
- A spacious multiple function laboratory and office.
- A training room, with large screen monitor, sized for entire staff meetings.
- A large resource room where records and O&M's are retained.
- Break room, Men's and Women's locker rooms, and restrooms.

Attached to the new Admin. Building is an eight stall garage which can be accessed by plant vehicles from either side. The garage was sized for plant vehicles or dump truck sized vehicle that serve both the WWTF & Collections System.

Improvements to the liquid treatment train include:

- Upgraded grit washing, with a goal of sending less material to landfill.
- Primary clarifier drives and mechanism replacements.

continued on page 10

Looking for Wastewater Instructor

Danny Tomaro
from Wastewater Training Solutions
is retiring after 28 years of teaching WW classes.
If you know of anyone interested in taking over,
have them get ahold of me.

Danny Tomaro
cell: (608) 770-5144 or
dtomaro@yahoo.com

continued from page 8

• A new primary effluent (PE) conveyance channel that conveys PE waste above ground, to a new 4 compartment selector zone basin. This channel includes a wet weather/ high flow event bypass channel that can divert a portion of the primary effluent flow to the aeration basin effluent avoiding excessively short detention times while also diluting the mixed liquor (ML) flowing to the secondary clarifiers. It also lowers the solids loading rates to the secondary clarifiers.

Secondaries and aeration basins

• The new selector zone basin located just upstream of aeration, receives PE and RAS and its intent is to achieve denitrification, biological alkalinity production and BNR. Its main function is to control filamentous organisms.

• Aeration improvements include:
  o Converting the 6 single-pass basins to 2 three-pass basins to achieve better plug flow conditions, and enhancement for filamentous organism control.
  o Replacement of existing blowers with 3 new high speed turbo blowers.

New Aerzen blowers

continued on page 12

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o Replacement of aeration diffusers in all 6 tanks with innovative fine bubble membrane diffuser systems. The innovation involved using dual drop legs (DD) feeding duplicate grids for each aeration zone. Each basin has 3

Dual drop leg aeration system

such zones, resulting in 6 drop legs and grids per tank. This configuration allows the plant to operate the basins with tapered aeration whether in the preferred three-pass

Dual drop leg aeration

mode, or in single-pass mode should one or more basins be out of service for maintenance.

1. In three-pass mode air tapering can occur pass to pass, by controlling how many grids are active in each pass. For example, in the first pass all grids may be open and active, while in the last pass only half (one of each pair) of the grids may be operating.

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continued from page 12

2. In single-pass mode the first two grids may be full open and active, providing maximum air to the front end of the basin, while the middle two grids may be partially open to reduce the air supply as oxygen demand decreases, and only one of the last two grids may be open where oxygen demand is minimal.
3. This dual grid configuration has made it possible to overcome per diffuser airflow limitations (typically 0.5 scfm/diffuser) that often limit traditional grid aeration systems from achieving low DO conditions needed to achieve simultaneous nitrification/ denitrification (SND) when desired. This is because half the diffusers in any zone can simply be shut off, and the minimum lower airflow per zone is cut in half. In fact, plant staff have been taking advantage of this turndown capability by closing off 4 grids in each three-pass set of tanks, and operating the first two basins with low DO targets (0.8 mg/L +/-) to achieve conditions where both nitrification (on the outside of the flocs) and denitrification (on the inside of the flocs) can occur simultaneously.

o New SCADA-based aeration controls, including blower speed controls and airflow control valves for every aeration tank. These controls work to maintain DO targets in each basin and include a most open valve (MOV) control strategy aimed at conserving blower energy.

• A new ML effluent channel leading to a new secondary clarifier splitter box that distributes flow evenly to the three existing secondary clarifier as well a the new secondary clarifier.

• Upgrades to the 3 existing secondary clarifiers along with a new clarifier. Common upgrade features to all 4 clarifiers include flocculating inlets, velocity current (Stamford) baffles, rapid sludge collection mechanisms and effluent channel covers to control algae growth on weirs.

• 3 New Kruger/Veolia Hydrotech disc filters along with chemical addition at the new rapid mix, coagulation and floc tanks to help meet low level effluent phosphorus limits.

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Veolia Hydrotech disc filters

• An upgraded, more efficient Trojan UV disinfection system.

Improvements to the Solids treatment and handling train:
• A new solids handling building, housing most of the new equipment, includes a new solids laboratory.

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continued from page 15

• New primary sludge (PSD) pumps and flowmeters.
• Two new PSD screens to help keep garbage out of the anaerobic digesters.
• A new PSD gravity thickener and thickened PSD (TPSD) pumps feeding anaerobic digestion.
• New RAS and WAS pumps serving all four secondary clarifiers. There are three RAS pumps per pair of clarifiers, two duty and one standby, along with two WAS pumps per pair. Each clarifier has a dedicated RAS flow meter while WAS flow is monitored at the gravity belt thickeners (GBTs).

Primaries and primary sludge thickener

Charter GBTs

• Two new GBTs in the solids handling building, for thickening WAS prior to anaerobic digestion. Each GBT has a dedicated TWAS hopper, TWAS pump and flow meter.
• Anaerobic digestion improvements including:
  o New roofs and internal piping on the two primary digesters.

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continued from page 16

o New roofs on the secondary digesters.
o Addition of mixing and heating to one secondary digester to allow it to serve as a primary digester either in parallel with or downstream of the two existing primary digesters.
o New digester gas handling room and rotary vane digester gas storage compressor.
o Resized digester gas piping to lower operating pressure and save energy.

Charter BFPs

Class A sludge product 2

• Two new belt filter presses, dewatering digested sludge to produce a Class B dewatered cake that can be land applied, sent to landfill, or more desirably used to feed the facility's new sludge dryer to produce a Class A, exceptional quality biosolids product for a variety of uses.
• The new sludge dryer is a Veolia Biocon Thermal dryer system. This system includes dried cake conveyance to the

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Veolia Biocon dryer

truck load out area where trucks are loaded and biosolids are transported to the remodeled sludge barn to await final distribution.

Other plant improvements included:
• New phosphorus removal chemical (PRC) storage and feed equipment, including multiple dosing points for PRC feed. Includes dosing points at the aeration basin effluent, disc filter influent and side stream flows.

• New polymer storage and feed systems for effluent filtration as well as WAS thickening and digested sludge dewatering.
• New magnesium hydroxide (maglime) storage and feed equipment to provide supplemental alkalinity to ensure reliable activated sludge nitrification as well as ensure adequate alkalinity for effluent polishing to achieve low effluent phosphorus.
• Two new emergency standby generators.

Where the Rubber Meets the Road
Wausau plant staff have done a tremendous job of doing their job in the midst of extensive plant-wide construction, interrupting and/or interfering with treatment processes over the previous 3 years. All along with maintaining treatment compliance and positive attitudes. Wausau plant staff can now enjoy the benefits of an upgraded, state of the art facility.

Wausau WWTF has a design average flow rating of 8.2 MGD, with the following effluent discharge limits to the Wisconsin River below.
• BOD & TSS: 30 mg/L monthly average & 45 mg/L weekly average with a seasonal waste allocation load to comply with.
• Total Phosphorus: 34 pounds/day monthly average.

Flows to the plant currently range from approximately 4-6 MGD. Effluent quality is great, as exemplified by January 2024 monthly average results of:
• Effluent BOD5 of 4.7 mg/L.
• Effluent TSS of 6.4 mg/L.
• Effluent TP of 12.2 pounds/day.
• Effluent ammonia nitrogen regularly less than 1 mg/L.

In addition, activated sludge performance has been outstanding, with SVIs for 2023 averaging 50 mL/g (in concert with the low effluent TSS), and while also achieving SND ranging from 40-60% of the nitrate produced from nitrification – due to the airflow turndown capabilities of the dual dropleg aeration grid system being able to achieve zones of low DO in the aeration basins.

On the solids side of things, all processes have been operating smoothly and the plant consistently produces a Class A EQ biosolids product that will hopefully serve many beneficial reuse roles in the coming future.

Collection System: The City of Wausau currently has approximately 224 miles of Sanitary Gravity Main with 4,957 Sanitary Manholes. The City also operates and

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maintains 25 lift stations with approximately 9 miles of Sanitary Force Main.

The Collections crew maintains these sanitary mains and manholes using a Vactor Recycling Combination Jetter and a Super Products Camel Combination Jetter. The goal is to jet a minimum of 20% of the system annually. Because the City has many old areas of town with gravity main root intrusion

it adds additional time spent on root removal. It is also an annual goal to televise the sewer mains in conjunction with jetting by use of radio communication between the jetter and televising operators. This helps with lining up on each pipe joint or lateral that has roots, and helps to make sure the roots are being removed in an efficient manner. The goal is to televise 10% of the collection system annually and the current equipment being used is Aries Pathfinder equipment. The City has an IBAK system on order with an estimated delivery date of early July. With the new IBAK system, it will have lateral launch capabilities and used to inspect laterals. Information from the lateral launch will be collected and downloaded onto the Cities GIS mapping system. In addition to jetting and televising, the City also flushes many manholes and mains throughout the City. Flushing is accomplished by use of a 1200 gallon tanker truck. Flushing maintenance helps with obstructions in mains that have low flow, are flat, or have laterals coming into the manholes that tend to back-up.

2023 Televised: 15%
2023 Jetted: 26%
2023 Flushed: 48%

The annual amount of Sewer Mains replaced or rehabbed depends on the annual budget. The amount of LF of rehabilitating sewer mains (CIPP) also depends on the size of the pipe and the price per LF for that year.

Average Full Reconstruct: approximately 5,000 LF/year

Average Rehabilitation (CIPP): approximately 12,000 LF/year

Wausau wastewater treatment staff

EquiFlow Lead-Free Program

A City of Wausau and CIP Partnership

Progress Update | May 7, 2024

CIP COMMUNITY INFRASTRUCTURE PARTNERS

EquiFlow Lead-Free Program

Meet the EquiFlow Program Team

Sponsor

WAUSAU WISCONSIN

CBP3 Partner

CIP COMMUNITY INFRASTRUCTURE PARTNERS

Team Members

WIPPS WISCONSIN INSTITUTE for PUBLIC POLICY and SERVICE

MEDICAL COLLEGE OF WISCONSIN

H2N HMONG & HISPANIC COMMUNICATION NETWORK PROJECT

OPORTUNIDADES SALUDABLES PARA LATINOAMERICANOS ¡HOLA! HEALTHY OPPORTUNITIES FOR LATIN AMERICANS

Hmong American Center

LiUNA! WISCONSIN LABORERS' DISTRICT COUNCIL Feel the Power

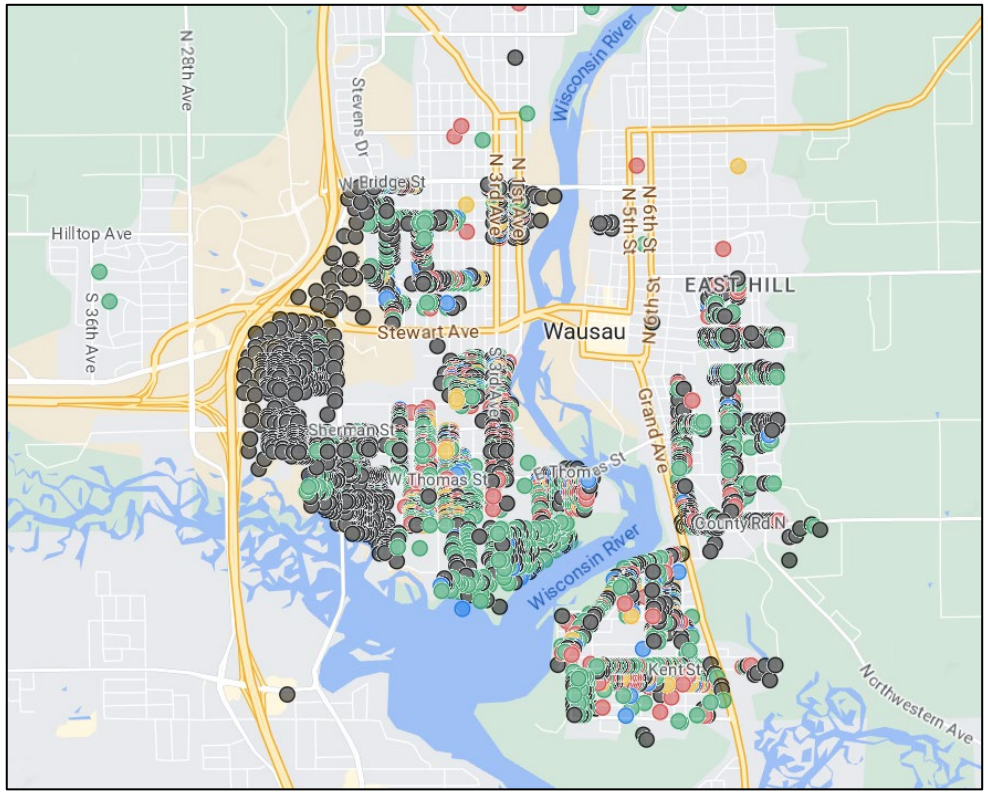
DAAR

FIVESTAR ENERGY SERVICES

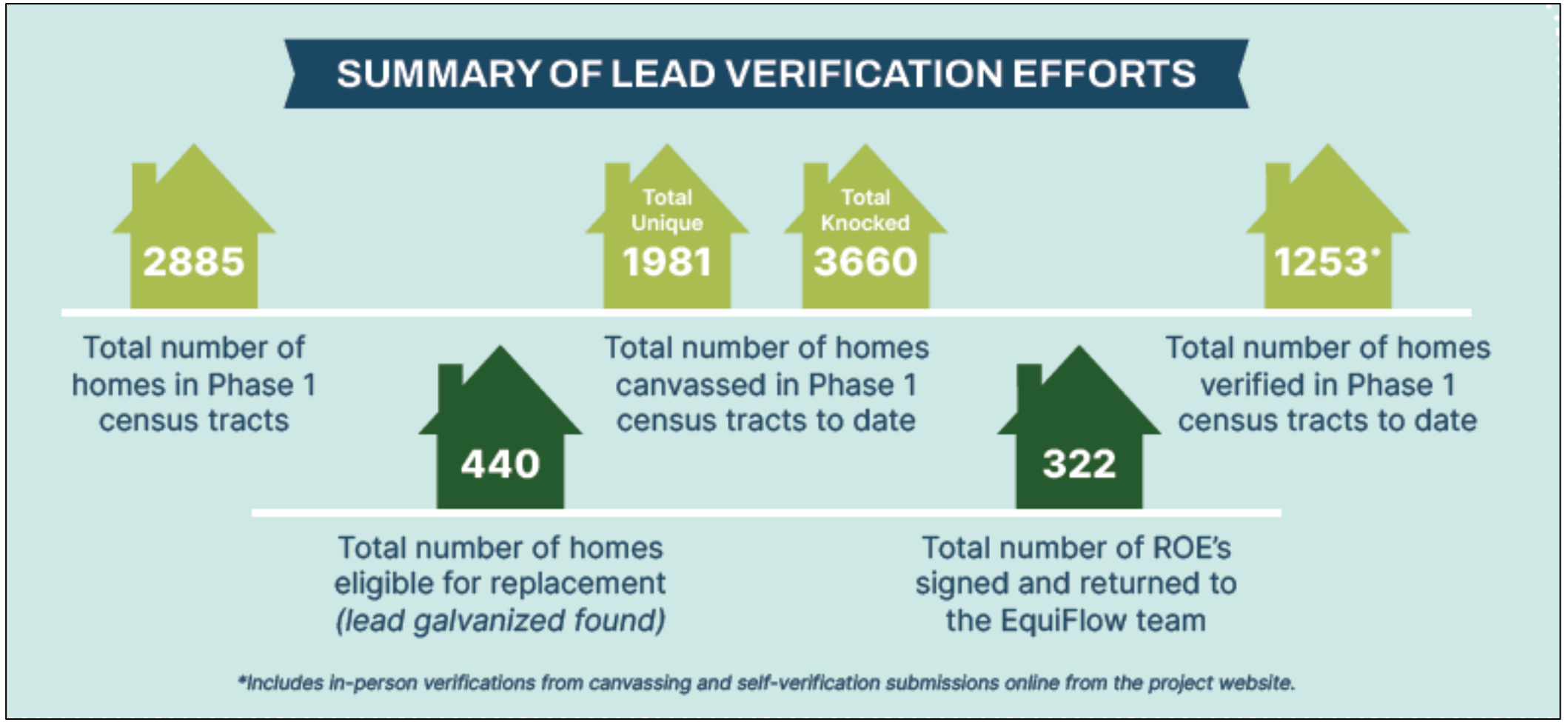
Overview

Verifications and Outreach

- Homes eligible for replacement: 2,885
- Year One: Tracts 5, 6.01, 6.02, 7, and 8 with a public side replacement already completed were considered eligible.
- October 2023: City of Wausau sent letter to residents in tract 6.02 about the program and asked them to make appointments.
  - Over 200 appointments were scheduled and conducted from this letter.
- November 9, 2023: A kickoff event was held with a full replacement by Marathon Plumbing and Wausau Water Works for the residents at 933 S 12th Ave.
- December 13, 2023: Door-to-door canvassing began.



Progress To Date



Positive Outlook

Original Goal for Year 1 Funding:

Wausau's funding application submitted June 2023 was to replace 533 lines for $5.3M.

New Plan:

Wausau was awarded $5.7M, with $3.6M structured as grants, and due to extremely competitive bids, the City can now replace 700+ lines in the first year of the program with pricing locked in for three years.

Line Item	Goal	Potential
Private Service Lines to Replace	533	700+
Estimated ft.of Copper	22,120	28,000
Curb Stops Anticipated to Need Replacement	138	175

Community Outreach & Engagement

The CIP Team is taking a multi-faceted approach to community outreach and engagement:

- **Targeted Outreach:** Conduct door-to-door canvassing and engage directly with homeowners through targeted campaigns
- **Community Outreach:** Participate in public events, community gatherings, and provide multilingual materials to increase awareness
- **Network Outreach:** Collaborate with schools, businesses, and healthcare providers to integrate educational programs and share project updates
- **Public Awareness:** Utilize media campaigns, social media platforms, and a dedicated website to disseminate information and encourage community participation

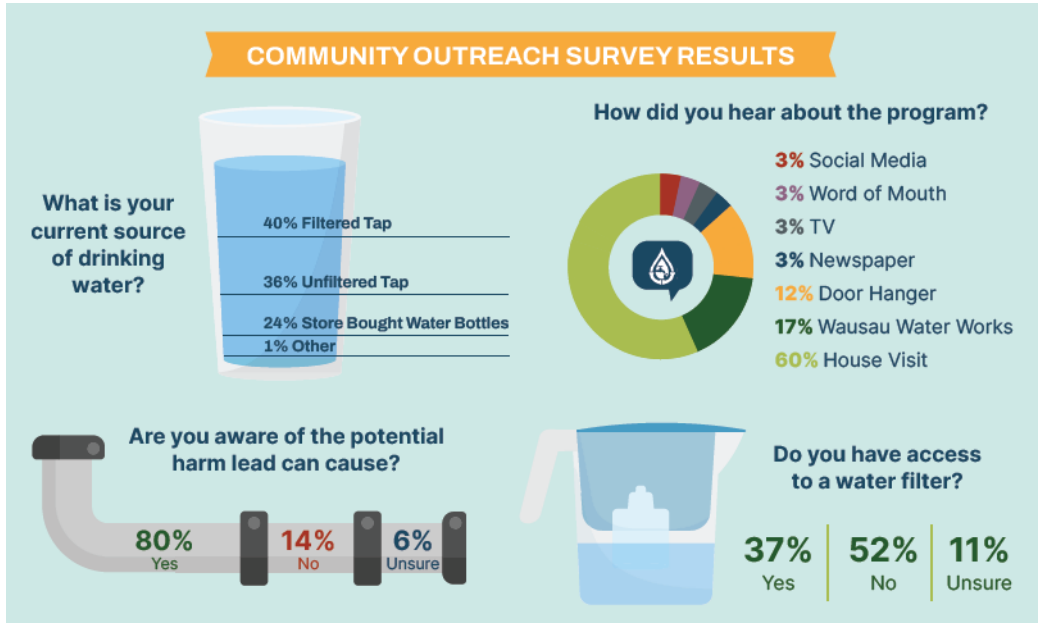
Resident Communication

Our approach focuses on three key phases of communication during the Program:

- **Pre-Replacement.** Objectives include:
  - Cultivate trust and confidence among residents
  - Foster positive awareness of the Program
  - Enhance understanding of lead exposure risks through effective communication strategies
  - Maximize targeted outreach opportunities to residents/Enroll eligible households
- **During Replacement.** Objectives include:
  - Effectively communicate project updates and timelines
  - Continue to build trust and confidence in the Program
- **Post-Replacement.** Objectives include:
  - Educate residents on essential post-replacement procedures
  - Gain valuable insights and identify opportunities for improvement by implementing a simple/easy survey for residents to provide feedback on the replacement experience

Outreach Efforts To Date

Canvassed and Distributed Informational Materials to Approximately 1900 Homes



Connections with Real Estate and Property Management Companies

- Connected with 18 individual property owners/currently working with 3 property management companies

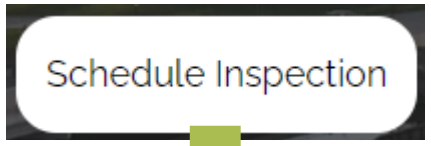
Network Outreach:

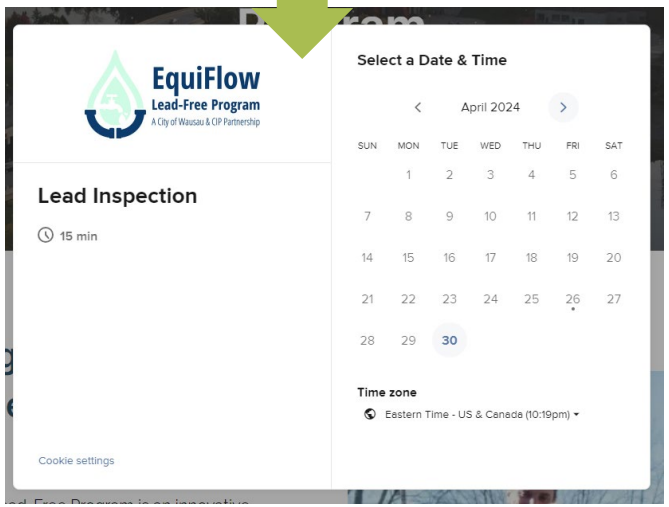
- Presentation to 15 Social Workers in the Wausau School District
- H2N - Hmong and Hispanic Communication Network
- Collaborations on shared events (e.g., Valentine's Resource Carnival - Northcentral Technical College)
- Presentation to local Community Health Workers, Health Organization Community Collaborator Group, Aspirus, Bridge Community Clinic, ADRC, and Healthfirst
- United Way – Discussions underway about shared events/activities

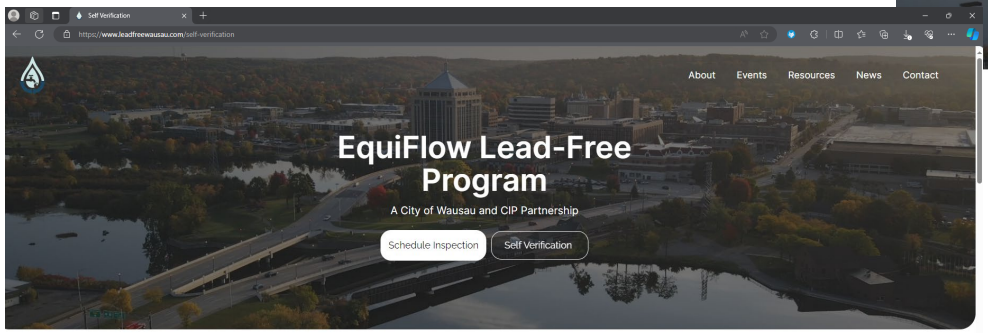
Attended Events:

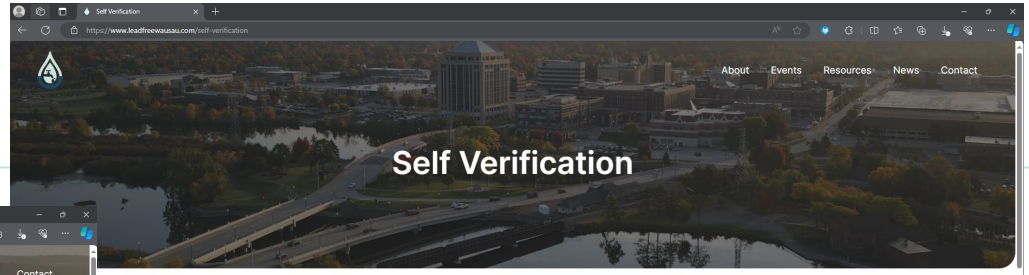
- Valentine's Resource Carnival - Northcentral Technical College
- Disability Resource Fair - Wausau West High School
- Leigh Yawkey Woodson Art Museum/ Presentation for Flow: Artists, Activists and Educators Working with Water
- Pregnancy and Postpartum Resource Fair - Community Partners Campus

LeadFreeWausau.com









Find Out If Your Home Has A Lead Service Line

Interested in participating in the EquiFlow Lead-Free Program but unsure if your home has a lead service line? Complete the brief form below and upload a photo of your water meter and service line, and one of our EquiFlow Program Specialists will verify the material of your service line. A Specialist will contact you to let you know the results of your submission and whether your home qualifies for the Program.

Together We Can Pioneer A Lead Free Future.

The EquiFlow Lead-Free Program is an innovative partnership between the City of Wausau and Community Infrastructure Partners (CIP) to ensure Wausau residents have access to safe, lead-free drinking water by replacing up to 8,000 lead service lines by 2028.

Using the CBP3 delivery model established by the EPA, the EquiFlow Lead-Free program is focused on replacing lead services lines quickly and effectively while creating socioeconomic and community benefits, including maximizing local, small, and minority-business utilization.

When present, a lead service line can be the largest contributor of lead in drinking water. Unfortunately, replacing a lead service line can be very costly for homeowners! With the EquiFlow Lead-Free Program, homeowners pay nothing to have their line's material inspected and replaced if it's made of lead.

1. FREE to homehowner
2. Efficient replacement time
3. Access to safe, lead-free drinking water

Click the "schedule verification" link above to schedule your brief service line verification or contact us to learn more about the program.

Please Complete The Following Form

1. Homeowner Contact Information

FIRST NAME | LAST NAME
EMAIL ADDRESS | PHONE
STREET ADDRESS | CITY (Wausau)
STATE (Wisconsin) | ZIP CODE

Next Step

FAQ

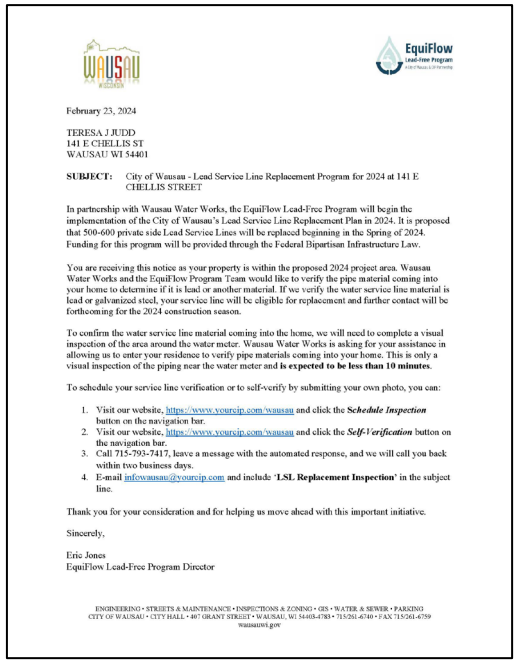
- What is a lead service line?
- Why should I be concerned about lead service lines?

CIP COMMUNITY INFRASTRUCTURE PARTNERS

EquiFlow Lead-Free Program
A City of Wausau & CIP Partnership

Example Communication Materials

Direct Mail (with Utility Bill)



February 23, 2024

TERESA J JUDD
141 E CHELLIS ST
WAUSAU WI 54401

SUBJECT: City of Wausau - Lead Service Line Replacement Program for 2024 at 141 E CHELLIS STREET

In partnership with Wausau Water Works, the EquiFlow Lead-Free Program will begin the implementation of the City of Wausau's Lead Service Line Replacement Plan in 2024. It is proposed that 500-600 private side Lead Service Lines will be replaced beginning in the Spring of 2024. Funding for this program will be provided through the Federal Bipartisan Infrastructure Law.

You are receiving this notice as your property is within the proposed 2024 project area. Wausau Water Works and the EquiFlow Program Team would like to verify the pipe material coming into your home to determine if it is lead or another material. If we verify the water service line material is lead or galvanized steel, your service line will be eligible for replacement and further contact will be forthcoming for the 2024 construction season.

To confirm the water service line material coming into the home, we will need to complete a visual inspection of the area around the water meter. Wausau Water Works is asking for your assistance in allowing us to enter your residence to verify pipe materials coming into your home. This is only a visual inspection of the piping near the water meter and **is expected to be less than 10 minutes.**

To schedule your service line verification or to self-verify by submitting your own photo, you can:

1. Visit our website, https://www.yourcip.com/wausau and click the ***Schedule Inspection*** button on the navigation bar.
2. Visit our website, https://www.yourcip.com/wausau and click the ***Self-Verification*** button on the navigation bar.
3. Call 715-793-7417, leave a message with the automated response, and we will call you back within two business days.
4. E-mail infowausau@yourcip.com and include **'LSL Replacement Inspection'** in the subject line.

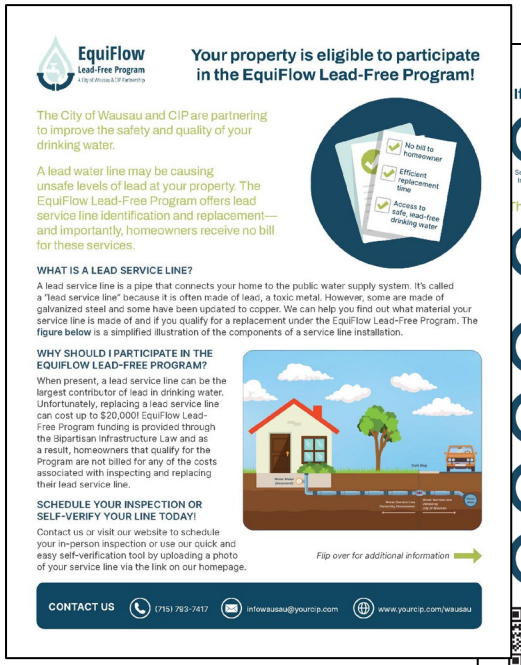
Thank you for your consideration and for helping us move ahead with this important initiative.

Sincerely,

Eric Jones
EquiFlow Lead-Free Program Director

ENGINEERING • STREETS & MAINTENANCE • INSPECTIONS & ZONING • GIS • WATER & SEWER • PARKING
CITY OF WAUSAU • CITY HALL • 407 GRANT STREET • WAUSAU, WI 54403-4783 • 715/261-6740 • FAX 715/261-6759
wausau.gov

Program Overview Flyer (also in Spanish)



Your property is eligible to participate in the EquiFlow Lead-Free Program!

The City of Wausau and CIP are partnering to improve the safety and quality of your drinking water.

A lead water line may be causing unsafe levels of lead at your property. The EquiFlow Lead-Free Program offers lead service line identification and replacement—and importantly, homeowners receive no bill for these services.

No bill to homeowner
Efficient replacement time
Access to safe, lead-free drinking water

WHAT IS A LEAD SERVICE LINE?

A lead service line is a pipe that connects your home to the public water supply system. It's called a "lead service line" because it is often made of lead, a toxic metal. However, some are made of galvanized steel and some have been upcated to copper. We can help you find out what material your service line is made of and if you qualify for a replacement under the EquiFlow Lead-Free Program. The **figure below** is a simplified illustration of the components of a service line installation.

WHY SHOULD I PARTICIPATE IN THE EQUIFLOW LEAD-FREE PROGRAM?

When present, a lead service line can be the largest contributor of lead in drinking water. Unfortunately, replacing a lead service line can cost up to $20,000! EquiFlow Lead-Free Program funding is provided through the Bipartisan Infrastructure Law and as a result, homeowners that qualify for the Program are not billed for any of the costs associated with inspecting and replacing their lead service line.

SCHEDULE YOUR INSPECTION OR SELF-VERIFY YOUR LINE TODAY!

Contact us or visit our website to schedule your in-person inspection or use our quick and easy self-verification tool by uploading a photo of your service line via the link on our homepage.

Flip over for additional information

CONTACT US (715) 793-7417 infowausau@yourcip.com www.yourcip.com/wausau

If I choose to participate in the program, what should I expect?

Service Line Inspection → Lead Service Line Replacement → Restoration of Impacted Areas → Water Testing → Safe, Lead-Free Water!

The 5-Step Replacement Process:

SERVICE LINE INSPECTION
An EquiFlow Lead-Free Program specialist will visit your home to inspect the material of your service line. Alternatively, you can use the self-verification feature on the EquiFlow website by completing a brief form and uploading a photo of your service line, and one of our EquiFlow Lead-Free Program specialists will later contact you to let you know the results of your submission. If your service line contains lead or galvanized material, we will schedule a date and time to replace your service line under the Program.

REPLACEMENT DAY
A licensed plumber will replace your lead service line. During this time, we will need to turn off your water. You will receive an estimate of how long this will take before any work begins. We provide a supply of bottled water for use during this time. We strive to minimize the disruption for you and residents of your home.

AFTER REPLACEMENT & RESTORATION OF IMPACTED AREAS
We will restore any areas on your property impacted by the replacement activities. We will also provide you with filters to use following replacement and instructions on how to flush your pipes for the next 30 days. You will want to use the water pitcher or faucet mount filter provided by the EquiFlow Lead-Free Program until your lead levels are below 2.01 ppb.

WATER RE-TESTING
Testing is critical to ensure a reduction in lead levels following replacement activities. An EquiFlow Lead-Free Program specialist may visit your home following replacement to test the water and confirm lead levels have successfully been reduced. You will also receive two free lead-in-water test kits following replacement.

CONGRATULATIONS - ALL DONE!
Your EquiFlow Lead-Free Program journey is complete. Congratulations on creating a healthier environment for you and your home!

Scan to visit our website and schedule your inspection or to use our quick and easy self-verification tool by uploading a photo of your service line!

FAQ in Spanish (also in English)

Preguntas frecuentes
Sobre el plomo en el agua potable

La ciudad de Wausau y el CIP se están asociando para mejorar la seguridad y calidad de su agua potable.

¿POR QUÉ DEBEN PREOCUPARME LAS TUBERÍAS DE PLOMO?

Las tuberías de plomo pueden liberar plomo en el agua potable, lo que supone un grave riesgo para la salud, especialmente para los niños y las mujeres embarazadas. Incluso niveles bajos de exposición al plomo pueden dañar su salud con el tiempo. La exposición al plomo puede provocar retrasos en el crecimiento, dificultades de aprendizaje y problemas de comportamiento en los niños. En adultos, puede causar hipertensión, problemas renales y problemas reproductivos. Visite estas páginas de especialistas para obtener más información:

https://www.cdc.gov/nceh/lead/prevention/sources.htm

https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water

¿CÓMO PUEDE LLEGAR EL PLOMO AL AGUA POTABLE?

Cuando el agua sale de la planta de tratamiento de la ciudad, no contiene plomo. Las tuberías de la calle que transportan el agua desde la planta de tratamiento están fabricadas con materiales sin plomo y no añaden plomo al agua potable. El plomo puede llegar al agua potable a través de las tuberías de su casa o de la tubería de servicio entre la calle y su casa. Cuando el agua permanece en la tubería de servicio o en las cañerías de su casa sin ser utilizada durante varias horas, el plomo puede disolverse en el agua potable.Por ejemplo, estos períodos de tiempo incluyen la primera vez que se saca agua por la mañana o por la tarde después de no haberla utilizado en todo el día.

¿POR QUÉ LA TUBERÍA DE SUMINISTRO DE AGUA DE MI LOCALIDAD CONTIENEN PLOMO?

El plomo se utilizó habitualmente en las tuberías de agua hasta la década de 1950, y también en los accesorios de fontanería de los hogares (grifos, válvulas, lavabos, duchas, mangueras, etc.) y en las soldaduras hasta finales de los años 80, cuando se prohibió su uso. De 1986 a 2014, los accesorios de fontanería podían contener hasta un 8% de plomo para ser clasificados como "sin plomo". Sin embargo, las normas actuales para los accesorios "sin plomo" no permiten más de un 0,25% de contenido de plomo.

SI TENGO UNA TUBERÍA DE SUMINISTRO DE AGUA CON PLOMO, ¿CÓMO PUEDO REDUCIR MI EXPOSICIÓN AL PLOMO?

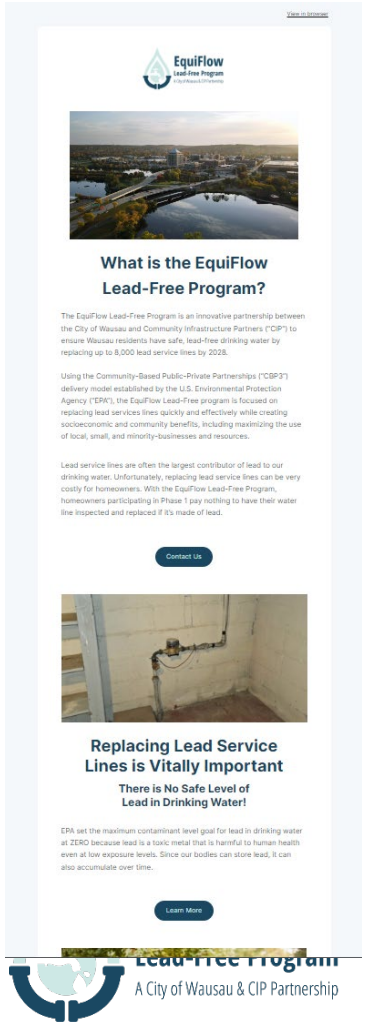
Hay varias medidas que puede tomar para reducir su exposición al plomo:

- Compre siempre accesorios de fontanería (grifos, válvulas, lavamanos, cabezales de ducha, grifos para mangueras, etc.) que no contengan plomo o que contengan poco plomo o con bajo contenido en plomo. Lea atentamente las etiquetas de los nuevos accesorios de fontanería.
- Utilice siempre agua fresca, fría y corriente para beber, cocinar y preparar los preparados para lactantes.
- No hiervas el agua para eliminar el plomo. Hervir el agua no elimina el plomo y puede aumentar su concentración.
- Retire y limpie con regularidad las rejillas y los aireadores de los grifos.
- Obtenga un dispositivo de tratamiento de agua doméstico certificado por la NSF (National Sanitation Foundation) para eliminar el plomo.
- Identifique y sustituya los accesorios de fontanería que contengan plomo y cualquier tubería de cobre con soldadura de plomo.
- **Inscríbase en el programa EquiFlow Lead-Free para sustituir las tuberías de plomo.**

¿TIENE MÁS PREGUNTAS? CONTÁCTENOS

(715) 793-7417 infowausau@yourcip.com www.yourcip.com/wausau

Digital Newsletter



View in browser

EquiFlow Lead-Free Program

What is the EquiFlow Lead-Free Program?

The EquiFlow Lead-Free Program is an innovative partnership between the City of Wausau and Community Infrastructure Partners ("CIP") to ensure Wausau residents have safe, lead-free drinking water by replacing up to 8,000 lead service lines by 2028.

Using the Community-Based Public-Private Partnerships ("CBP3") delivery model established by the U.S. Environmental Protection Agency ("EPA"), the EquiFlow Lead-Free program is focused on replacing lead services lines quickly and effectively while creating socioeconomic and community benefits, including maximizing the use of local, small, and minority-businesses and resources.

Lead service lines are often the largest contributor of lead to our drinking water. Unfortunately, replacing lead service lines can be very costly for homeowners. With the EquiFlow Lead-Free Program, homeowners participating in Phase 1 pay nothing to have their water line inspected and replaced if it's made of lead.

Contact Us

Replacing Lead Service Lines is Vitally Important

There is No Safe Level of Lead in Drinking Water!

EPA set the maximum contaminant level goal for lead in drinking water at ZERO because lead is a toxic metal that is harmful to human health even at low exposure levels. Since our bodies can store lead, it can also accumulate over time.

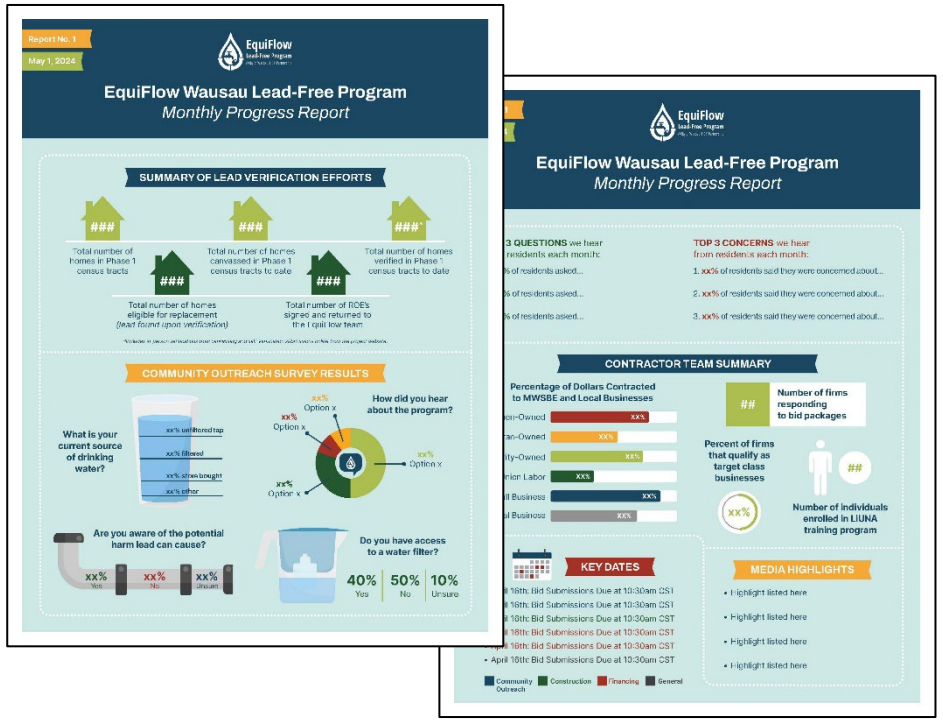
Learn More

Lead-Free Program
A City of Wausau & CIP Partnership

CIP COMMUNITY INFRASTRUCTURE PARTNERS

Example Communication Materials

Monthly Progress Report Template



Door Hanger

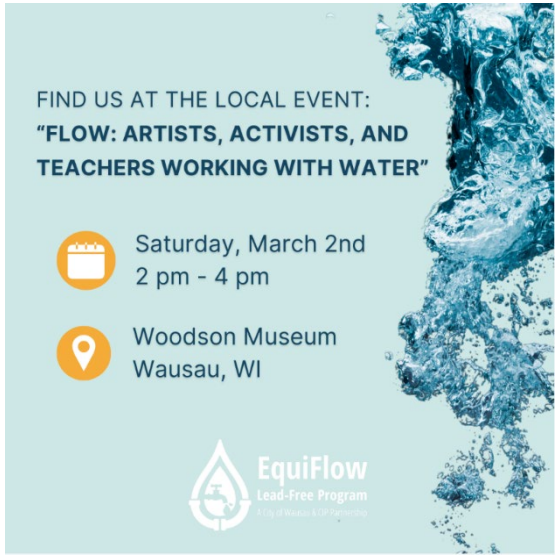
Final Attempt Door Notice (Sticker)

Verification Yard Sign

CIP COMMUNITY INFRASTRUCTURE PARTNERS

EquiFlow Lead-Free Program
A City of Wausau & CIP Partnership

Social Media Examples

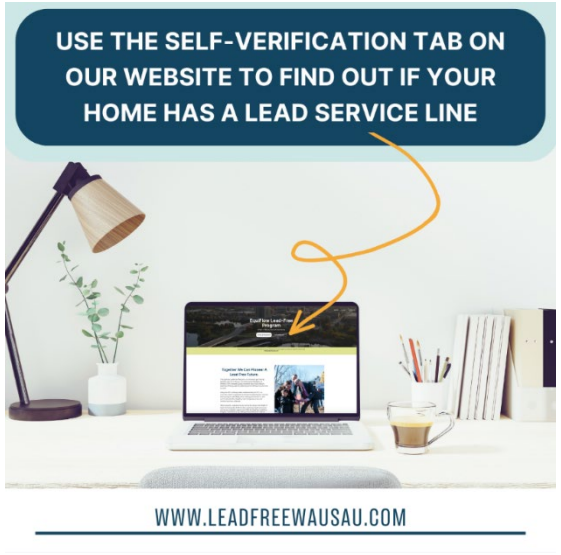


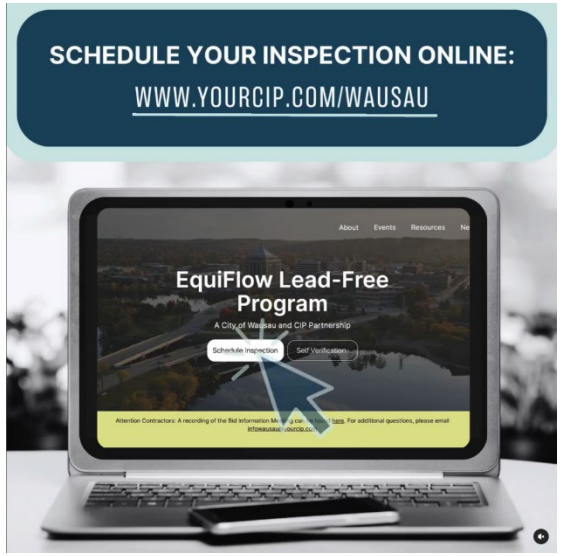
wausauequiflow Meet Francisco Guerrero
Fun Fact: When Francisco is not working for WIPPS, he Roasts Coffee for Redwood St Roasters!

Francisco is a member of the H2N Team that is working in partnership with EquiFlow to create a lead-free future for Wausau.

The members of the H2N + EquiFlow team are going door-to-door throughout Wausau. If you're not home at the time, they will leave a door hanger with information.

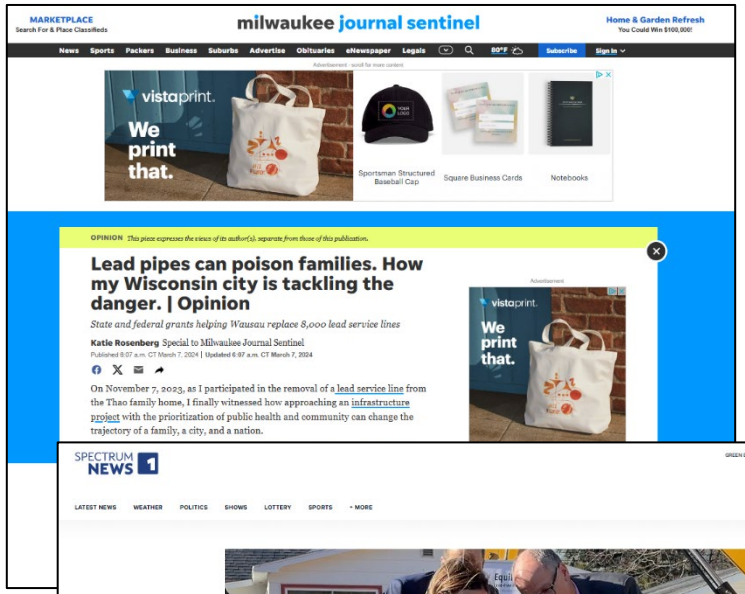
Keep your eye out for Francisco and the H2N team in your neighborhood!

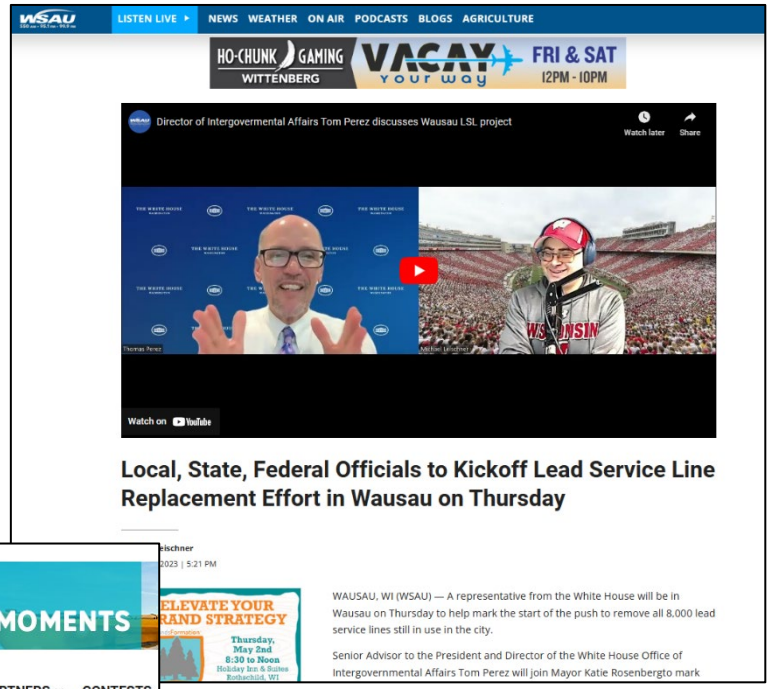


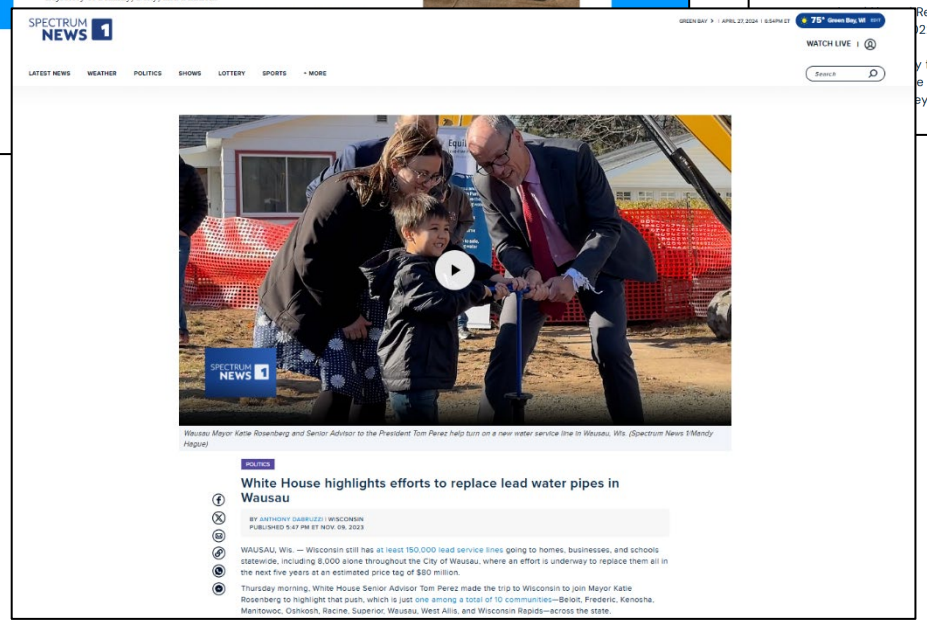


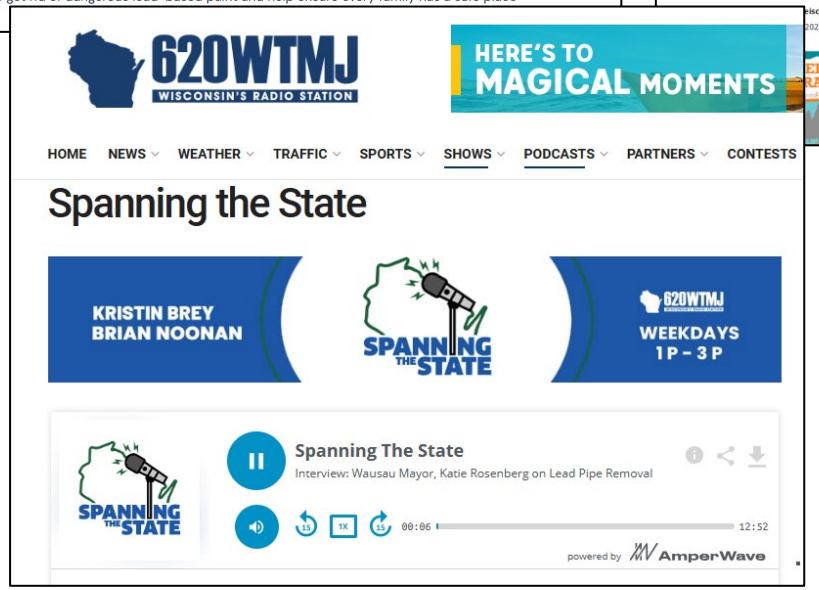
CIP COMMUNITY INFRASTRUCTURE PARTNERS

Traditional Media Examples









Other:
La Voces Latinas Podcast
Hmong Radio Spot

CIP COMMUNITY INFRASTRUCTURE PARTNERS

EquiFlow
Lead-Free Program
A City of Wausau & CIP Partnership

Next 90 Days Outreach

Mapping of Relevant Health Professionals (and Champions)

- Wausau Free Clinic; Aspirus; Bridge Clinic; Health First; etc.

Partnership with Relevant Businesses

- Identify and enlist businesses with high visibility in relevant neighborhoods and one with a vested interest in improving community health and infrastructure
  - Veranos Saludable at Tres Hermanos – Hispanic Grocery Store tour

School and Educational Partnerships

- Provide information in Wausau School District Newsletters
- Schools we plan to visit this year – GD Jones and Lincoln Elementary
- Connect with Children's Imaginarium for potential joint programming

Connect with Relevant Neighborhood Organizations

- Add EquiFlow project on neighborhood organizations' agendas: Grant; Longfellow; Southeast Side; Southwest; Jones; Werle Park; Westies
- Citizens for a Clean Wausau (https://cleanwausau.com/)

Identify and enlist "anchor" individuals in relevant neighborhoods and connect with Alderperson in relevant neighborhoods

- District 1; District 2; District 3; District 8; District 10; District 11

Upcoming Outreach Events

May 11 – MC – 50th Annual Children's Festival at Marathon Park

May 18 – Veranos Saludable at Tres Hermanos

June 1 – Lead-Free Lemonade Stand at St. Vincent De Paul

June 1 – Wausau Pride on the 400 Block

June 8 – World Cultures Day at Marathon Park

June 15 – Lead-Free Lemonade Stand at St. Vincent De Paul

June 22 – Juneteenth Celebration at Whitewater Music Hall

July 20 – Family Festival at Bridge Clinic

July 27-28 – Wausau Hmong Festival at People's State Bank Sports Complex

July 30-Aug. 4 – Wisconsin Valley Fair at Marathon Park

Next 90 Days Outreach

Marketing and PR:

- Continue CityPages Ad
- Mail a direct marketing piece to census tracks
- Produce a promotional video explaining program
- Produce an animated video in shorter clips on various topics
- Continue social media push

Media:

- Host a construction event and invite media to attend
  - Share progress report numbers showing success of program
- Work with H2N to produce radio spots on targeted channels

Construction

- Develop flyer encouraging residents to sign up for program with an urgency that we're doing work on their street
- Install yard signs about program on streets we're working on
- Produce 'what to expect' content for residents; use video of work being done to encourage more participation

Procurement

Contractor

- A pre-bid meeting was held on January 11, 2024
  - Invitation was sent to 151 firms and was also publicly advertised; 30 firms attended
- CIP conducted informal interviews with 11 firms during weeks of Jan. 15 and Jan. 22 to have a better understanding of the local market and capacity
- Bid Posted on March 21, 2024
  - 15 firms downloaded the bid
  - 8 firms submitted pre-qualifications, 6 of these firms were then pre-qualified
- A mandatory information meeting was held on April 11, 2024; 13 firms attended
- 3 teams bid on the project (MidCity, Five Star Energy Services, and a team composed of VanRite, France, Marathon, and Zilisch)
- Bids were due on April 16, 2024
- **Five Star Energy Services was awarded the contract on April 23, 2024**

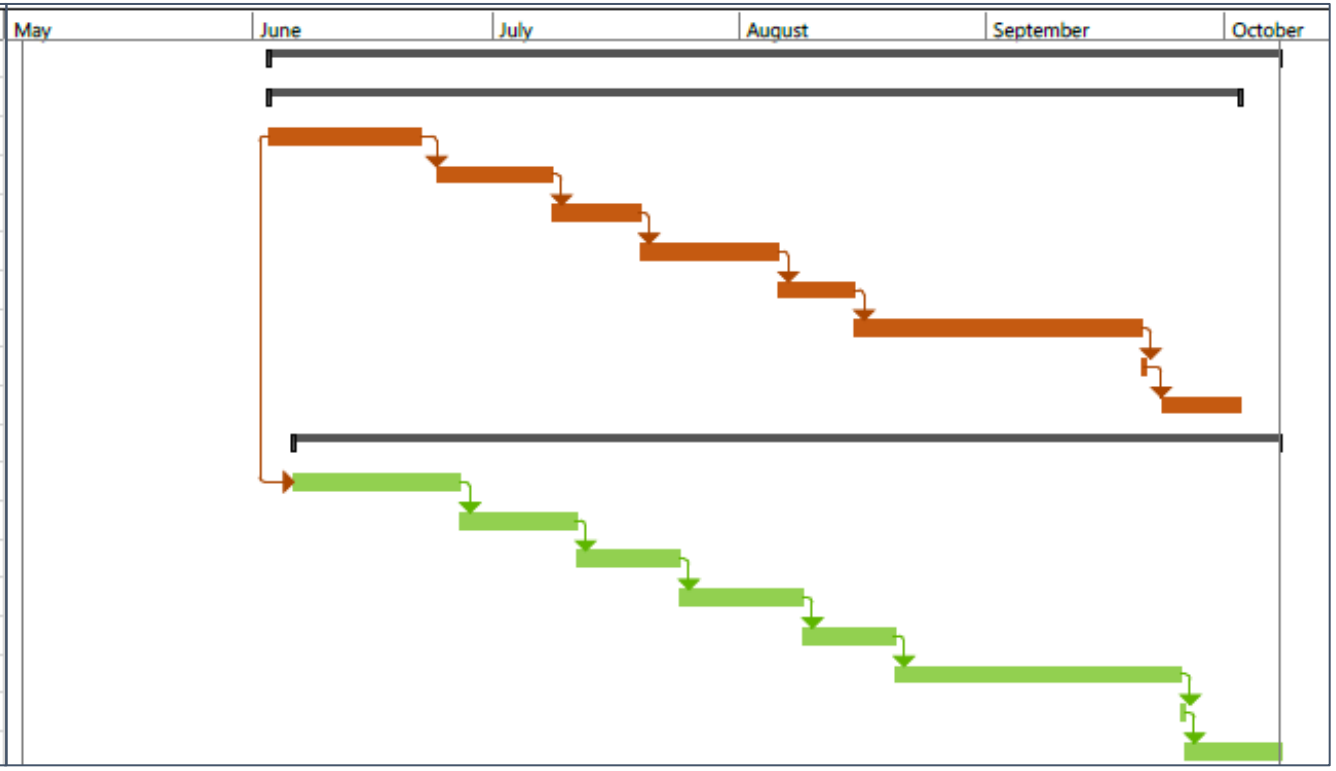
Third-Party Inspector

- RFQ was released on April 9, 2024
- Responses due by April 29, 2024
- Selection to be made on May 7, 2024

Construction Schedule

Starting along Eau Claire: 5 replacements a day.

Task Name	Duration
WAUSAU EQUIFLOW LSLR PROJECT	**89 days**
LSLR	**86 days**
KENT/EAU CLAIRE	15 days
STURGEON EDDY	9.5 days
WAUSAU EAST	9 days
EAST HOLLOWS	11.5 days
1ST AND 3RD AVE	7.5 days
WEST HOLLOWS	25 days
STENTON	0.5 days
WAUSAU WEST	8 days
RESTORATION	**86 days**
KENT/EAU CLAIRE	15 days
STURGEON EDDY	9.5 days
WAUSAU EAST	9 days
EAST HOLLOWS	11.5 days
1ST AND 3RD AVE	7.5 days
WEST HOLLOWS	25 days
STENTON	0.5 days
WAUSAU WEST	8 days



Questions?

CIP COMMUNITY INFRASTRUCTURE PARTNERS

EquiFlow
Lead-Free Program

Department of Public Works & Utilities

Eric Lindman, P.E.
Director of Public Works and Utilities

TO: Wausau Water Works Commission

FROM: Eric Lindman, P.E.
Director of Public Works & Utilities

DATE: May 7, 2024

SUBJECT: W&S Project Funding Capacity for 2025-2029

Below is a table of the projects with WDNR funding awarded and approved by the Finance Committee. The table outlines the amount of Loan and Principal Forgiveness the City is to receive. The loan portion of the projects are expected to be paid back using the proposed funding option identified in the far-right column.

WDNR Environmental Loan Fund - 2023/2024 Projects - APPROVED				
Clean Water Fund (CWF)				
Project Description	**WDNR Loan**	**WDNR PF**	**Other**	**Debt Funding**
*Stewart Ave Sewer/Force Main	$1,324,920.00	$567,823.00	$0.00	**TID**
WWTP Headworks Screening	$1,375,167.00	$3,208,723.00	$800,000.00	**User Rates**
*Eau Claire Blvd Sewer	$904,490.00	$157,010.00	$0.00	**User Rates**
Sub-Total =	**$3,604,577.00**	**$3,933,556.00**	**$800,000.00**	
Washington St Siphon Replace	$723,500.00	$0.00	$0.00	**TID**
Sub-Total =	**$723,500.00**	**$0.00**	**$0.00**	
Total All CWF Projects=	**$4,328,077.00**	**$3,933,556.00**	**$800,000.00**	
Safe Drinking Water Fund (SDWF)				
Project Description	**WDNR Loan**	**WDNR PF**	**Other**	**Debt Funding**
*LSL Replacement	$2,148,950.00	$3,641,078.00	$1,984,999.00	**TBD**
*GAC Treatment	$12,831,091.00	$4,737,025.00	$1,600,000.00	**User Rates**
Sub-Total =	**$14,980,041.00**	**$8,378,103.00**	**$3,584,999.00**	
*Eau Claire Blvd Water	$1,041,673.00	$0.00	$0.00	**User Rates**
Sub-Total =	**$1,041,673.00**	**$0.00**	**$0.00**	
Total SDWF =	**$16,021,714.00**	**$8,378,103.00**	**$3,584,999.00**	
Total All Projects CWF & SDWF =	**$20,349,791.00**	**$12,311,659.00**	**$4,384,999.00**	

**Projects currently under construction*

According to the Ehler's financial memo attached this borrowing has been included in their analysis. After the 2024 borrowing the utility has the following capacity for annual debt payments:

- Water Utility $827,000; significantly increase in 2025
- Sewer Utility $1,700,000; expected to be consistent in 2025 and beyond

The Water capacity is expected to increase significantly in 2024 as the new rates were implemented for only a portion of the year.

Our 5-year capital plan is evaluated and approved each year, we are constantly juggling conflicting priorities and many times we defer capital projects due to other unexpected expenses and issues that arise throughout the year. Our proposed capital project schedule is conservative in that it allows for some leeway, and we are not maxing out our ability to acquire debt.

The utility's highest priority right now is to start increasing staff so we can begin training and ultimately begin meeting our regulatory requirements on a consistent basis. We have fallen behind on our meter change outs, collection system inspections, uni-directional flushing requirements, our routine maintenance of equipment, just to name a few items. Sampling requirements are more extensive than in the past and with new legislation more sampling will be required by staff.

The utility definitely has capacity within our current rate structure to begin adding staff in 2024.

I have attached debt repayment schedules for you to review and the proposed schedule and costs for increasing staffing. Two of the debt schedules is strictly for the LSL Replacement project for a 5yr replacement with 10yr payback and 10yr replacement with 20yr payback. The third debt repayment schedules show the proposed drinking water and wastewater debt schedules which includes the 5-yr capital plans, LSL replacement and additional staffing.

For drinking water we are assuming a average of $1,400,000 for capital project borrowing over the next five years and adding 3-personnel over the next 3-years. It should be noted the 2024 LSL loan will be paid by GO obligation and not be paid by the utility.

For the wastewater we are assuming an average of about $1,700,000 for capital project borrowing over the next five years and adding 5-personnel over the next 3-years.

LSL Replacement - Estimated Annual Debt over 5-years

FY Funds	PF Funds	Loan Funds	Total Funding	LSL Services Replaced	Annual Debt Repayment (10 yr)	Cumulative Debt Repayment (10 yr)
2024	$3,641,078	$2,148,950	$5,790,028	600	($215,387.78)	($215,387.78)
2025	$5,670,000	$3,330,000	$9,000,000	1500	($333,763.60)	($549,151.38)
2026	$5,670,000	$3,330,000	$9,000,000	1500	($333,763.60)	($882,914.98)
2027	$4,500,000	$4,500,000	$9,000,000	2000	($451,031.89)	($1,333,946.87)
2028	$4,500,000	$4,500,000	$9,000,000	2000	($451,031.89)	($1,784,978.77)
2029						($1,784,978.77)
2030						($1,784,978.77)
2031						($1,784,978.77)
2032						($1,784,978.77)
2033						($1,784,978.77)
2034						($1,569,590.99)
2035						($1,235,827.39)
2036						($902,063.79)
2037						($451,031.89)
2038						$0.00
	$23,981,078	**$17,808,950**	**$41,790,028**	**7600**		

LSL Replacement - Estimated Annual Debt Accumulation over 10-years

FY Funds	PF Funds	Loan Funds	Total Funding	LSL Services Replaced	Annual Debt Repayment (20 yr)	Cumulative Debt Repayment (20 yr)
2024	$3,641,078	$2,148,950	$5,790,028	750	($107,918.20)	($107,918.20)
2025	$3,780,000	$2,220,000	$6,000,000	800	($111,486.27)	($219,404.47)
2026	$3,780,000	$2,220,000	$6,000,000	800	($111,486.27)	($330,890.73)
2027	$3,000,000	$3,000,000	$6,000,000	750	($150,657.12)	($481,547.85)
2028	$3,000,000	$3,000,000	$6,000,000	750	($150,657.12)	($632,204.97)
2029	$1,000,000	$5,000,000	$6,000,000	750	($251,095.19)	($883,300.16)
2030	$1,000,000	$5,000,000	$6,000,000	750	($251,095.19)	($1,134,395.35)
2031	$1,000,000	$5,000,000	$6,000,000	750	($251,095.19)	($1,385,490.54)
2032	$1,000,000	$5,000,000	$6,000,000	750	($251,095.19)	($1,636,585.74)
2033	$1,000,000	$5,000,000	$6,000,000	750	($251,095.19)	($1,887,680.93)
2034						($1,887,680.93)
2035						($1,887,680.93)
2036						($1,887,680.93)
2037						($1,887,680.93)
2038						($1,887,680.93)
2039						($1,887,680.93)
2040						($1,887,680.93)
2041						($1,887,680.93)
2042						($1,887,680.93)
2043						($1,887,680.93)
2044						($1,779,762.73)
2045						($1,668,276.46)
2046						($1,556,790.20)
2047						($1,406,133.08)
2048						($1,255,475.96)
2049						($1,004,380.77)
2050						($753,285.58)
2051						($502,190.39)
2052						($251,095.19)
2053						$0.00
	$22,201,078	**$37,588,950**	**$59,790,028**	**7600**		

Drinking Water Projects & Staffing

Project	Grant/PF	Loan
Solar	$797,877	$1,778,380
2024 Capital		$42,000
2025 Capital	$5,670,000	$1,572,000
2026 Capital	$5,670,000	$1,653,000
2027 Capital	$4,500,000	$1,653,000
2028 Capital	$4,500,000	$1,653,000

Drinking Water Capital Projects & Staffing - Estimated Annual Debt over 5-years

FY Funds	PF Funds	Loan Funds	Total Funding	Annual Debt Repayment (10 yr)	Cumulative Debt Repayment (10 yr)
2024	$3,641,078	$3,927,330	$7,568,408	($393,633.58)	($393,633.58)
2025	$5,670,000	$4,902,000	$10,572,000	($491,324.08)	($884,957.65)
2027	$4,500,000	$4,983,000	$9,483,000	($499,442.65)	($1,883,842.95)
2028	$4,500,000	$4,983,000	$9,483,000	($499,442.65)	($2,383,285.61)
2029					($2,383,285.61)
2030					($2,383,285.61)
2031					($2,383,285.61)
2032					($2,383,285.61)
2033					($2,383,285.61)
2034					($1,989,652.03)
2035					($1,498,327.95)
2036					($998,885.30)
2037					($499,442.65)
2038					$0.00
	$23,981,078	**$23,778,330**	**$47,759,408**		

Wastewater Projects & Staffing

Project	Grant/PF	Loan
2024 Capital		$88,000
2025 Capital		$2,250,000
2026 Capital		$1,656,000
2027 Capital		$2,336,000
2028 Capital		$2,316,000

Wastewater Capital Projects & Staffing - Estimated Annual Debt over 5-years

FY Funds	PF Funds	Loan Funds	Total Funding	Annual Debt Repayment (10 yr)	Cumulative Debt Repayment (10 yr)
2024		$88,000	$88,000	($8,820.18)	($8,820.18)
2025		$2,250,000	$2,250,000	($225,515.95)	($234,336.13)
2026		$1,656,000	$1,656,000	($165,979.74)	($400,315.86)
2027		$2,336,000	$2,336,000	($234,135.67)	($634,451.53)
2028		$2,316,000	$2,316,000	($232,131.08)	($866,582.61)
2029					($866,582.61)
2030					($866,582.61)
2031					($866,582.61)
2032					($866,582.61)
2033					($866,582.61)
2034					($857,762.43)
2035					($632,246.49)
2036					($466,266.75)
2037					($232,131.08)
2038					$0.00
	$0	**$8,646,000**	**$8,646,000**		

Drinking Water - Additional Positions				
	Proposed Pay Grade And Salary			2024 Budget Increase
	Pay Grade	Salary	Wage	Salary
13336 Water Plant Operation Technician	18	57,636.80	27.71	80,691.52
		Total 2024 =		80,691.52
	Proposed Pay Grade And Salary			2025 Budget Increase
	Pay Grade	Salary	Wage	Salary
Water Plant Operation Supervisor	16	67,870.40	32.63	95,018.56
		Total 2025 =		95,018.56
	Proposed Pay Grade And Salary			2026 Budget Increase
	Pay Grade	Salary	Wage	Salary
13336 Water Plant Operation Technician	18	57,636.80	27.71	80,691.52
		Total 2026 =		80,691.52

Wastewater - Additional Positions				
	Proposed Pay Grade And Salary			2024 Budget Increase
	Pay Grade	Salary	Wage	Salary
Lead Collection System Technician	16	67,870.40	32.63	95,018.56
Wastewater Plant Operations Technician	18	57,636.80	27.71	80,691.52
		Total 2024 =		175,710.08
	Proposed Pay Grade And Salary			2025 Budget Increase
	Pay Grade	Salary	Wage	Salary
Wastewater Plant Operations Technician	18	57,636.80	27.71	80,691.52
		Total 2025 =		80,691.52
	Proposed Pay Grade And Salary			2026 Budget Increase
	Pay Grade	Salary	Wage	Salary
Wastewater Plant Operations Technician	18	57,636.80	27.71	80,691.52
Wastewater Plant Operations Technician	18	57,636.80	27.71	80,691.52
		Total 2026 =		161,383.04

MEMORANDUM

TO: City of Wausau, WI Water Works Commission

FROM: Brian Roemer, Senior Municipal Advisor, Ehlers

DATE: April 10, 2024

SUBJECT: 2024 Environmental Improvement Fund Program Loans

In late 2023 the City of Wausau, WI requested Ehlers complete a Long-Range Cash Flow Analysis in 2024 for the Water and Sewer Utilities. Part of the analysis is to identify the ability to fund upcoming capital projects including the anticipated Safe Drinking Water Fund and Clean Water Fund Loans through the Wisconsin Department of Natural Resources. Prior to this engagement Ehlers has completed the following analysis for the utilities:

- 2020 Water and Sewer Rate Studies which included a Conventional Rate Case through the Wisconsin Public Service Commission for the Water Utility
- 2023 Water and Sewer Rate Studies which included a Conventional Rate Case through the Wisconsin Public Service Commission for the Water Utility

The WI DNR EIF program offers funding for necessary utility infrastructure in a competitive process against other municipalities based on a scoring system. Upon qualification and acceptance through the WI DNR the utilities can receive principal forgiveness (grant funding) and subsidized interest rates for up to 30 years pending the design life of the individual project. The loans are not prepayable and therefore many communities will issue the loans pledging the revenues of the utility system (absent any other abatement sources) rather than pledging a General Obligation pledge to secure their General Obligation borrowing capacity. As a revenue bond and in order to secure the funding through the WI DNR program the utility must prove at the time of loan closing it has adequate revenues available for debt service through the Additional Bonds Test. Wherein based on the last fiscal year revenues available for debt service are set to the amount designated in the originating revenue bond resolution above existing and projected debt service (of the loan in question). As depicted in Appendix A and B both utilities meet the Additional Bonds Test based on the loan amounts furnished by City staff on April 9, 2024 and no utility rate adjustments are necessary to close the loans. From this point forward the City will coordinate with Ehlers, Donahue (engineering firm), Bond Counsel (Quarles), and the state to finalize loan documents to presented to Council for their acceptance at a later date likely a May or June meeting.

Beyond the 2024 EIF Loans, the 2024 Long-Range Cash Flow Analysis is intended to:

- Continue to analyze the utilities ability to fund existing and projected obligations.
- Analyze the impacts of the operation budget increases for adding staff as was recommended by the Baker Tilly Staffing Assessment.
- Make recommendations on revenue adjustments as necessary.
- Identify the impacts of the recommendations to rate payers as necessary.

Based on the discussion at the 11/21/2023 Council meeting this analysis will be delivered in August 2024.

Mock DOA Financial Review

City of Wausau, WI

	Audited 2021	Audited 2022	Draft 2023	CNR (as needed) 2023
Water System Revenues				
Sale of Water	7,366,396.00	7,292,532.00	9,946,632.00	12,231,775.00
Other Water Revenue	250,443.00	207,057.00	179,000.00	179,000.00
Interest Income	657.00	36,416.00	10,000.00	10,000.00
Total "Gross Earnings"	7,617,496.00	7,536,005.00	10,135,632.00	12,420,775.00
Water & Sewer System Expenses				
Operation & maintenance	3,457,837.00	3,600,395.00	4,542,495.00	4,542,495.00
Total "Current Expenses"	3,457,837.00	3,600,395.00	4,542,495.00	4,542,495.00
Net Revs Available for Debt Service	4,159,659.00	3,935,610.00	5,593,137.00	7,878,280.00

Sewer Revenue Debt Issues	**2025 MAX DS Prin & Int**	**Required Debt Cover**
$4,815,000, Commericial Market, Series 2017C	489,875.00	110%
$2,695,000, Commercial Market, Series 2019D	177,131.26	110%
$43,399,238, SDWFLP, Proj. No. 4930-09	2,865,389.31	110%
$13,000,000, SDWFLP, Proj. No. 4930-19	800,549.69	110%
reserved	0.00	
Max Annual Debt Service	4,332,945.26	

Net Revenues / Max Annual Debt Service --> 5,593,137.00 / 4,332,945.26 = 129.08% Debt Coverage

Conclusion: need Net Revenues of at least --> 4,766,239.70 (4,332,945.26 x 110%) to meet Debt Coverage Test

Net Revenues Excess or (Shortfall) --> 826,897.21

Annual Debt Service Schedule

City of Wausau, WI

	Year	Commericial Market Water Rev $4,815,000 Series 2017C Dated 12/05/2017	Commercial Market Water Rev $2,695,000 Series 2019D Dated 10/01/2019	SDWFLP Water Rev $43,399,238 Proj. No. 4930-09 Dated 5/3/2017	SDWFLP Water Rev $13,000,000 Proj. No. 4930-19 Dated 6/26/2024	Annual Debt Service Total	
1	2024	491,375.00	176,831.26	2,863,230.63	96,822.92	3,628,259.81	
2	2025	489,875.00	177,131.26	2,865,389.31	800,549.69	4,332,945.26	**MAX Annual**
3	2026	487,775.00	172,331.26	2,865,051.37	800,428.36	4,325,585.99	
4	2027	151,875.00	172,431.26	2,864,707.47	800,304.45	3,989,318.18	
5	2028	148,025.00	168,056.26	2,864,357.54	800,177.87	3,980,616.67	
6	2029	154,575.00	169,231.26	2,864,001.43	800,048.58	3,987,856.27	
7	2030	150,975.00	165,981.26	2,863,639.05	799,916.51	3,980,511.82	
8	2031	147,375.00	168,246.88	2,863,270.30	799,781.61	3,978,673.79	
9	2032	153,625.00	170,237.50	2,862,895.07	799,643.81	3,986,401.38	
10	2033	149,725.00	172,031.25	2,862,513.22	799,503.06	3,983,772.53	
11	2034	155,675.00	173,525.00	2,862,124.66	799,359.29	3,990,683.95	
12	2035	151,475.00	169,775.00	2,861,729.26	799,212.44	3,982,191.70	
13	2036	157,031.25	170,962.50	2,861,326.89	799,062.44	3,988,383.08	
14	2037	152,343.75	176,756.25	2,860,917.45	798,909.22	3,988,926.67	
15	2038		177,150.00	2,860,500.80	798,752.71	3,836,403.51	
16	2039		177,406.25	2,860,076.82	798,592.84	3,836,075.91	
17	2040			2,859,645.37	798,429.55	3,658,074.92	
18	2041				798,262.75	798,262.75	
19	2042				798,092.38	798,092.38	
20	2043				797,918.35	797,918.35	
21	2044				797,740.59	797,740.59	
22	2045				-	-	
23	2046				-	-	
24	2047				-	-	
25	2048				-	-	
26	2049				-	-	
27	2050				-	-	
28	2051				-	-	
29	2052				-	-	
30	2053				-	-	
31	2054				-	-	
32	2055				-	-	
33	2056				-	-	
34	2057				-	-	
35	2058				-	-	
36	2059				-	-	
37	2060				-	-	
38	2061				-	-	
39	2062				-	-	
40	2063				-	-	
41	2064				-	-	
	Total	3,141,725.00	2,758,084.45	48,665,376.64	16,081,509.42	70,646,695.51	

Mock DOA Financial Review

City of Wausau, WI

	Audited 2021	Audited 2022	Draft 2023
Sewer System Revenues			
Sales of Sewer	8,033,614.00	9,494,966.00	11,388,391.00
Other Sewer Revenue	8,674.00	2,173.00	
Interest Income	1,051.00	52,160.00	
Total "Gross Earnings"	8,043,339.00	9,549,299.00	11,388,391.00
Sewer System Expenses			
Operation & maintenance	3,536,956.00	4,335,722.00	3,865,934.34
Payroll Taxes			
Total "Current Expenses"	3,536,956.00	4,335,722.00	3,865,934.34
Net Revs Available for Debt Service	4,506,383.00	5,213,577.00	7,522,456.66

Sewer Revenue Debt Issues	**2025 MAX DS Prin & Int**	**Required Debt Cover**
$6,225,000, Commericial Market, Series 2017D	703,000.00	110%
$6,530,000, Commercial Market, Series 2019C	428,325.00	110%
$84,069,220, CWFLP, Proj. No. 4138-05	3,862,197.14	110%
$3,600,000, CWFLP, Series 2024	225,377.87	110%
reserved	0.00	
Max Annual Debt Service	5,218,900.01	

Net Revenues / Max Annual Debt Service --> 7,522,456.66 / 5,218,900.01 = 144.14% Debt Coverage

Conclusion: need Net Revenues of at least --> 5,740,790.01 (5,218,900.01 x 110%) to meet Debt Coverage Test

Net Revenues Excess or (Shortfall) --> 1,781,666.65

Annual Debt Service Schedule

City of Wausau, WI

	Year	Commericial Market Sewer Rev $6,225,000 Series 2017D Dated 12/5/2017	Commercial Market Sewer Rev $6,530,000 Series 2019C Dated 10/1/2019	CWFLP Sewer Rev $84,069,220 Proj. No. 4138-05 6/24/2020	CWFLP Sewer Rev $3,600,000 Series 2024 Dated 6/26/2024	Annual Debt Service Total	
1	2024	702,700.00	434,825.00	3,862,609.00	29,012.50	5,029,146.50	
2	2025	703,000.00	428,325.00	3,862,197.14	225,377.87	5,218,900.01	**MAX Annual**
3	2026	643,500.00	421,625.00	3,861,777.57	225,339.22	5,152,241.79	
4	2027	124,800.00	414,725.00	3,861,350.16	225,299.68	4,626,174.84	
5	2028	131,500.00	409,150.00	3,860,914.75	225,259.22	4,626,823.97	
6	2029	128,500.00	409,850.00	3,860,471.20	225,217.81	4,624,039.01	
7	2030	125,500.00	406,925.00	3,860,019.36	225,175.44	4,617,619.80	
8	2031	122,500.00	410,218.75	3,859,559.07	225,132.10	4,617,409.92	
9	2032	129,350.00	412,887.50	3,859,090.18	225,087.76	4,626,415.44	
10	2033	126,050.00	410,181.25	3,858,612.51	225,042.37	4,619,886.13	
11	2034	122,750.00	416,800.00	3,858,125.92	224,995.93	4,622,671.85	
12	2035	129,300.00	417,675.00	3,857,630.23	224,948.42	4,629,553.65	
13	2036	125,625.00	418,300.00	3,857,125.26	224,899.80	4,625,950.06	
14	2037	121,875.00	423,118.75	3,856,610.85	224,850.06	4,626,454.66	
15	2038		422,118.75	3,856,086.82	224,799.15	4,503,004.72	
16	2039		425,775.00	3,855,552.99	224,747.07	4,506,075.06	
17	2040			3,855,009.18	224,693.79	4,079,702.97	
18	2041			3,854,455.20	224,639.26	4,079,094.46	
19	2042			3,853,890.86	224,583.46	4,078,474.32	
20	2043			3,853,315.98	224,526.38	4,077,842.36	
21	2044			3,852,730.33	224,467.97	4,077,198.30	
22	2045			3,852,133.73	-	3,852,133.73	
23	2046			3,851,525.98	-	3,851,525.98	
24	2047			3,850,906.86	-	3,850,906.86	
25	2048			3,850,276.17	-	3,850,276.17	
26	2049			3,849,633.69	-	3,849,633.69	
27	2050			3,848,979.19	-	3,848,979.19	
28	2051				-	-	
29	2052				-	-	
30	2053				-	-	
31	2054				-	-	
32	2055				-	-	
33	2056				-	-	
34	2057				-	-	
35	2058				-	-	
36	2059				-	-	
37	2060				-	-	
38	2061				-	-	
39	2062				-	-	
40	2063				-	-	
41	2064				-	-	
	Total	3,436,950.00	6,682,500.00	104,120,590.18	4,528,095.26	118,768,135.44	

WAUSAU WATER WORKS - DRINKING WATER DIVISION
CAPITAL PLAN - CAPITAL ASSETS 2024-2029

4/20/2023

IMPROVEMENTS/PROJECTS	COST EST 2024-2029	FUND SOURCE	2024	2025	2026	2027	2028	2029	Comments
WATER TREATMENT PLANT									
	0	BORROW							
SUBTOTAL	$0		$0	$0	$0	$0	$0	$0	
TOWERS/ RESERVOIRS/ BOOSTER STATIONS									
GENERATOR - ONSITE (W. WAUSAU)	0						0	0	ARPA In 2023
SCADA UPGRADES - BOOSTER STNS	360,000	BORROW		360,000					
Elm Booster Station Reconstruction	560,000	BORROW		60,000		500,000			
MONROE BOOSTER STATION RECONSTRUCTION	560,000	BORROW	60,000		500,000				
SUBTOTAL	$1,480,000		$60,000	$420,000	$500,000	$500,000	$0	$0	
WELLS									
FUTURE WELL	650,000	BORROW					0	650,000	
	0								
SUBTOTAL	$650,000		$0	$0	$0	$0	$0	$650,000	
TOOLS, SHOP AND GARAGE									
BACKHOE/ WHEELED EXCAVATOR	$505,000	BORROW			180,000	325,000	0	0	
Valve Turner/ VAC	150,000	BORROW					150,000		
SUBTOTAL	$655,000		$0	$0	$180,000	$325,000	$150,000	$0	
DISTRIBUTION/SUPPLY MAINS									
STREET PROJECTS									
Emerson Street, EauClaire to Kent	20,000	BORROW	20,000						
Mount View Blvd., EauClaire to Kent	20,000	BORROW	20,000						
Pied Piper Lane, EC to Kent	40,000	BORROW	40,000						
Eau Claire BLVD	510,000	BORROW	510,000						
Short Street, N 1st St to N 3rd St	0								
Stewart Ave (1), 48th Ave-72nd Ave	0								
W. Randolph (Burek to Merrill)	982,300	BORROW		982,300					
Cherry Street, W Wausau Ave to Randolph St	752,400	BORROW		752,400					
Fulton Street (2), N 1st St to N 7th St	530,400	TID		530,400					
2nd St. / Dekalb	163,136	BORROW		163,136					
1st Street/River Drive (3), McIndoe St - 300' N of Fulton	89,000	TID		89,000					
Stark St (5th St- 12th St)	731,000	BORROW			731,000				
28th Ave (4), Westhill Dr to W Wausau Ave	0	TID			TBD				
N 8th Ave (5), Spruce St to Bridge St	350,000	TID			350,000				
West Wausau Ave (6), N 10th Ave to Stevens Drive	242,000	BORROW			242,000				
S. 11th Ave (W. Thomas to Flieth)	404,000	BORROW				404,000			
Ethel St, Grand Ave to Zimmerman St	791,000	BORROW				791,000			
N 9th Ave, Elm St to Bridge St	695,000	BORROW					695,000		
N 11th St, E Crocker to Sylvan St	264,000	BORROW					264,000		
3rd Ave, W Eldred St to Randolph St	160,000	BORROW					160,000		
W Eldred Street, N 3rd Ave to N 1st Ave	136,000	BORROW					136,000		
SUBTOTAL	$6,880,236		$590,000	$2,517,236	$1,323,000	$1,195,000	$1,255,000	$0	
GENERAL DISTRIBUTION PROJECTS									
Stewart Ave Looping-12"-60/68 Ave.	315,000	TID	315,000						TID Funded
Looping main Stettin Dr. Stewart to the Park	160,000	BORROW			160,000				
Looping Main Stettin Drive, 48th Ave to 52nd Ave	260,000	BORROW				260,000	0	0	
14" WM Replace (Elm St; 14th- 17th Ave & 17th Ave; Elm St to HWY)	450,000	TID	450,000						TID Funded
LSL Replacements (Public Side)	0	BORROW							Match for DNR funding
14" WM Extension Bugbee & Campus	0	ARPA or IIJA							05/18/21 ARPA or IIJA funding?
Misc Extensions	0	BORROW							
SUBTOTAL	$1,185,000		$765,000	$0	$160,000	$260,000	$0	$0	
TOTAL CAPITAL	**$10,850,236**		**$1,415,000**	**$2,937,236**	**$2,163,000**	**$2,280,000**	**$1,405,000**	**$650,000**	
CUMULITIVE CAPITAL			$1,415,000	$4,352,236	$6,515,236	$8,795,236	$10,200,236	$10,850,236	

WATER CIP FUNDING

	2024	2025	2026	2027	2028	2029
OP FUNDS	$0	$0	$0	$0	$0	$0
POSSIBLE ARPA or IIJA	$0	$0	$0	$0	$0	$0
ARPA	$0	$0	$0	$0	$0	$0
TID	$765,000	$619,400	$350,000	$0	$0	$0
BORROW	$650,000	$2,317,836	$1,813,000	$2,280,000	$1,405,000	$650,000
FUNDS TOTAL	$1,415,000	$2,937,236	$2,163,000	$2,280,000	$1,405,000	$650,000

WAUSAU WATER WORKS - WASTEWATER DIVISION 5/1/2024
CAPITAL PLAN - CAPITAL ASSETS 2023-2029

IMPROVEMENTS/PROJECTS	COST EST 2023-2029	FUND SOURCE	2023	2024	2025	2026	2027	2028	2029	Comments (5/1/2024)
WWTF IMPROVEMENTS:										
Headworks upgrade:	1,375,167	BORROW		1,375,167						$1,375,167 (Loan) and $3,208,723 (Grant) and **$800,00 (ARPA in 2024)**
Cellular/Wifi Amplification throughout WWTP:	300,000	BORROW			300,000					Moved from 2023 to 2025. RFP is needed for this project
Sludge Barn floor replacement:	-									No longer needed, Barn floor replaced with asphalt in 2022
ACS System for Dryer Condenser & Stairs	141,000	BORROW				141,000				Automatic Cleaning System to clean dryer condenser along w/ staircase to access top of condenser
Str. 770 loadout staircase & catwalk	80,000	BORROW			80,000					Elevated catwalk w/ staircase to service loadout motors
Str. 115 Cold Storage Garage full remodel	100,000	BORROW							100,000	Full Exterior remodel of cold storage building on Adrian St.
SUBTOTAL	1,996,167		-	1,375,167	380,000	141,000	-	-	100,000	
SEWER LIFT STATIONS										Set of 4 Lift Sttns per study. Report, design & preconst mtgs.
Lift Station Engineering Report & Design:	400,000	BORROW		150,000		250,000				2024: Add $150K for Eng. to relocate of Crocker L/S.
Airport Lift Station upgrade:	700,000	BIL			700,000					Possible BIL Funding
Greenwood Hills & Northwestern LS upgrades:	921,526	BORROW	400,000	521,525.92						2024: Add $521,525.92 for a total project cost= $921,525.92
Cherry & Crocker St. lift station upgrades:	1,700,000	BIL		1,700,000						Possible BIL or WDNR CWF Funding
24th & 44th Ave LS Upgrades	1,100,000	BIL					1,100,000			Possible BIL Funding
Industrial Park LS Parallel Force Main	800,000	BORROW						800,000		07/26/22 Moved 2027 to 2028, inspect condition of existing FM
32nd Ave lift station upgrade:	600,000	BIL				600,000				Possible BIL Funding
All Lift Station Communications Radio upgrade	165,000	BORROW				165,000				Energenecs to replace communications radio's at all lift stations
SUBTOTAL	6,386,526		400,000	2,371,526	700,000	1,015,000	1,100,000	800,000		5,586,526
TRANSPORTATION/EQUIPMENT										
Dump truck or Sludge Hauling Eqpt.	240,000	BORROW			120,000		120,000			Keep until Class A sludge destination is known
TV truck, lateral launch/Software & Trimble GPS	550,000	BORROW		550,000						Ordered 2024; Total cost= $550,000. includes first year of service pkg.
Bobcat toolcat or Skidsteer w/attachments	120,000	BORROW				120,000				
SUBTOTAL	910,000		-	550,000	120,000	120,000	120,000	-	-	
COLLECTION INFRASTRUCTURE										
Street Projects										
Pied Piper Lane, EC to Kent	30,000	BORROW		30,000						
Eau Claire BLVD	280,000	ARPA or IIJA		280,000						12/28/21 IIJA GRANT?
North 10th Ave (Oak St. to West Wausau Ave.)	320,000	ARPA	320,000							ARPA Funded
Grant St (6th St to 7th St)	85,000	ARPA	85,000							ARPA Funded
Stark St. (5th St- 12th St)	800,000	BORROW				800,000				Moved from 2025 to 2026
Hennrietta St (Bellis St - 13th St)	200,000	ARPA	200,000							ARPA Funded
Fulton Street (1): (N.1st St to N. 7th St)	371,030	TID 3			371,030					2025 Project: TJ est.=$337,300, 10% contigency added
North 17th Ave, Stewart Ave to Elm St.	200,000	TID	200,000							TID Funded
Cherry St. (W. Wausau Ave.-Randolph St.)	854,700	BORROW			854,700					2025 Project. TJ est.=$777K, 10% contigency added
West Randoph St. (Burek - Merrill)	712,030	BORROW			712,030					2025 Project. TJ est.=$647,300, 10% contigency added
1st St/River Drive(2): McIndoe St.- 300ft N. of Fulton)	37,455	BORROW			37,455					2025 Project. TJ est.=$34,050, 10% contigency added
2nd Street / Dekalb	221,293	BORROW			221,293					2025 Project. TJ est.=$201,175, 10% contigency added
28th Ave.(3): Westhill Drive-W. Wausau Ave.)	-									2026 Project. TJ to provide sewer cost
N. 8th Ave (4): (Spruce St.-Bridge St.)	-									2026? Project funding & TID. TJ to provide sewer cost
West Wausau Ave: (N.10th Ave - Stevens Drive	-									2026 Project. TJ to provide sewer cost
S. 11th Ave. (W. Thomas - Flieth)	-									2027 Project. TJ to provide sewer cost
Ethel St. (Grand Ave. - Zimmerman St.)	-									2027 Project. TJ to provide sewer cost
N. 9th Ave. (Elm St. - Bridge St.)	-									2028 Project. TJ to provide sewer cost
N. 11th St. (E. Crocker - Sylvan St.)	-									2028 Project. TJ to provide sewer cost
3rd Ave. (W. Eldred St. - Randolph St.)	-									2028 Project. TJ to provide sewer cost
W. Eldred St. (N. 3rd Ave. - N. 1st Ave.)	-									2028 Project. TJ to provide sewer cost
Brown St. (5th St. - 13th St.)	-									2029 Project. TJ to provide sewer cost
Forest St. (Bellis St. - 12th St.)	-									2029 Project. TJ to provide sewer cost
12th St. (Forest St. - Jackson St.)	-									2029 Project. TJ to provide sewer cost
Garfield Ave. (Marathon Park - 3rd Ave.)	-									2029 Project. TJ to provide sewer cost
SUBTOTAL	4,111,508		805,000	310,000	2,196,508	800,000	-	-	-	
Proposed Developments/Extensions										
Northwestern Avenue (Higgenbotham)	120,000	BORROW				120,000				05/17/21 Moved from 2022 to 2026
SUBTOTAL	120,000		-	-	-	120,000	-	-	-	
Sewer Collection System Projects										
Stewart Ave Force Main & Sewer Improvement	1,700,000	TID	200,000	1,500,000						TID Funded
River Crossing (Washington St Siphon)	-	BORROW								
Unanticipated Sewer Projects	1,050,000	BORROW	150,000	150,000	150,000	150,000	150,000	150,000	150,000	
SUBTOTAL	**2,750,000**		**350,000**	**1,650,000**	**150,000**	**150,000**	**150,000**	**150,000**	**150,000**	
TOTAL PLANNED CAPITAL	**16,274,201**		$1,555,000	$6,256,693	$3,546,508	$2,346,000	$1,370,000	$950,000	$250,000	
TOTAL CAPITAL BORROWING:			$550,000	$4,756,693	$2,475,478	$1,746,000	$270,000	$950,000	$250,000	TID & ARPA funded projects deducted from Total Planned Capital, not IIJA Grant projects
CUMULITIVE CAPITAL			$1,005,000	$1,500,000	$1,071,030	$600,000	$1,100,000	$0	$0	

SEWER CIP FUNDING

	2023	2024	2025	2026	2027	2028	2029
OP FUNDS	$0	$0	$371,030	$0	$0	$0	$0
POSSIBLE ARPA or IIJA	$0	$280,000	$0	$0	$0	$0	$0
ARPA	$605,000	$0	$0	$0	$0	$0	$0
TID	$400,000	$1,500,000	$0	$0	$0	$0	$0
POSSIBLE BIL	$0	$1,700,000	$700,000	$600,000	$1,100,000	$0	$0
BORROW	$550,000	$2,776,693	$2,475,478	$1,746,000	$270,000	$950,000	$250,000
PROJ TOTAL	$1,555,000	$6,256,693	$3,546,508	$2,346,000	$1,370,000	$950,000	$250,000

Department of Public Works & Utilities

Eric Lindman, P.E.
Director of Public Works and Utilities

TO: Wausau Water Works Commission

FROM: Eric Lindman, P.E.
Director of Public Works & Utilities

DATE: May 7, 2024

SUBJECT: LSL Replacement Ordinance – Language Revisions and Considerations

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Attached is the latest version of the Lead Service Lateral (LSL) Replacement Ordinance. A summary of the questions posed from the Commission during the past several Water Works Commission meetings are as follows:

- Is the ordinance required by the US EPA Lead & Copper Rule (LCR)? *No, an LSL Replacement Ordinance is not required at this time by the (LCR), unless the Commission wants to use user rates to pay any loans related to private side LSL replacement. However, the ordinance would provide us additional points when requesting funding from the State/Feds/DNR for the LSL replacement project. Further, without an ordinance any loans would need to be paid back using "other "funding.*
- What is the benefit and need to having an LSL ordinance? Should t*he Commission want to use user rates to pay any loans related to private side LSL replacement an ordinance would need to be in place AND the PSC would need to formally approve the ordinance and use of funds. The ordinance would provide additional points through the WDNR SDW loan program for the LSL replacement project. Further, without an ordinance any loans would need to be paid back using "other "funding. In addition, the WDNR SDW program stated that if using their funding no partial replacements may be done, even if the LCR allows an exception. Each entity we are working with is establishing their own criteria.*
- What is the City's/Utility's role to pay for the customer side LSL? *There is no requirement for the utility or the city to pay for the private side LSL. From past experience, if the City requires the homeowner to bear the cost of replacement, there will be fewer participants. Some funding options are laid out later in this memo.*
- Who is responsible for setting the policy on how private LSLs are to be paid? *Ultimately, the Common Council would have final approval over any policy the Commission recommends. If the Commission wants to recommend a policy be set, they would send that policy to the Finance Committee and the Finance Committee would provide a recommendation to the Common Council. The policy likely would be an ordinance. The reason both the Finance Committee and the Common Council would need to provide the final recommendation and approval is because the policy involves borrowing/loans.*

- What does funding look like in future years? *This is a difficult question to answer because grant opportunities and loan options may vary from year to year. However, 2025 funding is likely to be a similar percentage split as 2024, 63% principal forgiveness (PF) & 37% loan. Future years are more likely to be 50% PF & 50% loan because we will be working in non-LMI census tracts so the PF calculation is likely to be less. Bids were received with favorable pricing for the next 3-years, so the amount of overall loan/PF has been updated in the ordinance document. I have also included an attachment of the predictions on funding and possible debt payments for a 5-year replacement program and a 10 year replacement program. These are estimates as the amount of funding each year is unknown.*
- Will replacements be required and when? *Currently the Lead and Copper Rule Improvement (LCRI) does "require" the replacement of the public and private side LSL, and no partial replacements are allowed. The only exception is for planned infrastructure work (Street reconstruction) not solely for LSL replacement and emergency repairs of infrastructure. But because the SDW loan program does not allow partial replacement with DNR funding, this exception will not be allowed on our street reconstruction projects. The LCRI also reduces the lead action level from 15ppb to 10ppb and requires both 1st & 5th liter sampling. The LCRI establishes that a Community Water System needs to establish a 10-year replacement plan.*

Funding options for Private side LSL Replacement. **(Possible options for 13.66.080)**

1. City may use general obligation to pay back the loan portion of the funding.
2. City approves an ordinance, receives PSC approval, and uses user rates to pay 50% of the cost. Remaining 50% paid by other fund source.
3. City may set up special assessments/loans for the homeowner to pay back. There are many options to consider with this type of structure:
    a. City sets homeowner obligation amount (percentage or fixed amount) and uses a special assessment for homeowner to pay all or portion of their replacement.
    b. City may determine time frame to have the loan paid back or may defer the payment to a future year.
    c. City may decide to have payment due upon sale of home, or payment to begin in 3-years with a pay back time of 5-years. There are many options to consider.
4. A provision regarding rental property may want to be considered. Rental properties are businesses and not owner-occupied properties. Thus, it may be appropriate to separate these properties out and require the landlord pay their portion of the LSL replacement.
5. All known day cares and schools to date do not have LSL's on the public or the private side. If new day cares are formed, then this could change. So it may be a good idea to have a requirement that a property may not be a day care until the LSL is replaced.

Goals/Plans for future years of LSL Replacement.

- 2025 – 1500 LSL's and focus on full lead line locations, both public/private still in place.
- 2026 – 1500 LSL's and focus on full lead line locations, both public/private still in place. This should complete all public side LSL's in the city.
- 2027 – 2000 LSLs and anticipate less PF given starting this year and will focus on remaining private side LSL's.
- 2028 – 2000 LSL's and complete remaining private LSL's.

Once we complete the public side LSL's then the only remaining private side LSL's would be on the property owner to agree to replace. As long as there are LSL's in the system, the utility would be required to complete bi-annual testing, reporting and maintaining all other requirements related to the LCR.

CITY OF WAUSAU, 407 Grant Street, Wausau, WI 54403

ORDINANCE OF THE WAUSAU WATERWORKS COMMISSION

Creating Chapter 13.66 Lead and galvanized water service line replacement, Section 13.66.010 Intent and purpose, Section 13.66.020 Authorization, Section 13.66.030 Rules of construction and definitions, Section 13.66.040 Survey and self-inspections, Section 13.66.050 Partial or full service line material replacement; water utility or customer side, Section 13.66.060 Replacement priority, Section 13.66.070 Application and Scheduling, Section 13.66.080 Financing of replacement, Section 13.66.090 Exceptions, Section 13.66.100 Prohibitions, Section 13.66.110 Severability, Section 13.66.120 Penalties.

Committee Action: Pending **Ordinance Number:**

Fiscal Impact: 2024: Total Allocation- $5,790,028 (Principle Forgiveness - $3,641,078; Loan Amount - $2,148,950 rate of 0.5%)
2025: Total Allocation - $9,000,000 (Estimated Principle Forgiveness - $5,670,000; Loan Amount - $3,330,000 rate of 0.5%)
2026: Total Allocation - $9,000,000 (Estimated Principle Forgiveness - $5,670,000; Loan Amount - $3,330,000 anticipated rate of 0.5%)
2027: Total Allocation - $9,000,000 (Estimated Principle Forgiveness - $4,500,000; Loan Amount - $4,500,000 anticipated rate of 0.5%)
2028: Total Allocation - $9,000,000 (Estimated Principle Forgiveness - $4,500,000; Loan Amount - $4,500,000 anticipated rate of 0.5%)

File Number:	**Date Introduced:**

The Common Council of the City of Wausau do ordain as follows:

Section 1. That Chapter 13.66 Lead and galvanized water service line replacement is hereby created and made up of the following Sections outlined below.

Section 2. That Section 13.66.010 Intent and purpose is hereby created to read as follows:

13.66.010 Intent and purpose.

Lead in drinking water poses a threat to the public health. Leaching of lead from lead service lines or from galvanized lines, that are or were downstream of lead, are sources of lead in drinking water. Additionally, aged water services including lead and galvanized lines can be a source of water loss and potential contamination. The Common Council of the City of Wausau therefore finds that it is in the public interest to establish a comprehensive program for the removal and replacement of lead and galvanized service lines in use within the Wausau Water Utility system, and to that end, declares the purposes of this chapter to be as follows:

(1) Continue to ensure that the water quality at every tap of Wausau Water Utility customers meets the water quality standards specified under the Federal Safe Drinking Water Act;
(2) Continue to reduce the level of lead in the City's drinking water to meet EPA standards in City drinking water for the health of City residents;
(3) Continue to meet the WDNR requirements for local compliance with the EPA's Lead and Copper Rule;
(4) Continue to affect the replacement of all high-risk lead and galvanized service lines within five years of their discovery and the replacement of all remaining lead and galvanized pipe water service lines in use in the City within seven years; and
(5) Limit costs by setting a service replacement schedule when federal, state, or local funding is available.

Section 3. That Section 13.66.020 Authorization is hereby created to read as follows:

13.66.020 Authorization.

This chapter is enacted pursuant to Wis. Stats. §§ 62.11(5), 281.12(5), 66.0627(8), and 196.372, and as mandated by 42 USC 300g of the Federal Safe Drinking Water Act, as amended, enforced by the EPA and the WDNR.

Section 4. That Section 13.66.030 Rules of construction and definitions is hereby created to read as follows:

13.66.030 Rules of construction and definitions.

This section and all rules and orders promulgated under this section shall be liberally construed so that the purposes enumerated in Section 13.66.010 may be accomplished. Words and

phrases shall be construed and understood according to their common and usual meaning unless the contrary is clearly indicated. Within this chapter:

Childcare facility means any state-licensed or county-certified childcare facility including, but not limited to, licensed family childcare, licensed group centers, licensed day camps, certified school-age programs and Head State programs.

City means City of Wausau.

Confirmed water sample test means a tap water analysis, completed after a prior analysis that indicated lead levels at or above the EPA action level, and conducted in accordance with the Lead and Copper Rule, with Wis. Admin. Code § N 809.547, and with instructions provided by the Water Utility.

Customer-side water service line means the water conduit pipe running from the customer's meter to the curb stop which is the Water Utility shut-off valve usually located behind the curb on public property.

EPA means the U.S. Environmental Protection Agency.

EPA action level means a concentration of 10 or more parts per billion (PPB) of lead as measured at a customer's tap.

Federal Safe Drinking Water Act as codified as 42 USC §§ 300f - 300j-26.

Director means the Director of Public Works and Utilities.

High risk lead service means a lead and/or galvanized customer-side water service line identified in Section 13.66.050 and any lead and/or galvanized customer-side water service line where a confirmed water sample test of a customer's tap water reveals a lead concentration at or above the EPA action level.

Lead and Copper Rule means the rules created by the EPA and adopted by the WDNR in response to the passage of the Safe Drinking Water Act, which provides maximum containment level goals and national primary drinking water regulations (NPDWR) for controlling lead and copper in drinking water. NPDWR regarding approved treatment techniques include corrosion control treatment, source water treatment, lead and galvanized service line replacement and public education. The rules may be found in 56 FR 26460, 40 CFR 141.80—141.90, and Wis. Admin. Code §§ NR 809.541 through 809.55.

Lead service line means a service line made of lead and/or galvanized steel, and any lead pigtail, gooseneck or other fitting which is connected to such lead line. The term can apply to the customer-side service line and/or the public-side service line.

Licensed plumber means a person, firm, corporation or other entity licensed to perform plumbing work in the City by the State of Wisconsin.

Tenant means person or persons in actual possession of and living at a property.

PPB means parts per billion.

Property means any possessory interest, legal or equitable, in real property, including an estate, trust, or lien, and any buildings, structures and improvements thereon.

Property owner means a person or legal entity having a possessory interest, legal or equitable, in property, which defined term includes an estate, trust, or lien.

Service replacement schedule means the schedule adopted by the Wausau Waterworks Commission for the replacement of lead and galvanized customer-side water service lines based on community resources; on availability of licensed plumbers and Water Utility resources to complete service line replacements; on physical location of properties with lead and/or galvanized customer-side water service lines; and on availability of federal, state, or local funding.

Public-side service line means the utility-owned portion of the water service line from the water main to the curb stop.

WDNR means the Wisconsin Department of Natural Resources.

Water Utility means the City of Wausau public water utility system, also known as Water Utility and/or Wausau Water Works.

Section 5. That Section 13.66.040 Survey and self-inspections is hereby created to read as follows:

13.66.040 Survey and self-inspections.

Upon notice from the Water Utility, any person who owns, manages or otherwise exercises control over a property within the Wausau Water Utility system shall allow the Water Utility to inspect the customer-side water service line or have the customer-side water service line inspected by a licensed plumber or other representative as authorized by the Director to determine whether the service line is lead, copper, cast iron, galvanized steel, plastic or other material.

Section 6. That Section 13.66.050 Partial or full-service line material replacement; water utility or customer side is hereby created to read as follows:

13.66.050 Partial or full-service line material replacement; water utility or customer side.

(a) All of the following service line material combinations are subject to partial or full replacement with copper, and/or plastic service lines under this division as identified:

SERVICE LINE MATERIAL REPLACEMENT

Public-Side	Customer-Side	Side Requiring Replacement
Lead	Lead	Both
Lead	Galvanized	Both
Lead	Copper	Water utility only
Lead	Plastic	Water utility only
Copper	Lead	Customer only
Copper	Galvanized	Customer only

Copper	Copper	Neither
Copper	Plastic	Neither
Plastic	Lead	Customer only
Plastic	Galvanized	Customer only
Plastic	Copper	Neither
Plastic	Plastic	Neither
Galvanized	Galvanized	Both
Galvanized	Copper	Water utility only
Galvanized	Plastic	Water utility only
Galvanized	Lead	Both

No other service line material combinations have been identified which require replacement under this division.

(b) All lead and galvanized water service lines must be replaced regardless of whether on the public-side or the customer-side. If either a customer-side or public-side lead or galvanized water service line is connected to each other, both lines must be replaced at the time the Water Utility or the customer is replacing its side of the lead or galvanized water service line per section 13.66.070. If a customer-side lead or galvanized water service line is connected to a public-side service that is not lead or galvanized, the replacement of the customer-side lead or galvanized water service line shall be completed under a schedule determined by the Water Utility. As of the effective date of the ordinance from which this Chapter is derived, no lead or galvanized service line will be allowed to connect to a Water Utility line once replaced.

Section 7. That Section 13.66.060 Replacement priority is hereby created to read as follows:

13.66.060 Replacement priority.

(a) Owners, managers or persons otherwise exercising control over properties within the Wausau Water Utility system with customer-side lead and/or galvanized water service lines shall be required to replace the customer-side water service lines according to the order of priority as outlined in the lead service line replacement plan and based on the replacement schedule established by the Wausau Waterworks Commission.

(b) Notwithstanding the schedules set forth herein and any limitations on funding sources which may be made available to either the Water Utility or the customer, all customer-side water service lines identified herein shall be replaced no later than seven years after the commencement of this program.

Section 8. That Section 13.66.070 Application and Scheduling is hereby created to read as follows:

13.66.070 Application and Scheduling.

Replacement of customer-side lead and/or galvanized pipes that are connected to a public-side lead and/or galvanized line must be completed at the time the public-side service line is replaced. The Water Utility shall notify customers of planned public-side lead and/or galvanized line replacements no less than 45 days prior to the replacement, as required by the Lead and Copper Rule Revisions (US EPA Dec. 2023). Scheduling of all such replacements for customer-side lead and/or galvanized pipes must be coordinated between the homeowner's contractor and the Water Utility within 30 days of receipt of notice that the public-side water service lines are scheduled to be replaced. Owners, managers or persons otherwise exercising control over properties shall obtain from and submit to the Water Utility, in accordance with its service rules, an Application for Water Service which states an intention to replace the customer-side lead and/or galvanized water service lines. Additional time to schedule the customer-side lead and/or galvanized pipe replacement may be granted by the Director for good cause.

The service replacement schedule for customer-side lead and/or galvanized pipes that are connected to a public-side service that is not lead and/or galvanized line shall be adopted by the Wausau Waterworks Commission based on community resources; availability of licensed plumbers and Water Utility resources to complete service line replacements; physical location of properties with lead and/or galvanized customer-side water service lines; and availability of federal, state, or local funding. Based on the above factors, customers will be assigned a time period within the schedule for replacing their lead and/or galvanized customer-side water service line. In no case shall a customer on this schedule have less than 30 days from the date of notification pursuant to Section 13.66.060 for the replacement of any lead and/or galvanized customer-side water service line.

If the Water Utility determines that a customer-side service line is constructed of lead and notifies the property owner in writing, the property owner must make arrangements described above to replace the lead service line within 36 months. Additional time to schedule the replacement may be granted by the Director for good cause.

Section 9. That Section 13.66.080 Financing of replacement is hereby created to read as follows:

13.66.080 Financing of replacement.

(a) In the event public funding is made available for replacing lead and/or galvanized service lines, the City authorizes the Wausau Water Works Commission, acting through the Water Utility, to implement and maintain a financial assistance program for the replacement of lead and galvanized service lines in accordance with the requirements of the Wisconsin Public Service Commission and Wis. Stat. § 196.372 (2023).

(b) If the Wausau Water Works Commission implements an approved financial assistance program in the event public funding is made available, the Water Utility may provide eligible property owners with a grant for up to 50 percent of the cost of the service line replacement, but not to exceed a maximum grant amount established by the Wausau

Commented [TT1]: For the Water Works Committee: this language is similar to what Sheboygan has in their ordinance. It's replacing previous language in response to the concerns addressed in prior meetings.

Commented [EL2R1]: This is a good starting point for their discussion on funding the private side. I have also outlined some of their decision points on my memo for the meeting next week.

Water Works Commission, which shall periodically review and adjust the maximum grant amount. All work must be done by a utility-approved plumbing contractor.

(c) The remainder of the lead service line replacement cost after the grant provided in subsection (b) shall either be paid for directly by the property owner or by a zero percent interest loan of up to six years provided by the water utility. A property owner shall repay the loan in equal monthly or quarterly installments. Loan repayments shall be included on the Water Utility's monthly or quarterly utility bills, or bill prepared separately by the Water Utility. Loan repayments that are past due may be placed on the property tax roll as provided in Wis. Stats. § 66.0809. Neither the Water Utility nor the City may forgive any LSL loan amount. Upon the sale of the property, the loan amount shall be paid in full prior to or on the sale date.

(d) A property owner is eligible for financial assistance, either loan and/or forgivable loan, for the purpose of replacing the customer-side service line if the property owner satisfies all of the following criteria:

(1) The property owner alone, or collectively with others, owns the entire fee simple title property to the property served by the customer-side service line.

(2) The property owner replaces the entire LSL, leaving no remnant of lead or galvanized material.

(3) The replacement work is done by a pre-qualified plumbing contractor in compliance with this section.

(e) Written applications for financial assistance shall include the following:

(1) A completed application on a form furnished by the Water Utility signed by the eligible property owner. The completed application form shall include a certification by the property owner who attests that all eligibility criteria listed in subsection (d) are met.

(2) Copies of written quotes from at least two pre-qualified plumbing contractors for the replacement of the property owner's customer-side service line. A pre-qualified plumbing contractor is one who has completed and submitted proper forms and been placed on the water utility's pre-qualified plumbing contractor list.

(f) A property owner will be eligible for financial assistance based only on the lowest bid amount included in the written quotes received from pre-qualified plumbing contractors under subparagraph (e)(2) unless except in extraordinary circumstances and with the approval of the Director in his/her sole discretion. Except as provided herein, financial assistance amounts will strictly be determined pursuant to base bid pricing and will not include change orders. In extraordinary circumstances the Director may in his/her sole discretion, with approval of the property owner, approve a contractor-requested change order for inclusion in the financial assistance portion of the work.

(g) After a complete application is received, prior to the commencement of any replacement work, and subject to the availability of public funding, the Water Utility shall determine if the property owner is eligible for financial assistance available as a loan. Such determination shall be provided in writing to the applying property owner.

(h) Customer-side line replacement work must be accomplished in a workmanlike manner and be coordinated with any other utility work.

(i) Upon completion of the customer-side service line replacement, the property owner shall provide the Water Utility with a copy of the invoice from the plumbing contractor. Upon proof of completion satisfactory to the Water Utility, the Water Utility shall directly pay the plumbing contractor the amount of money approved by the Water Utility for financial assistance for replacement of the customer-side service line. The Water Utility shall provide the property owner with documentation of such payment.

(j) The total amount of money provided by the Water Utility as financial assistance in the form of a grant and loan may not exceed the actual cost of replacement of the customer-side service line.

(k) The property owner shall, as a condition of participating in the grant or loan program described in this section, execute a temporary right of entry and construction easement authorizing the Water Utility and/or its contractors' access to the dwelling as needed.

(l) Disputes regarding eligibility for financial assistance may be appealed to the Wausau Water Works Commission. Any appeal must be made in writing and state the basis for the appeal. The appeal must be received by the City Clerk within 30 days of the denial.

Section 10. That Section 13.66.090 Exceptions is hereby created to read as follows:

13.66.090 Exceptions.

(a) The Water Utility may modify the inspection requirement set forth under 13.66.040 if the customer so requests and demonstrates a compelling need.

(b) Upon the demonstration of a compelling need, the owner of a single-family dwelling or a business to which the public has no access to tap water and with no more than five employees, may request a change of schedule or an extension of time for compliance with Sections 13.66.050 through 13.66.070.

(c) Guidelines for the consideration of requests under subsections (a) and (b) of this section will be established by the Wausau Waterworks Commission.

(d) Compliance deadlines will be calculated on a calendar year basis but may be deferred during the months of December through March on the basis of weather constraints.

Section 11. That Section 13.66.100 Prohibitions is hereby created to read as follows:

13.66.100 Prohibitions.

It shall be unlawful for any person to fail to comply with the applicable lead and/or galvanized customer-side water service line replacement requirements as set forth herein or to violate any other provision of this chapter.

Section 12. That Section 13.66.110 Severability is hereby created to read as follows:

13.66.110 Severability.

If any section or portion of this chapter is for any reason determined to be invalid or unconstitutional by the decision of a court of competent jurisdiction, that section or portion shall be deemed severable and shall not affect the validity of the remaining sections or portions of this chapter.

Section 13. That Section 13.66.120 Penalties is hereby created to read as follows:

13.66.120 Penalties.

Any person who violates any provision of this chapter may be subject to a forfeiture of no less than $50.00 and no more than $1,000.00. Each day a violation continues may be considered a separate offense.

Section 14. That section 13.66.130 Authority to Discontinue Service is hereby created to read as follow:

13.66.130 Authority to Discontinue Service.

As an alternative to any other methods provided for obtaining compliance with the requirements of this Code regarding replacement of illegal customer-side lead or galvanized service line, the Water Utility may, no sooner than 60 days after giving written notice and an opportunity for a hearing pursuant to Wis. Stats. Ch. 68 before the Wausau Water Works Commission, discontinue water service if the Water Utility determines that the illegal customer-side lead service line endangers public health, safety, or welfare, and requires immediate action.

Commented [TT3]: The PSC will require a section for discontinuation of water services if Wausau is looking to use rate paying funds for service.

I combined language from multiple codes for this one

Commented [EL4R3]: I think this a good starting point

Section 14. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 15. This ordinance shall be in full force and effect from and after its date of publication.

Adopted:

Approved:

Published:

Attest:

Approved:

Doug Diny, Mayor

Attest:

Kaitlyn Bernarde, City Clerk

CITY OF WAUSAU
SOLAR ARRAY
TASK FORCE

May 7th, 2024

TASK FORCE HISTORY

- Started meeting in the spring of 2023
- Members

  Chad Henke – Chair

  Paul Svetlik – Vice Chair

  John Robinson

  Susan Woods

  Jay Coldwell

Goal is to make a recommendation for the Water Utility and City Council

TASK FORCE TIMELINE

- Part 1

  Collect Solar Background Information

    Effectiveness of Solar

    System Lifecycles

  Utility Costs and Needs

    New Utility costs

    Solar Project Funding available

TASK FORCE TIMELINE CONT.

- Part 2

  Develop options

  Size, Location, Configuration

  Gather public input on options.

- Part 3

  Evaluate options

  Long/Short Term Effectiveness, Implementability, Cost

  Community acceptance presentation in May 2024. That is why we are here today.

TODAY

- Discussion on options reviewed by committee for array size and location
- Discussion on committee's recommended final size and location of the array
- Paul will lead Question and Answer
- Cost and option details can be found in Solar Array Task Force Packet on April 18th 2024. We also have printed copies available today.

SCENARIO 1 (WELL HOUSE)

- 1.0 MegaWatt installation, Estimated 1.9 million kWh production first year
- Installation cost of $4.2 M
- Using 3% - 7 % annual electricity cost increase, estimated payback of 19.9 – 15.3 years
- Optimizing the water plant to run with solar electricity lowers payback to 15.5 – 12.4 years
- Uses the maximum space East of the water plant

SCENARIO 1 (WELL HOUSE) -ALTERNATE

- 720 KiloWatt installation, Estimated 1.19 million kWh production first year
- Installation cost of $2.57M
- Using 3% - 7% annual electricity cost increase, estimated payback of 19.3 – 15.0 years
- Optimizing the water plant to run with solar electricity lowers payback to 12.9 – 10.9 years
- Was found to be the best size for initial investment payback time

SCENARIO 2

- 1.0 MegaWatt installation, Estimated 1.9 million kWh production first year
- Installation cost of $4.2 M
- Using 3% annual electricity cost increase, estimated payback of 19.9
- Panels sit in both the city of Wausau and the village of Maine

SCENARIO 3

- 1.0 MegaWatt installation, Estimated 1.9 million kWh production first year
- Installation cost of $8.5 M
- Using 3% annual electricity cost increase, estimated payback of 25+ years
- Array sits far from water plant, increasing wire size and length. Increasing site prep costs.

COMMITTEE'S RECOMMENDATION

- Factor 1 – City strategic plan and mission statement

  Innovated public services:

  4. Invest in solutions to ensure environmental sustainability for generations to come.

  Strong regional alliances:

  4. Support and lead in green and eco-friendly efforts and initiatives for a cleaner, healthier, and sustainable environment

Mission Statement. . . In response to our citizens, we will provide services in the most effective manner in order to promote and enhance our living environment. Plan and encourage positive growth. Promote a positive community image by encouraging citizen involvement and civic pride.

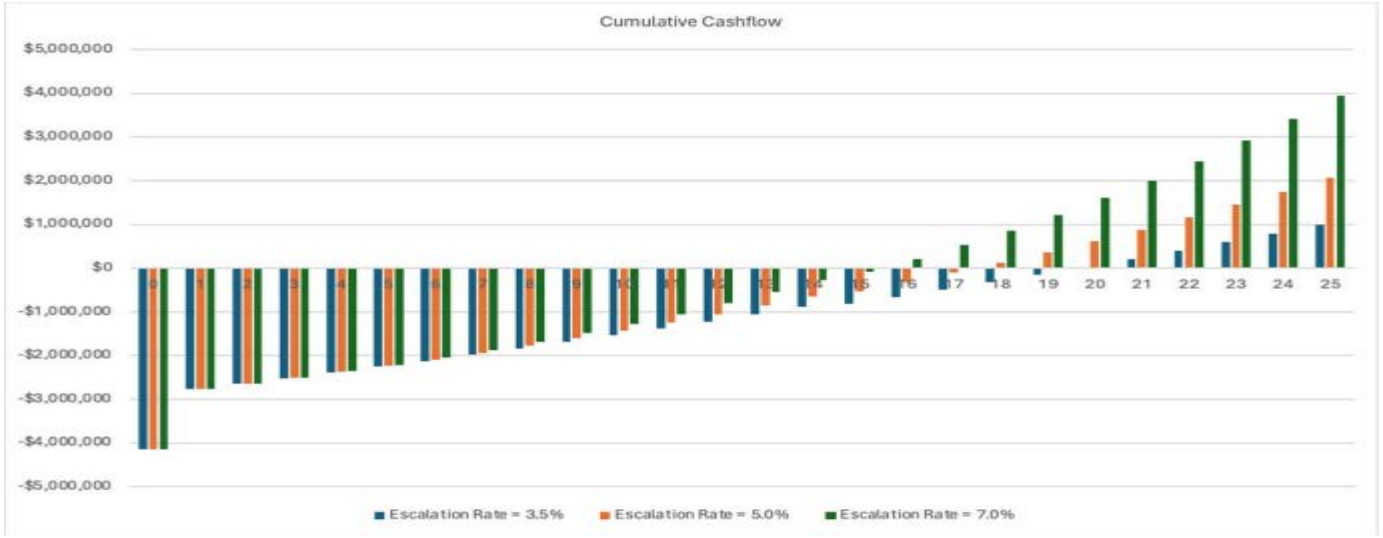
COMMITTEE'S RECOMMENDATION

- Factor 2 – Financial and Resiliency

  Committee set a goal of 10 years to payback the initial investment

  Pay for this installation without affecting the water utility rate or levy rates

  Make the water plant less dependent on the electric utility



COMMITTEE'S RECOMMENDATION

- Factor 3 – Community Acceptance

  No trees in forest area north of Bugbee Avenue will be removed

  Berm will be built along Tierney Road to limit street view

  Prairie will be established around panels

  Construction will be based at the water plant and limit interference with Tierney Road

  After construction, if an access road is required to Tierney Road it will connect near the northern well house

  No increase to water utility bill or levy rates

COMMITTEE'S RECOMMENDATION

- Factor 1

  Uses the property for a green and eco-friendly purpose

- Factor 2

  Uses the property to build resiliency into the water plant. Also gives us the best return on our investment

- Factor 3

  Meets the surrounding community's concerns

Scenario 1 (Well House) -alternate

Design with future panel and battery installation in mind

COMMITTEE'S RECOMMENDATION

This is just the beginning.

We passed a motion to recommend this option with thoughts for the future.

- Make sure we plan for additional electric generation to be installed.
- Make sure we plan for energy storage installations if/when options become more cost effective.
- Always keep in mind the existing environment and surrounding community.

Conceptual Solar System Design & Analysis

04/12/2024

Wausau Water Treatment Facility
700 Bugbee Ave
Wausau, WI 54401

Contact
QstN

Andy Pohren
Sam Mueller
Madison, WI 53705

Discussion Topics

Updates from 3/26/24:

- Include site prep costs in project cost
- Model and analyze Load Shift
- Update Export Rate to include Avoided Capacity Cost Rate
- Model multiple Utility Cost Escalation Rates
- Update WI Focus on Energy Rebate
- WPS Transformer → non-issue (2500 kVa)

Conceptual Solar System Design & Analysis

04/12/2024

Wausau Water Treatment Facility
700 Bugbee Ave
Wausau, WI 54401

Contact
QstN

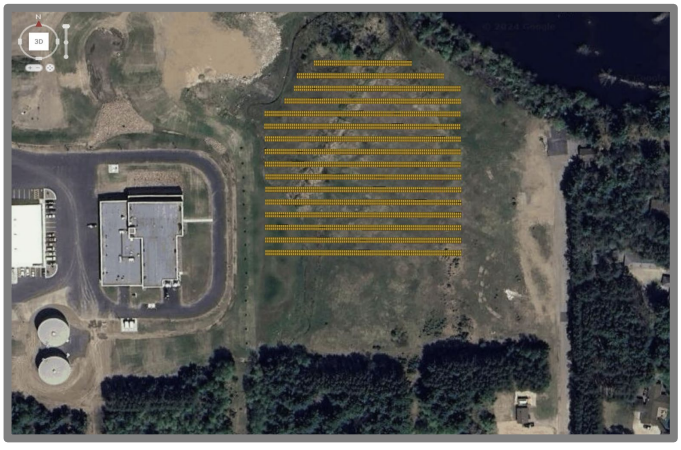
Andy Pohren
Sam Mueller
Madison, WI 53705

Scenario Summary

Scenario 1: Well House

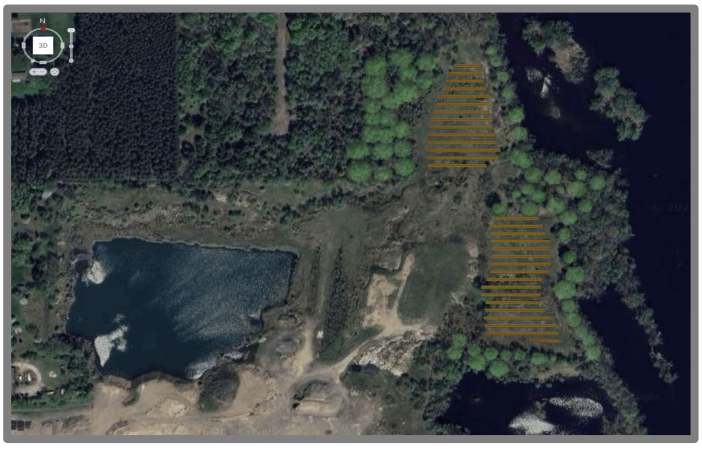
Priorities: maximize capacity & energy offset, minimize installed cost

Scenario 2: North Well House



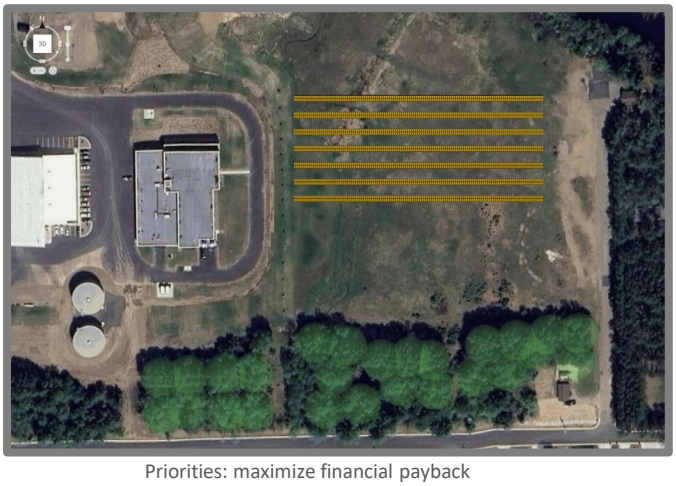
Priorities: maximize capacity & energy offset, minimize installed cost, reduce visibility

Scenario 3: North Fields



Priorities: maximize capacity & energy offset, make effort to eliminate visibility

Scenario 1 : (Well House) Alternate



Priorities: maximize financial payback

Scenario Summary

Financials	Scenario 1	Scenario 2	Scenario 3	Scenario 1 alt
Short description	Well house	N Well house	North Fields	Well house alt
Installed DC capacity	1.5 MW	1.5 MW	1.5 MW	0.875 MW
Installed AC capacity	1.0 MW	1.0 MW	1.0 MW	0.720 MW
Est. full project cost	$4,142,574	$4,192,574	$8,528,148	$2,576,257
Est. full project cost	$2.76/W	$2.80/W	$5.69/W	$2.94/W
Est. avg. annual energy cost savings	$191,774	$192,868	$188,442	$121,046
Est. avg. O&M annual cost	$26,076	$26,076	$26,076	$15,211
Est. levelized cost of energy (LCOE)	$0.064/kWh	$0.064/kWh	$0.133/kWh	$0.063/kWh
Est. lifetime savings	$999,747	$992,105	($2,153,446)	$711,220
Est. payback (after 30% ITC, WFOE rebate)	19.9 yrs	19.9 yrs	25+ yrs	19.3 yrs
Est. 1st year energy production	1,917,591 kWh	1,929,842 kWh	1,895,252 kWh	1,193,627 kWh
Est. 1st year energy offset	100%	100%	98%	62%
Est. 1st year utility bill offset (savings)	72%	72%	70%	45%

Available incentives to consider	Included in financial analysis*
30% Investment Tax Credit (ITC)	yes
10% ITC Bonus – Domestic Content	no
10% ITC Bonus – LI Community	no
WI Focus on Energy Rebate	yes
WI PSC Energy Innovation Grant	no

*Including the ITC bonuses (10% Domestic Content, 10% LI Community) and WI PSC EI Grant reduces the project payback by ~5 years

Escalation Rate and Load Shift Summary

Financials – Scenario 1 (1.5 MW_DC)	Standard Operation			Load Shift to Off-Peak		
Utility Escalation Rate	3.5%	5%	7%	3.5%	5%	7%
Load shift (Yes = Shift to Off-peak)	No	No	No	Yes	Yes	Yes
Est. avg. annual energy cost savings	$191,774	$234,411	$309,746	$246,876	$301,763	$398,744
Est. lifetime savings	$999,747	$2,065,668	$3,949,053	$2,377,293	$3,749,482	$6,174,014
Est. payback (after 30% ITC, WFOE rebate)	19.9 yrs	17.4 yrs	15.3 yrs	15.5 yrs	13.7 yrs	12.4 yrs
Est. 1st year energy offset	100%	100%	100%	100%	100%	100%
Est. 1st year utility bill offset (savings)	72%	72%	72%	92%	92%	92%

Financials – Scenario 1 alt (875 kW_DC)	Standard Operation			Load Shift to Off-Peak		
Utility Escalation Rate	3.5%	5%	7%	3.5%	5%	7%
Load shift (Yes = Shift to Off-peak)	No	No	No	Yes	Yes	Yes
Est. avg. annual energy cost savings	$121,046	$147,958	$195,509	$180,661	$220,827	$291,796
Est. lifetime savings	$711,220	$1,384,020	$2,572,796	$2,201,586	$3,205,737	$4,979,981
Est. payback (after 30% ITC, WFOE rebate)	19.3 yrs	17.0 yrs	15.0 yrs	12.9 yrs	11.9 yrs	10.9 yrs
Est. 1st year energy offset	62%	62%	62%	62%	62%	62%
Est. 1st year utility bill offset (savings)	45%	45%	45%	67%	67%	67%

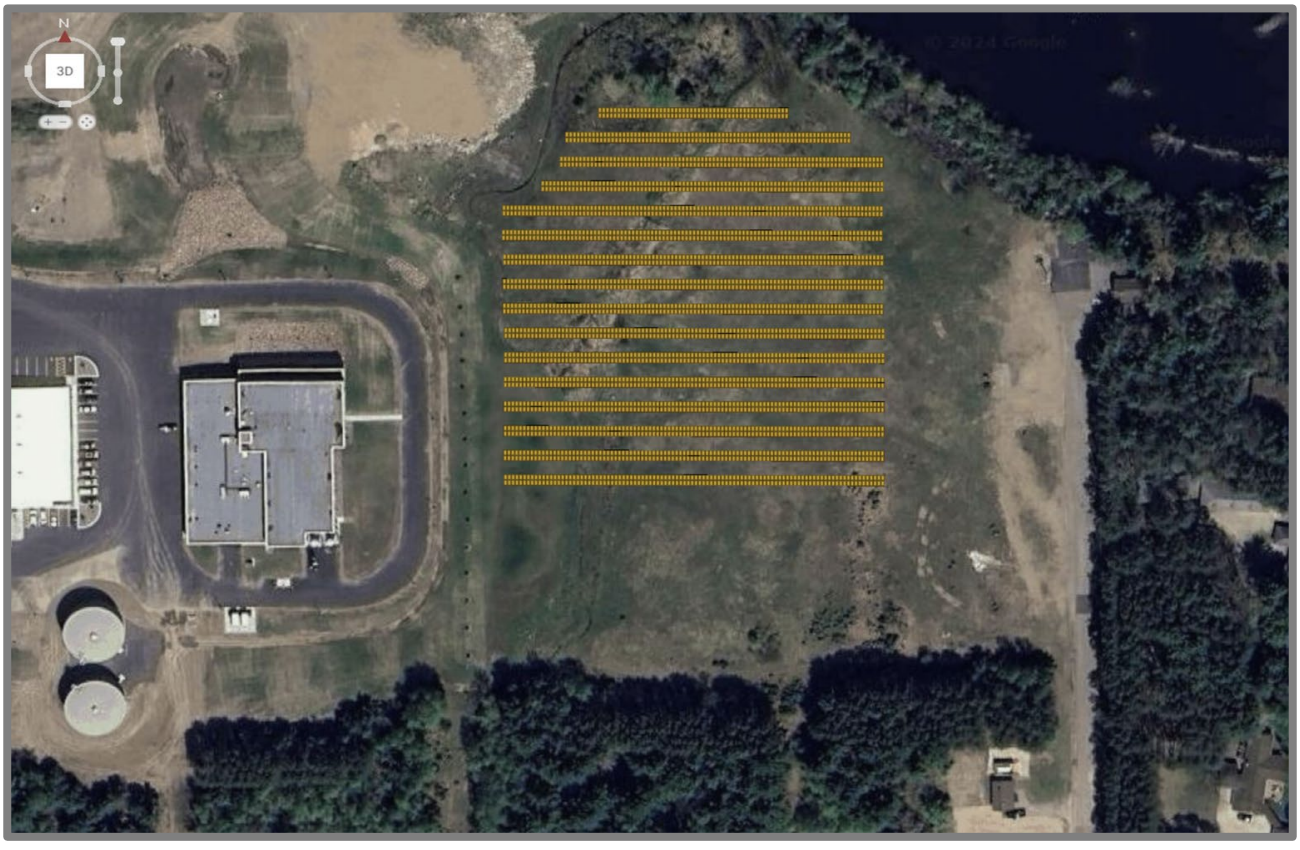
Scenario 1 (Well House)

Financials	
Est. installed cost	$4,142,574
Est. installed cost	$2.76/W
Est. avg. annual energy cost savings	$191,774
Est. avg. O&M annual cost	$26,076
Est. levelized cost of energy (LCOE)	$0.064/kWh
Est. lifetime savings	$999,747
Est. payback (after 30% ITC, WFOE rebate)	19.9 yrs.
Est. 1st year utility bill offset (savings)	72%

Performance	
Installed DC potential capacity	1,500 kW_DC
Installed AC potential capacity	1,000 kW_AC
Annual energy consumption	1,927,017 kWh
Est. 1st year solar energy production	1,917,591 kWh
Est. 1st year energy consumption offset	100%

Available incentives to consider	
30% Investment Tax Credit (ITC)	$1,242,772
10% ITC Bonus – Domestic Content	$414,257
10% ITC Bonus – LI Community	$414,257
WI Focus on Energy Rebate	$25,000
WI PSC Energy Innovation Grant	$250,000

Scenario 2 (North Well House)

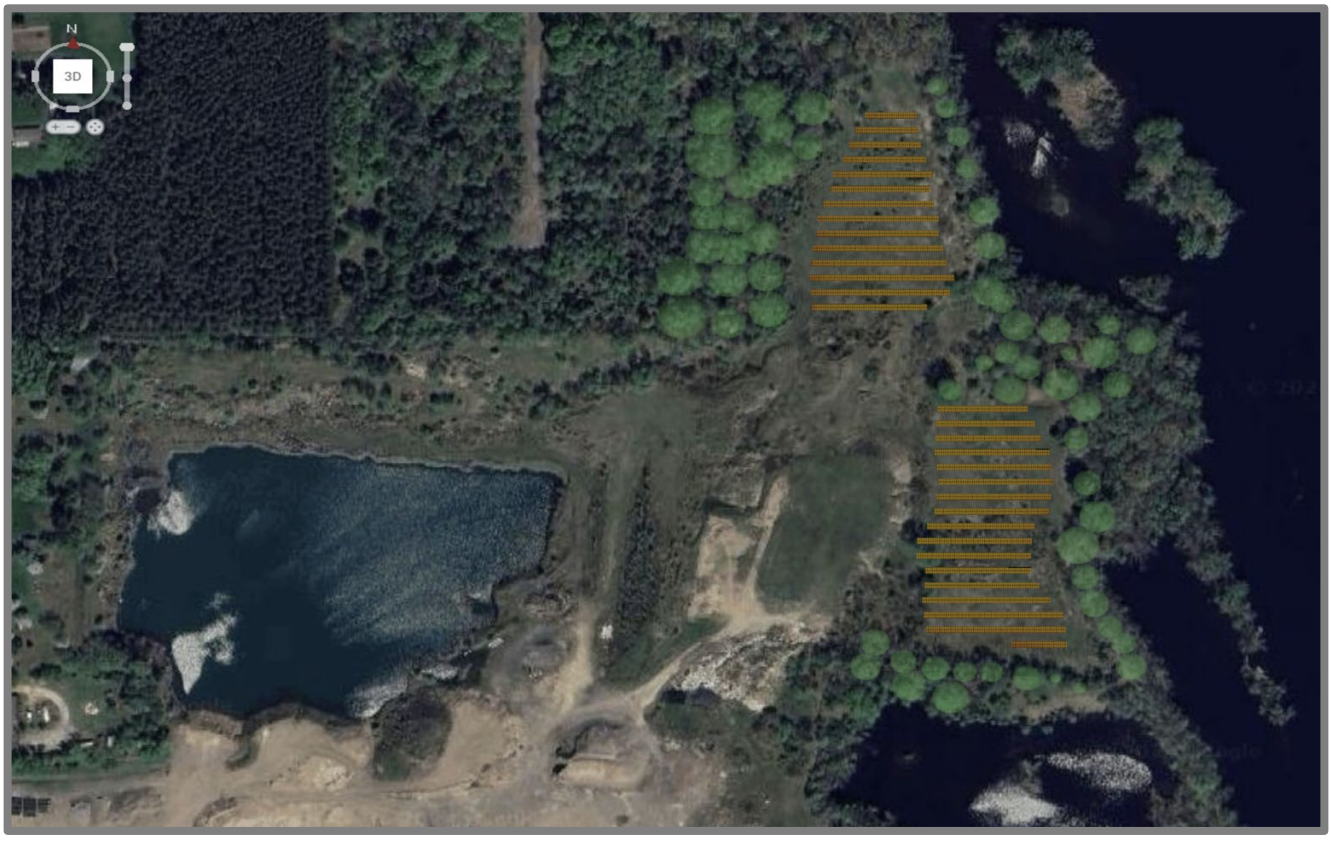


Financials	
Est. installed cost	$4,192,574
Est. installed cost	$2.80/W
Est. avg. annual energy cost savings	$192,868
Est. avg. O&M annual cost	$26,076
Est. levelized cost of energy (LCOE)	$0.064/kWh
Est. lifetime savings	$992,105
Est. payback (after 30% ITC, WFOE rebate)	19.9 yrs.
Est. 1st year utility bill offset (savings)	72%

Performance	
Installed DC potential capacity	1,500 kW_DC
Installed AC potential capacity	1,000 kW_AC
Annual energy consumption	1,927,017 kWh
Est. 1st year solar energy production	1,929,842 kWh
Est. 1st year energy consumption offset	100%

Available incentives to consider	
30% Investment Tax Credit (ITC)	$1,257,772
10% ITC Bonus – Domestic Content	$419,257
10% ITC Bonus – LI Community	$419,257
WI Focus on Energy Rebate	$25,000
WI PSC Energy Innovation Grant	$250,000

Scenario 3 (North Fields)



Financials	
Est. installed cost	$8,528,148
Est. installed cost	$5.69/W
Est. avg. annual energy cost savings	$188,442
Est. avg. O&M annual cost	$26,076
Est. levelized cost of energy (LCOE)	$0.13/kWh
Est. lifetime savings	($2,153,446)
Est. payback (after 30% ITC, WFOE rebate)	25+ years
Est. 1st year utility bill offset (savings)	70%

Performance	
Installed DC potential capacity	1,500 kW_DC
Installed AC potential capacity	1,000 kW_AC
Annual energy consumption	1,927,017 kWh
Est. 1st year solar energy production	1,895,252 kWh
Est. 1st year energy consumption offset	98%

Available incentives to consider	
30% Investment Tax Credit (ITC)	$2,558,444
10% ITC Bonus – Domestic Content	$852,815
10% ITC Bonus – LI Community	$852,815
WI Focus on Energy Rebate	$25,000
WI PSC Energy Innovation Grant	$250,000

Scenario 1 (Well House) - Alternate

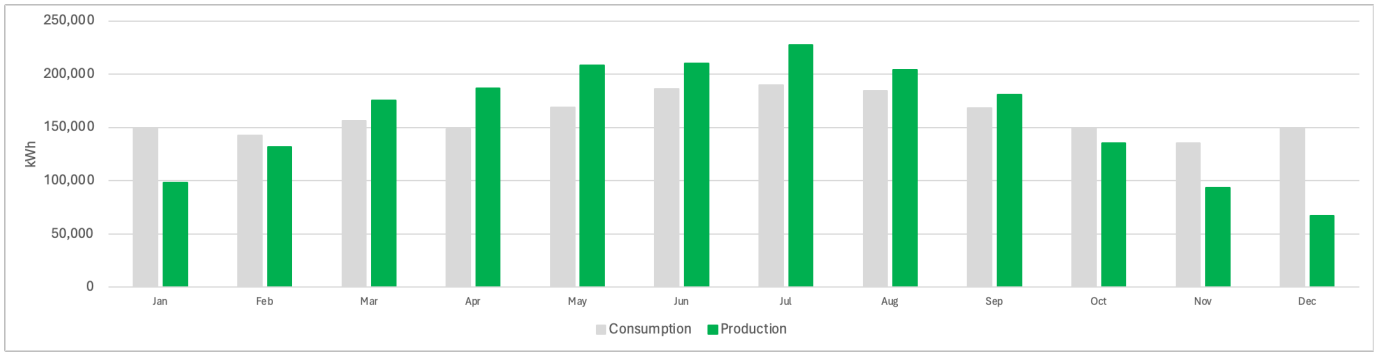
Financials	
Est. installed cost	$2,576,257
Est. installed cost	$2.94/W
Est. avg. annual energy cost savings	$121,046
Est. avg. O&M annual cost	$15,211
Est. levelized cost of energy (LCOE)	$0.063/kWh
Est. lifetime savings	$711,220
Est. payback (after 30% ITC, WFOE rebate)	19.3 yrs.
Est. 1st year utility bill offset (savings)	45%

Performance	
Installed DC potential capacity	875 kW_DC
Installed AC potential capacity	720 kW_AC
Annual energy consumption	1,927,017 kWh
Est. 1st year solar energy production	1,193,627 kWh
Est. 1st year energy consumption offset	62%

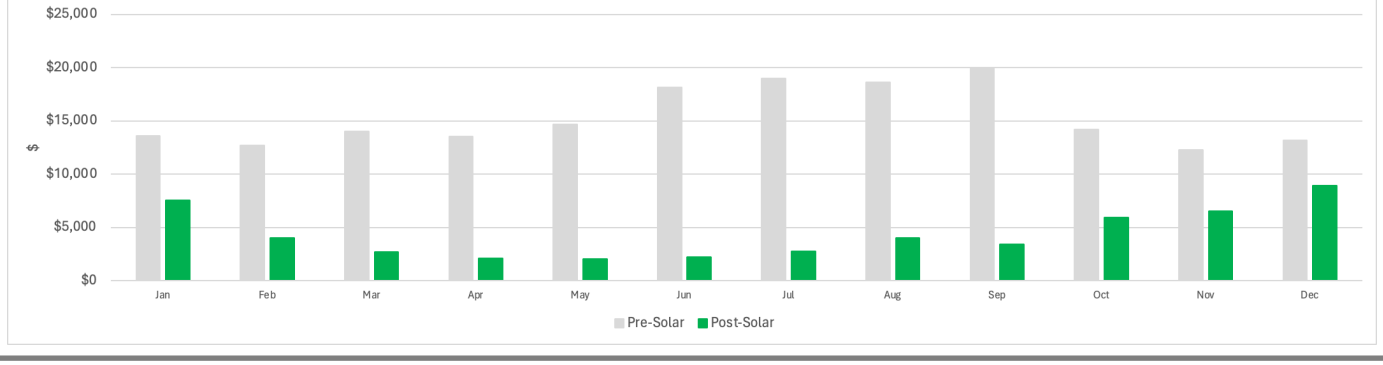
Available incentives to consider	
30% Investment Tax Credit (ITC)	$772,877
10% ITC Bonus – Domestic Content	$257,626
10% ITC Bonus – LI Community	$257,626
WI Focus on Energy Rebate	$25,000
WI PSC Energy Innovation Grant	$250,000

Equipment Assumptions – All Scenarios	
System type	Grid-tied
Racking installation	Ground-mount, fixed-tilt
Modules type	Monocrystalline
Module size	500 W; VSUN500 -132BMH (82.4” x 44.6” x 1.38”)
Number of modules (panels)	3,000 (Scenarios 1, 2, and 3); 1,750 (Scenario 1 Alternate)
Inverters	String inverter; SolarEdge
Power optimizers	For Scenario 3 only

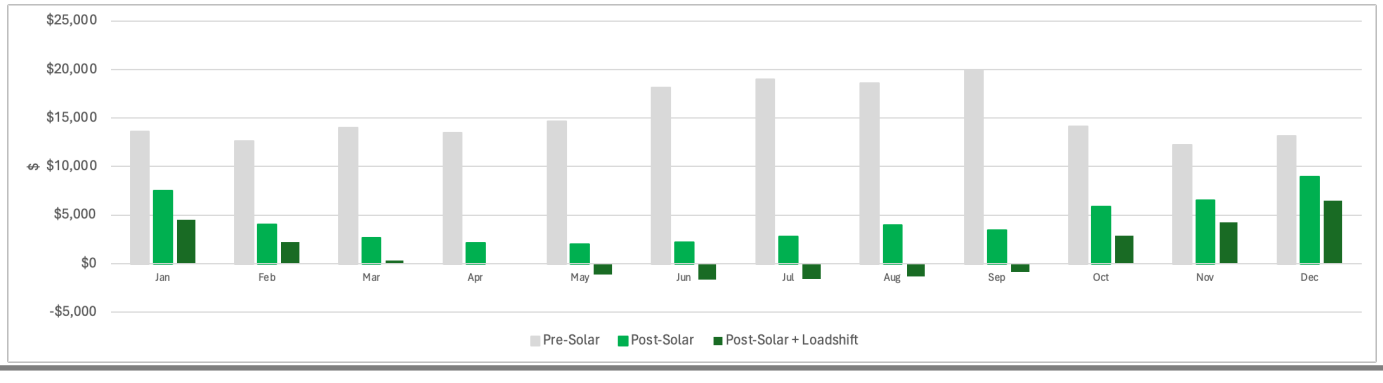
Monthly System Energy Performance – Existing Baseline Consumption vs PV Production (Scenario 1)



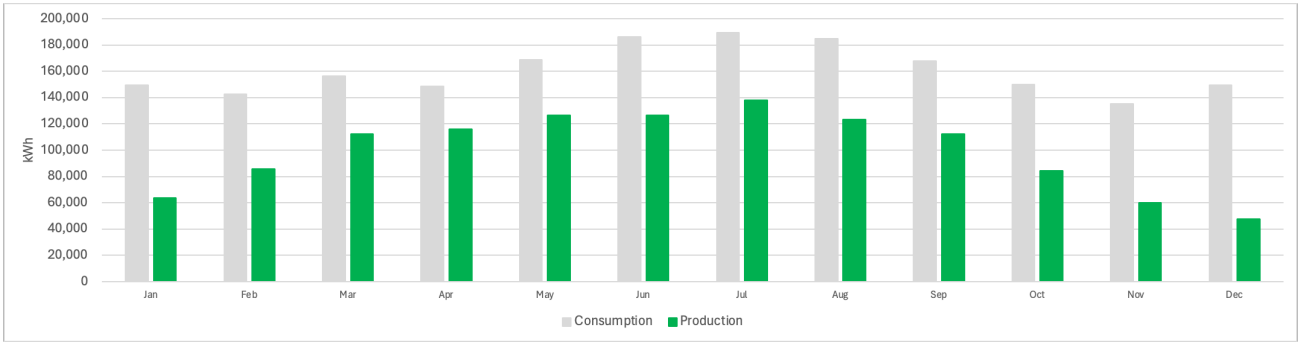
Monthly Utility Billing – Pre-Solar vs Post-Solar (Scenario 1)



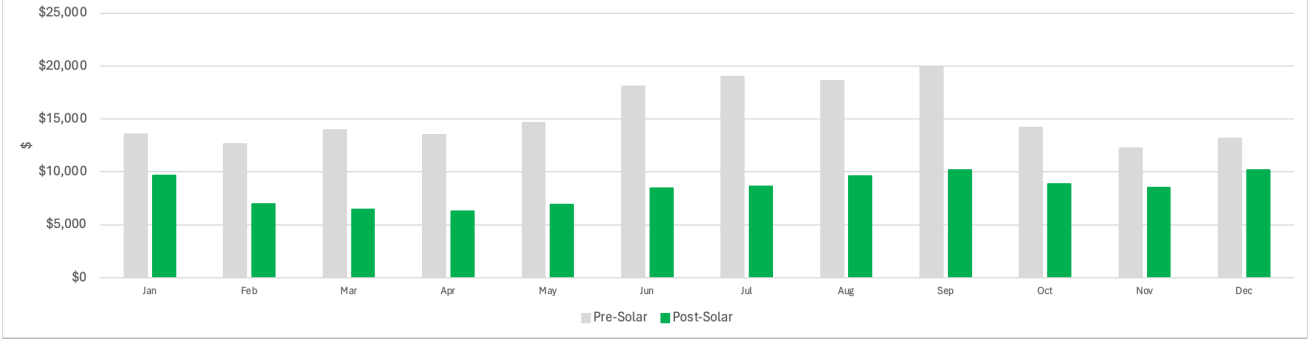
Monthly Utility Billing – Pre-Solar vs Post-Solar + Shifted Load to Off-Peak (Scenario 1)



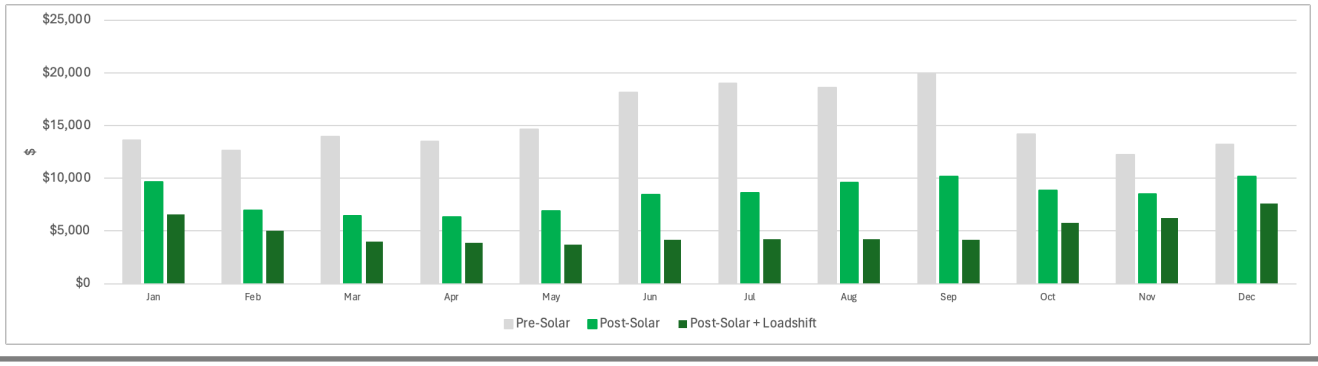
Monthly System Energy Performance – Existing Baseline Consumption vs PV Production (Scenario 1 alt)



Monthly Utility Billing – Pre-Solar vs Post-Solar (Scenario 1 alt)



Monthly Utility Billing – Pre-Solar vs Post-Solar + Shifted Load to Off-Peak (Scenario 1 alt)



Heat Maps of Energy Consumption

Heat map of energy consumption, kWh (month vs hour of day)

Sum of kWh	Month												
Hour	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
0	5,085	7,155	7,788	7,557	7,556	8,711	8,885	8,204	6,928	7,646	6,281	5,454	87,251
1	4,776	7,180	7,600	7,353	7,384	8,244	8,527	7,784	6,474	6,596	5,727	4,776	82,420
2	4,622	7,216	7,599	7,512	6,987	8,048	8,256	7,644	5,844	5,600	5,028	4,622	78,978
3	4,834	6,953	7,309	7,174	6,476	7,832	7,863	7,357	5,232	4,865	4,763	4,834	75,493
4	4,927	6,351	6,549	5,892	5,689	7,248	7,639	6,950	4,892	4,318	4,526	4,927	69,907
5	4,747	5,660	5,655	5,357	5,520	7,151	7,260	6,829	4,794	4,273	4,272	4,747	66,265
6	4,711	5,587	5,368	6,081	6,144	7,297	7,333	6,861	5,041	4,420	4,227	4,711	67,782
7	4,682	5,107	5,290	5,728	6,473	7,432	7,348	7,181	5,210	4,483	4,283	4,682	67,900
8	4,665	4,784	5,037	5,365	6,526	7,667	7,533	7,233	5,349	4,396	4,340	4,665	67,559
9	4,811	4,448	5,078	4,844	6,457	7,724	7,379	7,180	5,615	4,249	4,352	4,811	66,947
10	4,955	4,271	5,122	4,729	6,441	7,703	7,493	7,446	6,424	4,322	4,490	4,955	68,351
11	5,274	4,282	5,131	4,523	6,337	7,446	7,279	7,173	7,208	4,562	4,756	5,274	69,245
12	5,660	4,434	4,945	4,316	6,427	6,970	7,186	7,399	7,906	4,763	5,024	5,660	70,691
13	6,378	4,361	4,887	4,638	6,478	6,971	7,253	7,603	8,239	5,387	5,359	6,378	73,932
14	7,056	4,635	5,520	4,993	7,027	7,198	7,160	7,970	8,373	6,300	5,563	7,056	78,851
15	7,547	5,615	6,457	5,196	7,432	7,002	7,092	7,812	8,401	7,140	5,786	7,547	83,027
16	8,075	6,038	7,138	5,870	7,688	7,514	7,235	7,877	8,231	7,763	6,324	8,075	87,828
17	8,088	6,275	7,324	6,721	7,846	7,712	7,527	7,827	8,426	8,162	6,732	8,088	90,728
18	8,382	6,663	7,611	7,267	7,995	7,989	8,125	8,244	8,465	8,388	7,173	8,382	94,684
19	8,513	6,945	7,750	7,443	7,881	8,205	8,702	8,303	8,604	8,509	7,426	8,513	96,795
20	8,646	6,991	7,707	7,437	7,941	8,275	8,801	8,366	8,348	8,504	7,449	8,646	97,111
21	8,310	7,062	7,773	7,391	7,961	8,537	9,043	8,383	8,173	8,357	7,485	8,310	96,785
22	7,803	7,128	7,772	7,534	8,019	8,688	9,203	8,564	8,243	8,424	7,291	7,803	96,474
23	6,557	7,199	7,777	7,565	7,919	8,569	9,271	8,284	7,441	8,326	6,550	6,557	92,012
Grand Total	149,103	142,340	156,187	148,485	168,604	186,133	189,394	184,475	167,861	149,754	135,209	149,472	1,927,017

Heat map of energy production, kWh (month vs hour of day) – Scenario 1

Sum of Production [kWh]	Month												
Hour	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	11	193	6	0	0	0	0	0	211
6	0	0	0	315	1,295	1,573	1,231	520	0	0	0	0	4,934
7	0	0	730	3,780	6,041	6,294	5,735	4,218	2,546	741	0	0	30,084
8	0	2,051	6,365	9,785	**12,882**	11,805	**12,780**	10,555	8,287	6,547	1,509	4	82,570
9	3,409	8,062	**14,920**	**15,534**	**19,232**	**18,705**	**19,394**	**16,795**	**14,303**	11,515	6,817	2,914	151,600
10	8,928	**13,745**	**19,159**	**19,467**	**21,335**	**22,288**	**23,597**	**21,792**	**20,724**	**16,124**	**13,018**	6,770	206,946
11	**14,403**	**16,386**	**21,116**	**21,020**	**23,076**	**23,091**	**24,816**	**23,438**	**21,509**	**17,808**	**16,532**	10,135	233,330
12	**18,246**	**18,453**	**22,813**	**23,246**	**24,840**	**22,757**	**26,372**	**23,521**	**23,474**	**18,530**	**16,276**	**13,984**	252,513
13	**17,447**	**19,802**	**23,064**	**22,288**	**23,708**	**22,545**	**25,770**	**23,861**	**23,436**	**18,639**	**16,393**	**14,884**	251,836
14	**16,896**	**18,742**	**22,793**	**22,363**	**21,838**	**21,773**	**24,453**	**22,447**	**24,150**	**17,069**	**12,695**	9,294	234,513
15	11,340	**16,796**	**19,692**	**20,616**	**20,919**	**20,597**	**23,459**	**22,269**	**20,637**	**14,826**	6,976	6,620	204,748
16	6,060	**12,573**	**14,269**	**15,207**	**16,248**	**18,316**	**19,295**	**18,059**	**13,449**	9,713	3,087	2,260	148,536
17	1,136	4,982	8,413	9,507	10,770	**12,557**	**12,405**	11,559	6,890	3,544	80	0	81,842
18	0	130	1,934	3,264	4,933	6,034	6,725	4,382	1,572	0	0	0	28,973
19	0	0	0	178	1,086	1,409	1,454	629	0	0	0	0	4,756
20	0	0	0	0	0	134	65	0	0	0	0	0	199
21	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	97,866	131,721	175,267	186,569	208,215	210,068	227,558	204,044	180,976	135,055	93,385	66,866	1,917,591

Heat Maps of Energy Purchase and Export

Heat map of energy purchase, kWh (month vs hour of day) – Scenario 1

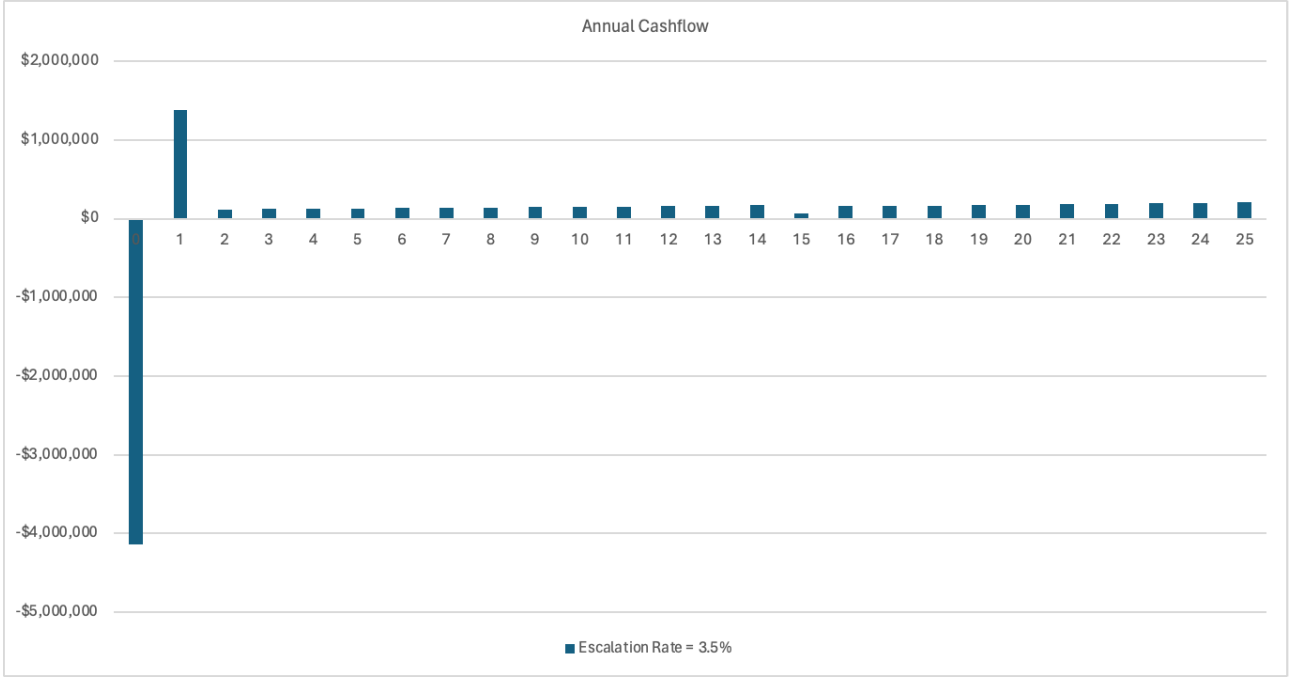
Sum of Purchase [kWh]	Month												
Hour	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
0	5,085	7,155	7,788	7,557	7,556	8,711	8,885	8,204	6,928	7,646	6,281	5,454	87,251
1	4,776	7,180	7,600	7,353	7,384	8,244	8,527	7,784	6,474	6,596	5,727	4,776	82,420
2	4,622	7,216	7,599	7,512	6,987	8,048	8,256	7,644	5,844	5,600	5,028	4,622	78,978
3	4,834	6,953	7,309	7,174	6,476	7,832	7,863	7,357	5,232	4,865	4,763	4,834	75,493
4	4,927	6,351	6,549	5,892	5,689	7,248	7,639	6,950	4,892	4,318	4,526	4,927	69,907
5	4,747	5,660	5,655	5,357	5,509	6,957	7,254	6,829	4,794	4,273	4,272	4,747	66,054
6	4,711	5,587	5,368	5,767	4,849	5,724	6,102	6,341	5,041	4,420	4,227	4,711	62,848
7	4,682	5,107	4,560	2,346	1,500	1,605	1,747	2,964	2,664	3,742	4,283	4,682	39,883
8	4,665	2,778	1,471	392	713	745	452	876	1,225	1,078	2,869	4,661	21,926
9	2,264	815	406	72	374	181	97	278	352	543	710	2,042	8,135
10	1,115	235	289	102	193	13	76	318	74	510	433	1,075	4,433
11	378	-	137	-	54	-	27	44	287	398	232	903	2,460
12	175	89	-	-	-	259	129	-	235	467	399	511	2,264
13	405	7	-	-	101	288	324	30	236	309	247	839	2,786
14	822	13	1	-	249	302	222	336	3	285	1,185	1,427	4,846
15	1,670	428	343	34	233	857	474	291	248	709	2,147	2,170	9,604
16	3,143	860	866	362	529	280	402	158	641	2,168	3,454	5,815	18,678
17	6,952	2,773	1,398	791	1,100	706	946	758	2,372	4,618	6,652	8,088	37,154
18	8,382	6,533	5,677	4,024	3,115	2,462	1,922	3,886	6,893	8,388	7,173	8,382	66,835
19	8,513	6,945	7,750	7,265	6,795	6,797	7,249	7,674	8,604	8,509	7,426	8,513	92,039
20	8,646	6,991	7,707	7,437	7,941	8,141	8,736	8,366	8,348	8,504	7,449	8,646	96,913
21	8,310	7,062	7,773	7,391	7,961	8,537	9,043	8,383	8,173	8,357	7,485	8,310	96,785
22	7,803	7,128	7,772	7,534	8,019	8,688	9,203	8,564	8,243	8,424	7,291	7,803	96,474
23	6,557	7,199	7,777	7,565	7,919	8,569	9,271	8,284	7,441	8,326	6,550	6,557	92,012
Grand Total	**108,184**	**101,067**	**101,797**	**91,926**	**91,245**	**101,195**	**104,846**	**102,319**	**95,244**	**103,055**	**100,810**	**114,492**	**1,216,179**

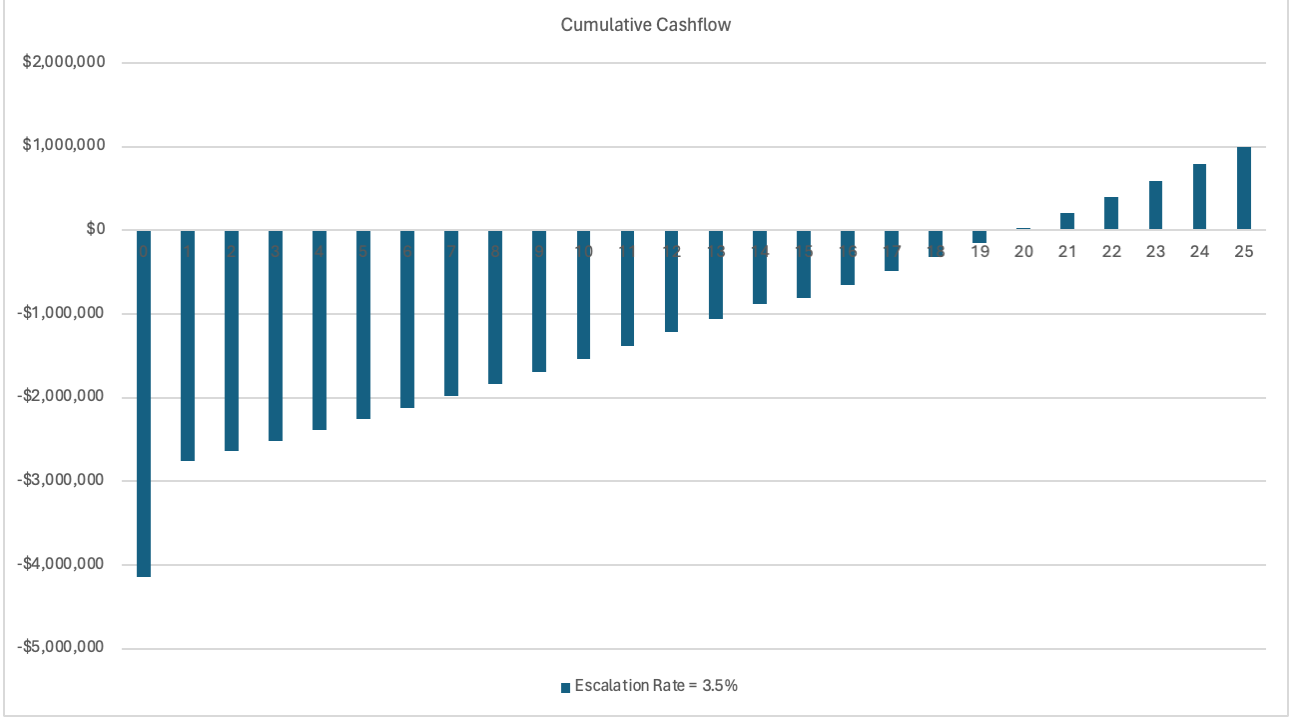
Heat map of energy export, kWh (month vs hour of day) – Scenario 1

Sum of Export [kWh]	Month												
Hour	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
0	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	398	1,068	467	135	-	-	-	-	-	2,067
8	-	45	2,800	4,812	7,069	4,884	5,699	4,199	4,162	3,229	38	-	36,937
9	862	4,429	10,248	10,762	13,150	11,162	12,112	9,892	9,040	7,810	3,176	145	92,788
10	5,088	9,709	14,326	14,840	15,087	14,598	16,179	14,664	14,374	12,312	8,961	2,890	143,027
11	9,507	12,104	16,121	16,497	16,794	15,645	17,564	16,309	14,589	13,644	12,008	5,764	166,546
12	12,760	14,108	17,868	18,930	18,413	16,047	19,315	16,122	15,803	14,234	11,652	8,835	184,086
13	11,474	15,448	18,177	17,649	17,331	15,861	18,841	16,288	15,433	13,561	11,281	9,345	180,690
14	10,663	14,120	17,275	17,370	15,060	14,876	17,514	14,813	15,781	11,054	8,317	3,665	160,508
15	5,464	11,609	13,578	15,454	13,720	14,452	16,841	14,748	12,484	8,394	3,337	1,243	131,325
16	1,128	7,395	7,998	9,699	9,088	11,082	12,462	10,339	5,859	4,117	217	-	79,386
17	-	1,480	2,487	3,578	4,024	5,550	5,823	4,490	836	-	-	-	28,268
18	-	-	-	21	52	506	523	24	-	-	-	-	1,125
19	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**56,947**	**90,448**	**120,877**	**130,009**	**130,856**	**125,131**	**143,010**	**121,888**	**108,360**	**88,356**	**58,986**	**31,886**	**1,206,753**

Return on Investment / Payback Analysis (Scenario 1)

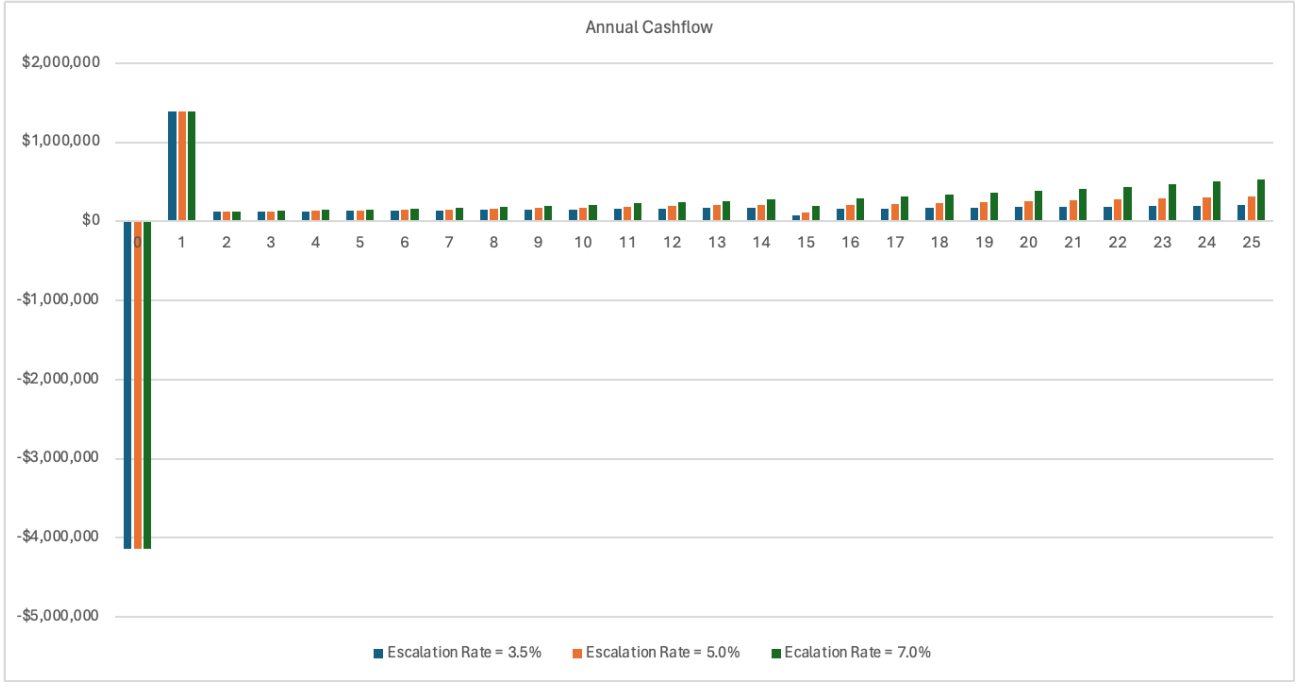
Scenario 1: $4.143M cost, $1.243M ITC (30%), $25k WI FOE Rebate (Escalation Rate = 3.5%, No Load Shift)

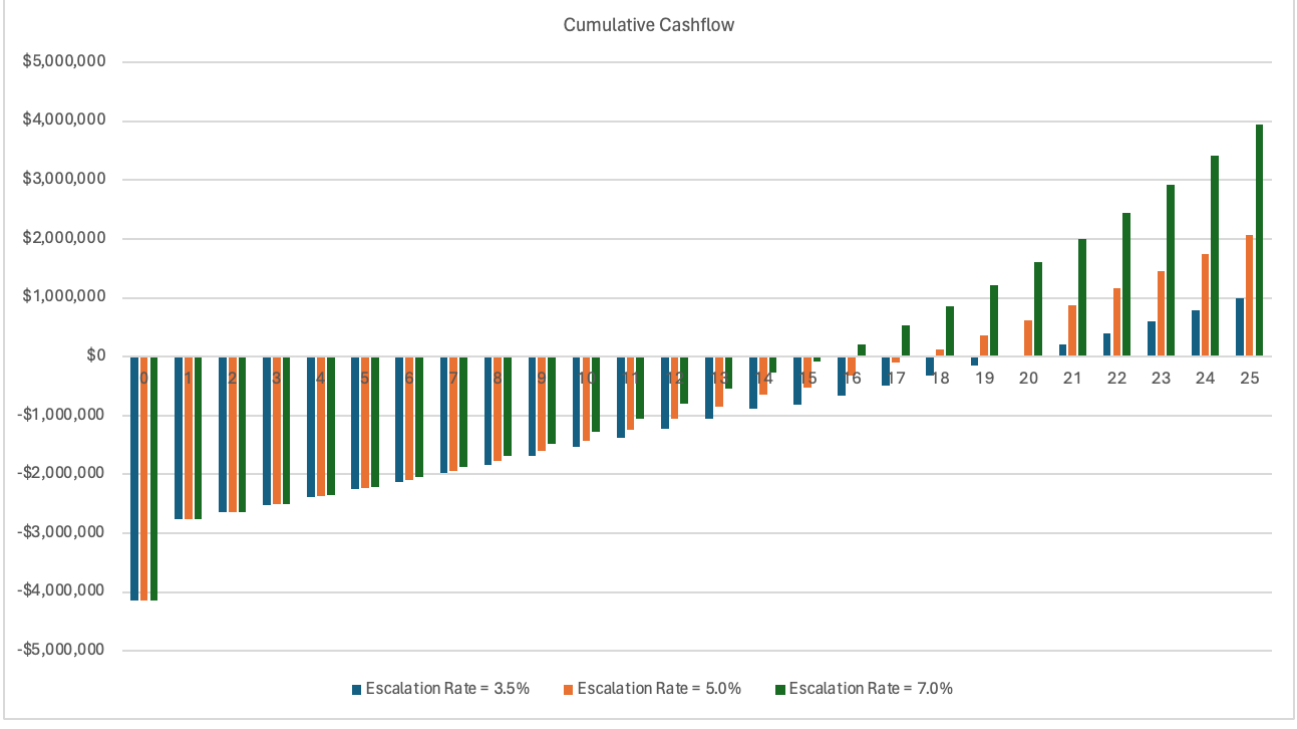




Return on Investment / Payback Analysis (Scenario 1)

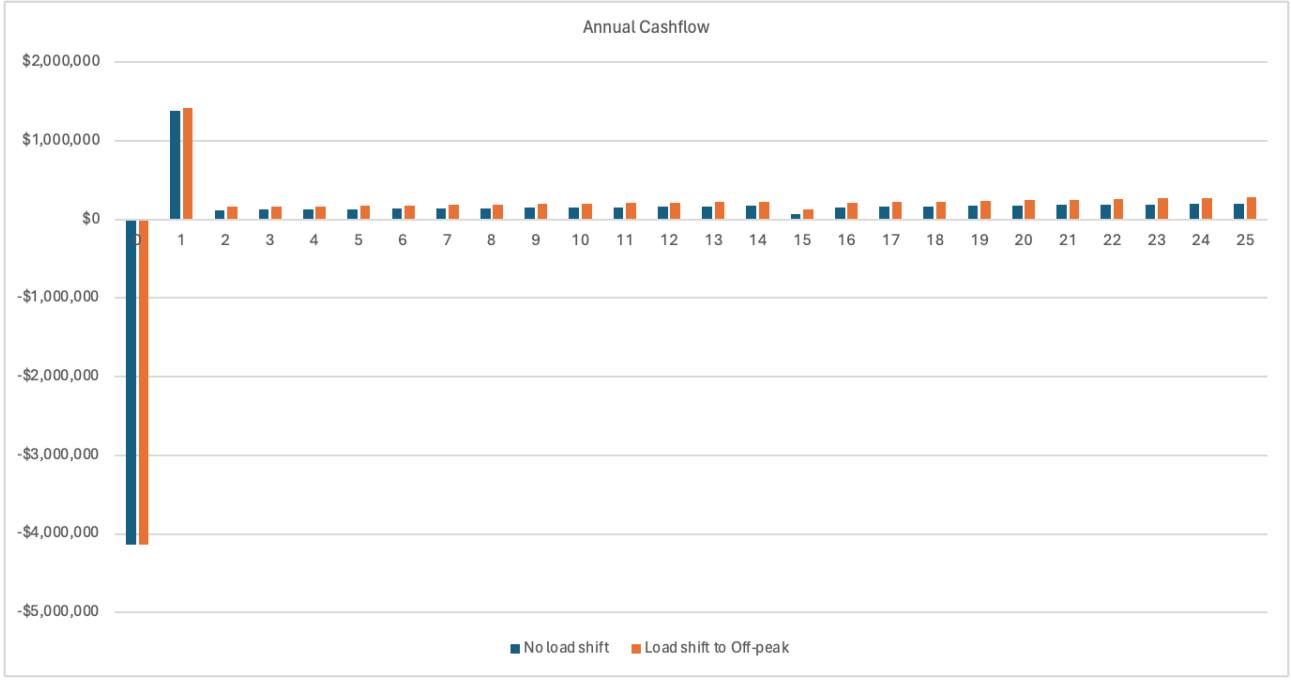
Scenario 1: $4.143M cost, $1.243M ITC (30%), $25k WI FOE Rebate (multiple Escalation Rates)

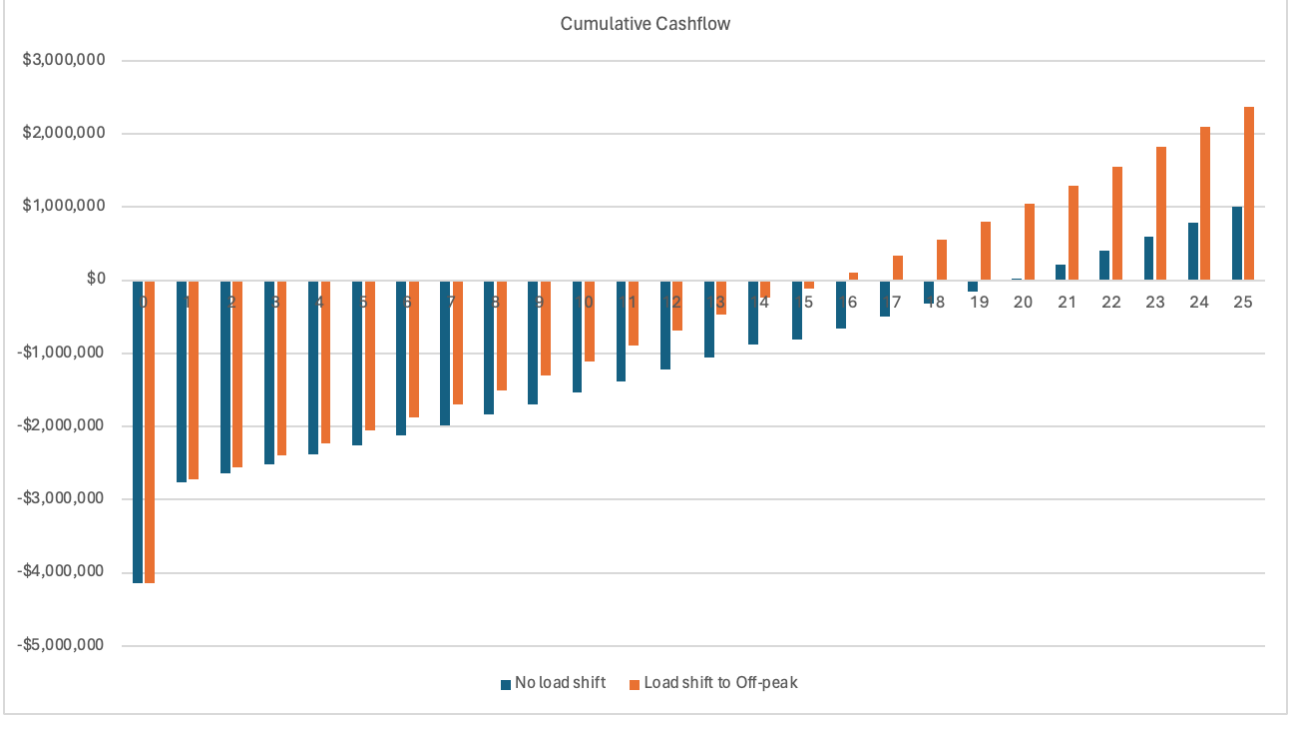




Return on Investment / Payback Analysis (Scenario 1)

Scenario 1: $4.143M cost, $1.243M ITC (30%), $25k WI FOE Rebate (Load Shift Detail)





Key Assumptions and Notes

1. Solar PV system life assumed to be 25 years (minimum).
2. Solar PV system performance degradation modeled at 0.5% per year.
3. Utility Electricity Rate escalation assumption of 3.5% per year (following 20-year historic trend in Wisconsin).
4. Utility bill savings from offsets based on energy and demand rates as per Wisconsin Public Services (WPS) rate CG-20.

Season	Time	Rate ($/kWh)	Customer Demand ($/kW)	Demand Charge ($/kW)
Winter (Oct-May)	On-peak (Mon-Fri 8AM-1PM & 5PM-9PM)	$0.0728	$2.399	$11.992
Winter (Oct-May)	Off-peak	$0.4282	$2.399	$0.000
Summer (June-Sep)	On-peak (Mon-Fri 8AM-6PM)	$0.0728	$2.399	$18.449
Summer (June-Sep)	Off-peak	$0.4282	$2.399	$0.000

5. Utility bill savings from exports modeled using the weighted average of $0.0613/kWh buy back rate (Avoided Energy Cost Rate), based on WPS Parallel Generation Purchase tariff (WPS PG-2B), and an hourly performance/consumption simulation model.

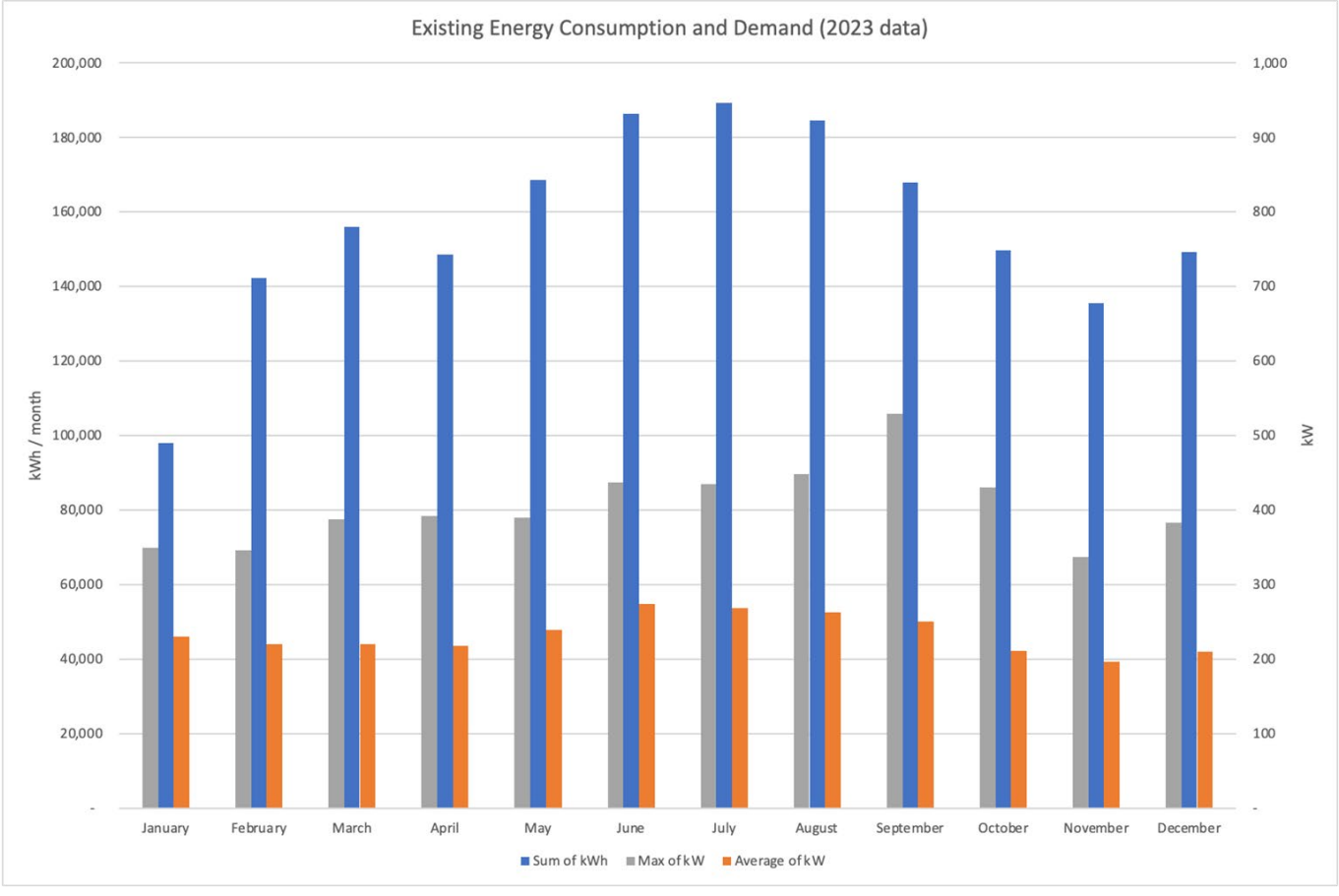
Season	Time	Rate ($/kWh)
Winter (Oct-May)	On-peak (Mon-Fri 7AM-10PM)	$0.07013
Winter (Oct-May)	Off-peak	$0.02904
Summer (June-Sep)	On-peak (Mon-Fri 7AM-11PM)	$0.08132
Summer (June-Sep)	Off-peak	$0.03041

6. Per communication with WPS on 3/14/24, while on PG-2B tariff, bill credits are applied to that month's bill; any credit that exceeds $100 is paid in the form of a check.
7. Plant operation and energy usage modeled to remain consistent with 2023 usage. Increased energy usage in future years was not modeled.
8. Scenario 1 & 2 are modeled as pile-driven ground mounts with a fixed rack at a 25-degrees tilt with 15-ft row spacing, achieving an overall smaller array footprint.
9. Scenario 3 is modeled as a pile-drive ground mount with a fixed rack at a 27-degree tilt with 16.5-ft row spacing, achieving a higher production but also takes up a slightly larger footprint.
10. Scenario 1 Alternate is modeled as a pile-drive ground mount with a fixed rack at a 30-degree tilt with 20-ft row spacing, achieving a higher production but also a larger footprint.
11. There is a potential for additional engineering fees and distribution study fees from WPS that are unknown until interconnection application is filled with WPS. The Distribution study may result in the need for system side improvements to support the PV system, which also could lead to additional costs to the City. In this scenario, an alternative option could be to reduce the PV system size to meet utility transformer limitations once the study is complete.
12. Average O&M costs include potential inverter replacement at year 15 in the lifetime of the PV system.
13. The property for Scenario 1, and the southern part of Scenario 2, is located in the City of Wausau jurisdiction. It is currently Zoned Residential (SR-2), and per zoning laws the property would need to be rezoned to Heavy industrial (HI); reference https://library.municode.com/wi/wausau/codes/code_of_ordinances?nodeId=TIT23ZO_ARTIIILAUSRE 23.03.05 - Table of land uses. Per the Solar arrays exempt from Screening requirements. 23.06.21 - Exterior storage and screening standards. Part 6(a) https://library.municode.com/wi/wausau/codes/code_of_ordinances?nodeId=TIT23ZO_ARTVIPEST_23.06.21EXSTSCST
14. The property for Scenario 3, and the north part of Scenario 2, is located in the Village of Maine jurisdiction. This is also zoned residential, and an application and petition would be needed to rezone with the city ($150 application fee). Application and reference available at https://cdn.townweb.com/villageofmaine.org/wp-content/uploads/2023/03/amendzoningordinance7-2020.pdf

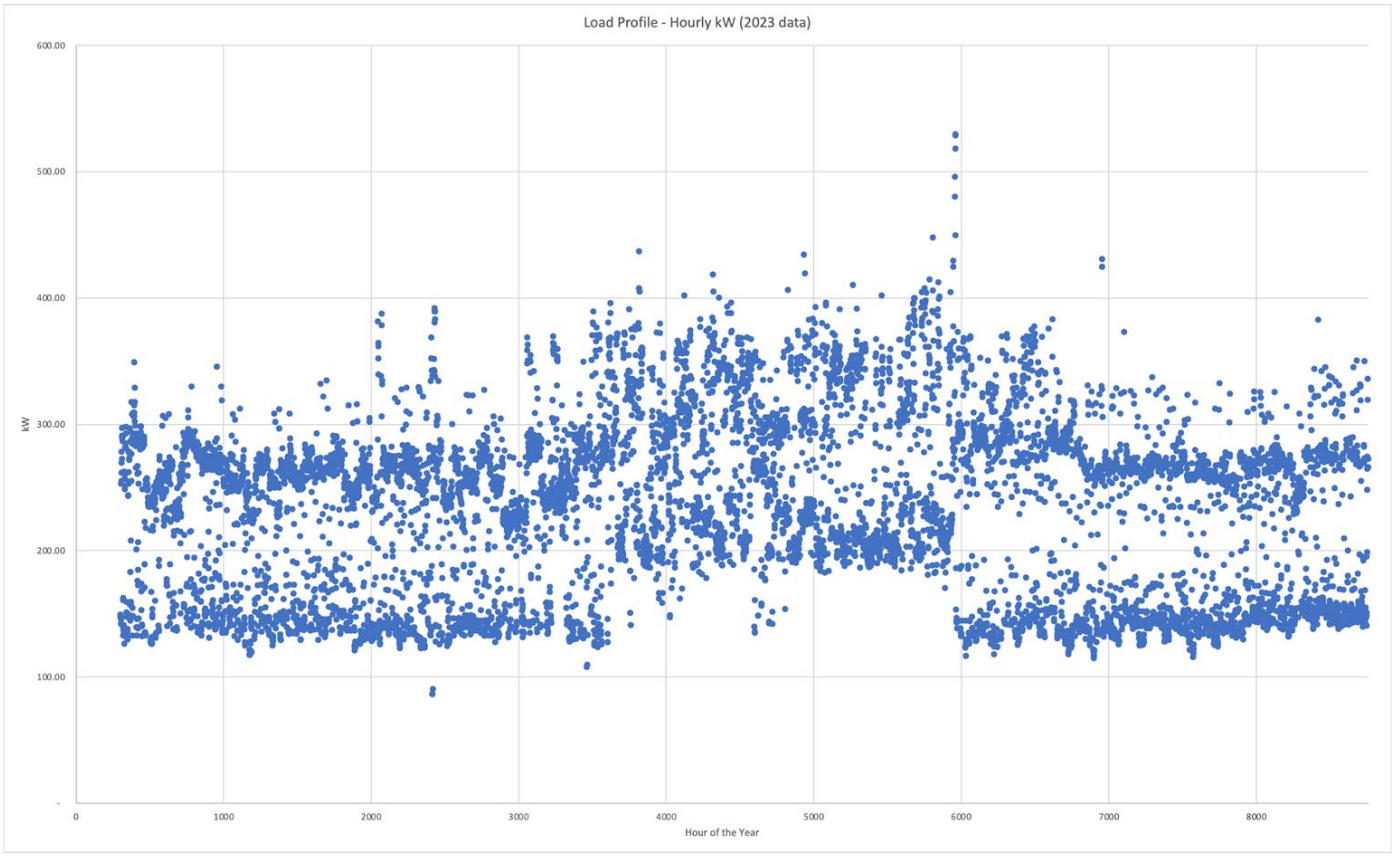
Key Assumptions and Notes

15. Notes on the Federal Investment Tax Credit (ITC).
    a. Per guidance from the US DOE and the Federal Office for Energy Efficiency and Renewable Energy, as a tax-exempt organization, the City of Wausau is eligible to receive a refund (i.e. direct pay) from the IRS for tax credits on projects placed in service after 2022. Organizations that wish to receive direct pay, also known as elective pay, must pre-register with the IRS before the tax return is due and receive a registration number.
    b. The Base Credit for a PV system is 30% of eligible project costs.
    c. Note Eligible solar equipment purchase through debt financing qualifies for the ITC. However, the amount of the base ITC may be reduced by up to 15% if tax exempt bonds are used to finance the PV system.
    d. A Domestic Content Bonus of 10% is also available. To qualify for the domestic content bonus, all structural steel or iron products used must be produced in the United States and a "required percentage" of the total costs of manufactured products (including components) of the facility need to be mined, produced, or manufactured in the United States. The required percentage of manufactured products starts at 40% for all projects beginning construction before 2025, increases to 45% for projects beginning construction in 2025, 50% for projects beginning construction in 2026, and 55% for projects beginning construction after 2026.
    e. The PV solar system at the Wausau Water Treatment Plant would also qualify for a Low-Income Community Bonus of 10% for being located in a low-income community as defined by the New Markets Tax Credit. This Bonus is awarded based on an application process, that is presently oversubscribed and not guaranteed.
    f. It is highly recommended that the City consult with their accountant and professional tax advisor regarding the ITC prior to commencing a project.
    g. Additional information about eligibility and application for Federal Solar Tax Credits for Businesses is available at https://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses.
16. Additional information about eligibility and application for Wisconsin Focus on Energy Rebate is available at https://focusonenergy.com/business/renewables#rebate-info.
17. Additional information about eligibility and application for Wisconsin Public Service Commission Energy Innovation Grant is available at https://psc.wi.gov/Pages/ServiceType/OEI/EnergyInnovationGrantProgram.aspx. Per PSC on 3/11/24, it is not certain if the EI grant will again be offered in 2024.
18. Recommended solar system and equipment warranties include minimum of 2-year workmanship warranty, 25-year warranty on modules and power optimizers (Scenario 3), 12-year warranty on inverters (extended 20-year warranty can also be considered).
19. Pricing for all Scenarios includes costs/fees for common excavation and site preparation (such as leveling, grading, debris removal, erosion control, etc), building of land berm, and building of an access road.
20. Pricing does not include any interest, finance or borrowing charges or fees.
21. Pricing for all Scenarios does not include costs/fees for prairie seeding/restoration and ongoing prairie/land maintenance is not included in the O&M estimate.

Baseline Energy Usage Charts



Baseline Energy Usage Charts



Baseline - Energy Usage (kWh) & Demand (kW) Charts

Heat map of existing energy consumption, kWh (month vs hour of day)

Sum of kWh	Month												
Hour	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
0	5,085	7,155	7,788	7,557	7,556	8,711	8,885	8,204	6,928	7,646	6,281	5,454	87,251
1	4,776	7,180	7,600	7,353	7,384	8,244	8,527	7,784	6,474	6,596	5,727	4,776	82,420
2	4,622	7,216	7,599	7,512	6,987	8,048	8,256	7,644	5,844	5,600	5,028	4,622	78,978
3	4,834	6,953	7,309	7,174	6,476	7,832	7,863	7,357	5,232	4,865	4,763	4,834	75,493
4	4,927	6,351	6,549	5,892	5,689	7,248	7,639	6,950	4,892	4,318	4,526	4,927	69,907
5	4,747	5,660	5,655	5,357	5,520	7,151	7,260	6,829	4,794	4,273	4,272	4,747	66,265
6	4,711	5,587	5,368	6,081	6,144	7,297	7,333	6,861	5,041	4,420	4,227	4,711	67,782
7	4,682	5,107	5,290	5,728	6,473	7,432	7,348	7,181	5,210	4,483	4,283	4,682	67,900
8	4,665	4,784	5,037	5,365	6,526	7,667	7,533	7,233	5,349	4,396	4,340	4,665	67,559
9	4,811	4,448	5,078	4,844	6,457	7,724	7,379	7,180	5,615	4,249	4,352	4,811	66,947
10	4,955	4,271	5,122	4,729	6,441	7,703	7,493	7,446	6,424	4,322	4,490	4,955	68,351
11	5,274	4,282	5,131	4,523	6,337	7,446	7,279	7,173	7,208	4,562	4,756	5,274	69,245
12	5,660	4,434	4,945	4,316	6,427	6,970	7,186	7,399	7,906	4,763	5,024	5,660	70,691
13	6,378	4,361	4,887	4,638	6,478	6,971	7,253	7,603	8,239	5,387	5,359	6,378	73,932
14	7,056	4,635	5,520	4,993	7,027	7,198	7,160	7,970	8,373	6,300	5,563	7,056	78,851
15	7,547	5,615	6,457	5,196	7,432	7,002	7,092	7,812	8,401	7,140	5,786	7,547	83,027
16	8,075	6,038	7,138	5,870	7,688	7,514	7,235	7,877	8,231	7,763	6,324	8,075	87,828
17	8,088	6,275	7,324	6,721	7,846	7,712	7,527	7,827	8,426	8,162	6,732	8,088	90,728
18	8,382	6,663	7,611	7,267	7,995	7,989	8,125	8,244	8,465	8,388	7,173	8,382	94,684
19	8,513	6,945	7,750	7,443	7,881	8,205	8,702	8,303	8,604	8,509	7,426	8,513	96,795
20	8,646	6,991	7,707	7,437	7,941	8,275	8,801	8,366	8,348	8,504	7,449	8,646	97,111
21	8,310	7,062	7,773	7,391	7,961	8,537	9,043	8,383	8,173	8,357	7,485	8,310	96,785
22	7,803	7,128	7,772	7,534	8,019	8,688	9,203	8,564	8,243	8,424	7,291	7,803	96,474
23	6,557	7,199	7,777	7,565	7,919	8,569	9,271	8,284	7,441	8,326	6,550	6,557	92,012
Grand Total	**149,103**	**142,340**	**156,187**	**148,485**	**168,604**	**186,133**	**189,394**	**184,475**	**167,861**	**149,754**	**135,209**	**149,472**	**1,927,017**

Heat map of existing demand, kW (month vs hour of day)

Max of kW	Month												
Hour	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
0	280	291	332	323	353	437	406	406	405	373	337	280	437
1	298	309	313	323	379	369	388	448	373	317	324	298	448
2	249	330	282	326	300	408	388	404	358	324	317	249	408
3	257	319	282	352	390	405	374	415	323	299	300	257	415
4	258	284	301	343	298	369	364	366	326	280	303	258	369
5	290	279	286	342	284	391	337	389	301	194	189	290	391
6	284	302	338	381	351	344	340	325	481	249	165	284	481
7	209	272	382	389	341	364	341	385	496	285	241	209	496
8	214	313	362	392	349	377	341	380	529	297	286	214	529
9	248	312	388	389	381	384	335	395	518	198	289	248	518
10	269	261	352	383	355	372	341	410	530	257	286	269	530
11	273	241	340	338	365	371	367	360	450	258	272	273	450
12	326	244	284	243	369	366	349	392	370	322	271	326	392
13	326	259	283	343	368	375	358	363	375	318	313	326	375
14	321	330	289	338	365	363	400	402	412	302	280	321	412
15	328	311	291	271	320	368	434	408	378	299	279	328	434
16	337	306	281	271	362	358	352	400	370	376	313	337	400
17	327	346	279	284	365	354	368	391	370	331	276	327	391
18	383	289	277	329	370	402	394	393	378	353	320	383	402
19	350	285	335	285	358	385	397	392	425	431	326	350	431
20	350	285	305	302	371	419	369	400	430	425	284	350	430
21	338	294	322	288	371	380	420	387	372	329	324	338	420
22	345	289	302	328	381	380	374	390	368	343	333	345	390
23	331	304	315	328	396	378	375	405	361	341	327	331	405
Grand Total	**383**	**346**	**388**	**392**	**396**	**437**	**434**	**448**	**530**	**431**	**337**	**383**	**530**

Shifted Load to Off-Peak - Energy Usage (kWh) & Demand (kW) Charts

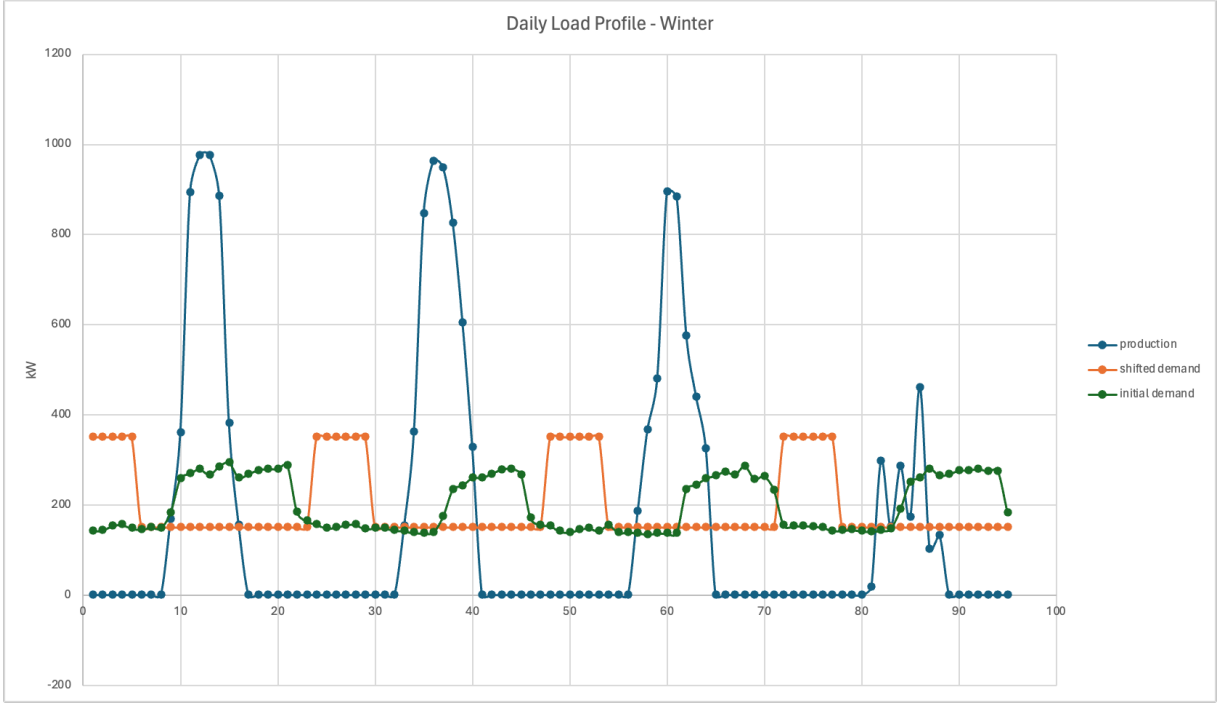
Heat map of shifted energy consumption, kWh (month vs hour of day)

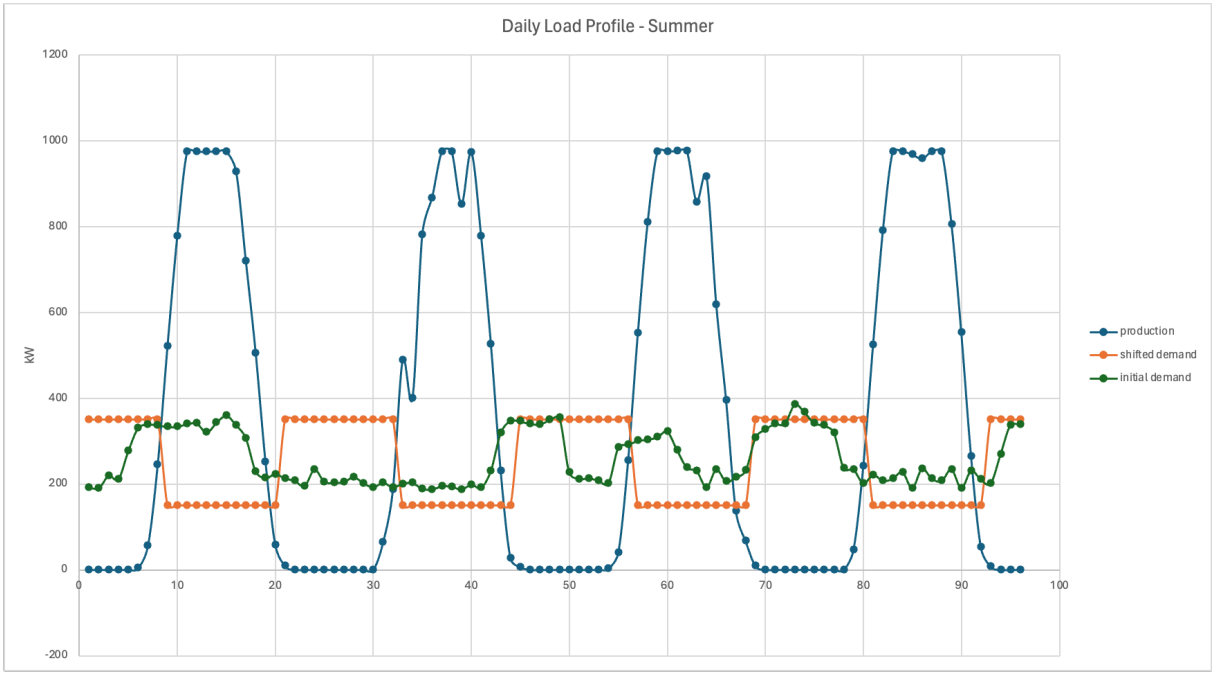
Sum of kWh	Month												
Hour	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
0	10,500	9,800	10,850	10,500	10,850	10,500	10,850	10,850	10,500	10,850	10,500	11,200	127,750
1	10,850	9,800	10,850	10,500	10,850	10,500	10,850	10,850	10,500	10,850	10,500	10,850	127,750
2	10,850	9,800	10,850	10,500	10,850	10,500	10,850	10,850	10,500	10,850	10,500	10,850	127,750
3	10,850	9,800	10,850	10,500	10,850	10,500	10,850	10,850	10,500	10,850	10,500	10,850	127,750
4	10,850	9,800	10,850	10,500	10,850	10,500	10,850	10,850	10,500	10,850	10,500	10,850	127,750
5	10,850	9,800	10,850	10,500	10,850	10,500	10,850	10,850	10,500	10,850	4,500	10,850	121,750
6	4,650	9,800	10,850	10,500	10,850	10,500	10,850	10,850	10,500	10,850	4,500	10,850	115,550
7	4,650	9,800	4,650	4,500	4,650	10,500	10,850	10,850	10,500	4,650	4,500	4,650	84,750
8	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
9	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
10	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
11	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
12	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
13	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
14	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
15	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
16	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
17	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
18	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
19	4,650	4,200	4,650	4,500	4,650	4,500	4,650	4,650	4,500	4,650	4,500	4,650	54,750
20	4,650	4,200	4,650	4,500	4,650	10,500	10,850	4,650	4,500	4,650	4,500	4,650	66,950
21	4,650	4,200	4,650	4,500	4,650	10,500	10,850	4,650	4,500	4,650	4,500	4,650	66,950
22	4,650	4,200	4,650	4,500	10,850	10,500	10,850	10,850	10,500	4,650	4,500	4,650	85,350
23	4,650	9,800	4,650	4,500	10,850	10,500	10,850	10,850	10,500	4,650	4,500	4,650	90,950
Grand Total	148,450	151,200	155,000	150,000	167,400	180,000	186,000	173,600	168,000	155,000	138,000	155,350	1,928,000

Heat map of shifted demand, kW (month vs hour of day)

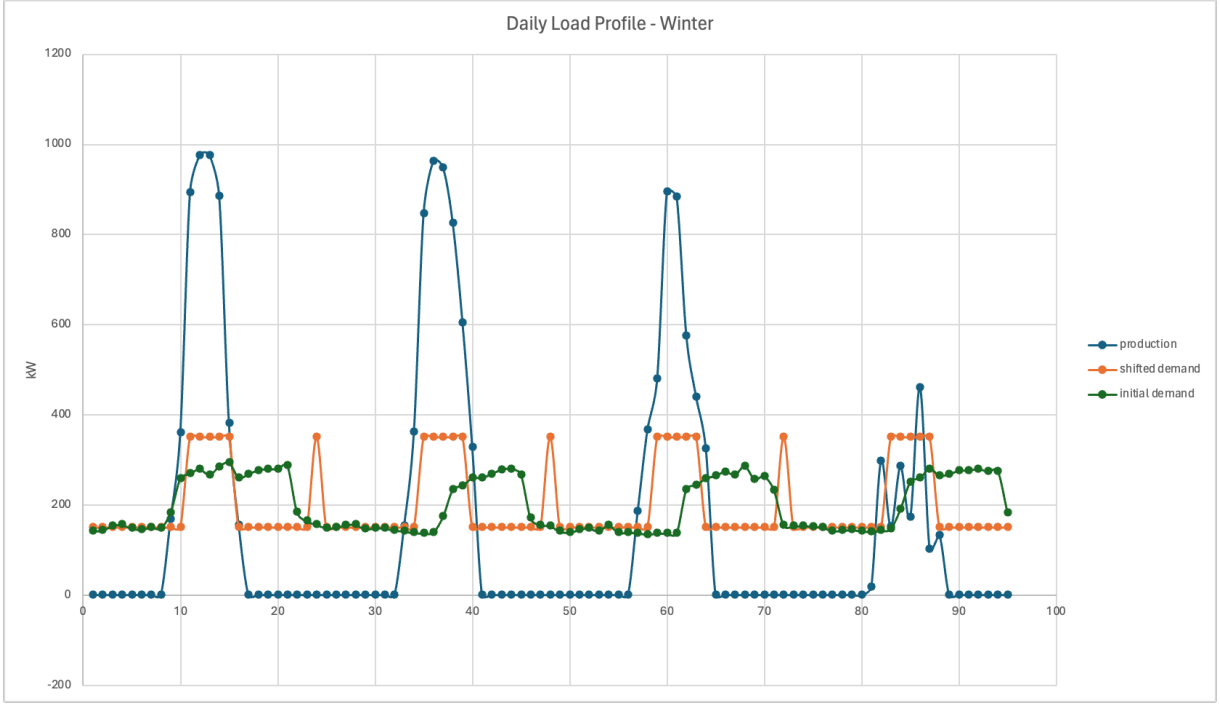
Max of kW	Month												
Hour	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
0	350	350	350	350	350	350	350	350	350	350	350	350	350
1	350	350	350	350	350	350	350	350	350	350	350	350	350
2	350	350	350	350	350	350	350	350	350	350	350	350	350
3	350	350	350	350	350	350	350	350	350	350	350	350	350
4	350	350	350	350	350	350	350	350	350	350	350	350	350
5	350	350	350	350	350	350	350	350	350	350	150	350	350
6	150	350	350	350	350	350	350	350	350	350	150	350	350
7	150	350	150	150	150	350	350	350	350	150	150	150	350
8	150	150	150	150	150	150	150	150	150	150	150	150	150
9	150	150	150	150	150	150	150	150	150	150	150	150	150
10	150	150	150	150	150	150	150	150	150	150	150	150	150
11	150	150	150	150	150	150	150	150	150	150	150	150	150
12	150	150	150	150	150	150	150	150	150	150	150	150	150
13	150	150	150	150	150	150	150	150	150	150	150	150	150
14	150	150	150	150	150	150	150	150	150	150	150	150	150
15	150	150	150	150	150	150	150	150	150	150	150	150	150
16	150	150	150	150	150	150	150	150	150	150	150	150	150
17	150	150	150	150	150	150	150	150	150	150	150	150	150
18	150	150	150	150	150	150	150	150	150	150	150	150	150
19	150	150	150	150	150	150	150	150	150	150	150	150	150
20	150	150	150	150	150	350	350	150	150	150	150	150	350
21	150	150	150	150	150	350	350	150	150	150	150	150	350
22	150	150	150	150	350	350	350	350	350	150	150	150	350
23	150	350	150	150	350	350	350	350	350	150	150	150	350
Grand Total	350	350	350	350	350	350	350	350	350	350	350	350	350

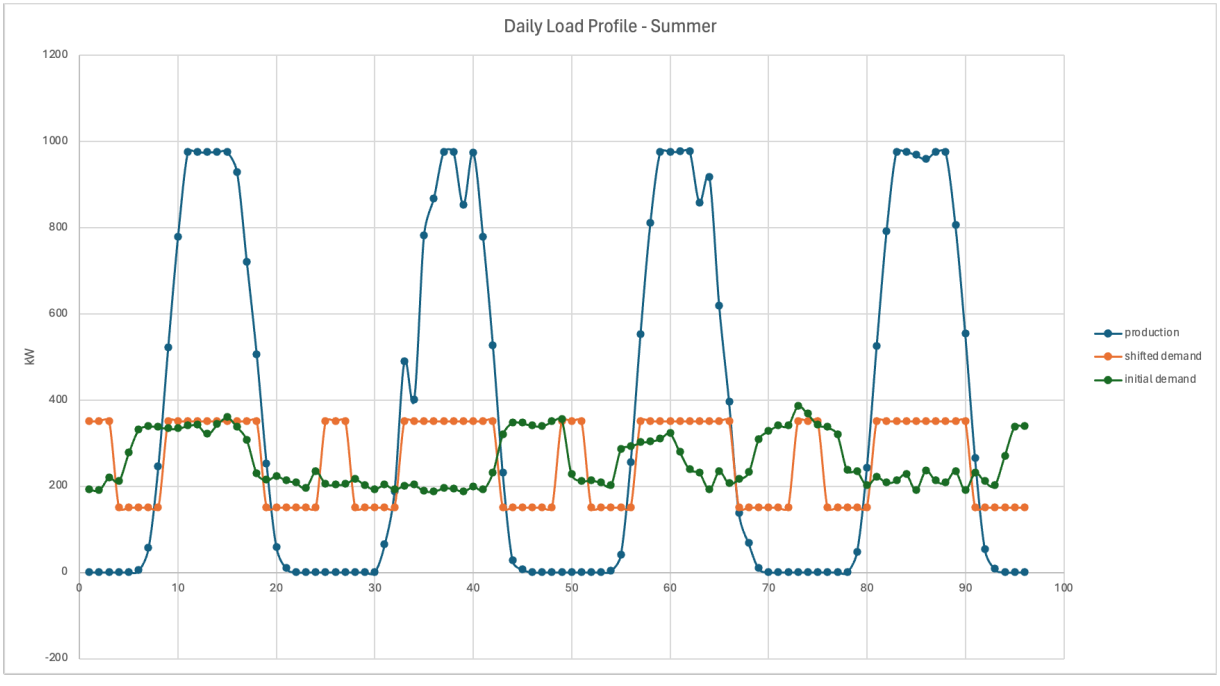
Sample Load Profiles – Shifted Load to Off-Peak





Sample Load Profiles – Shifted Load to Solar Production





Utility Bill Components

Business Solutions Center 877-444-0888
Electric Emergencies 800-450-7240
Gas Emergencies 800-450-7280

Bill Date	Account Number	Next Meter Read Date	Amount Due	Payment Due Date
10/13/2023	0401272549-00087	10/31/2023	$40,508.19	11/27/2023

Customer Name WAUSAU WATER WORKS
Service Address 1801 BURECK AVE
WAUSAU WI 54401

Activity Since Last Bill

09/12/2023	Previous Balance	$18,962.40
	Balance	$18,962.40
	Total Current Charges	$21,545.79
	Total Current Balance	$40,508.19

Electric Service
Elec Sm Coml & Ind TOU Secondary Cg-20

Meter 6003352

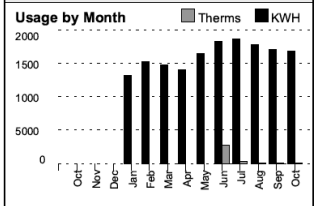
Actual Reading 10/01/2023	2402	
Set Reading 09/01/2023	-2122	
	280	
Meter Constant	x 600	
Total Electric Use	168000 KWH	

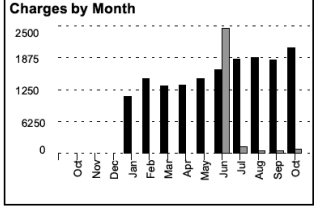
Energy Charges/Credits		
Customer Charge	30 Days at $3.05750	$91.73
Demand Charges/Credits		
Customer Demand	529 KW @ 09/06/2023 11:00 * $2.399	$1,269.07
On-Peak	529 KW @ 09/06/2023 11:00 * $18.449	$9,759.52
Off-Peak	09/06/2023 07:45; 480 KW at $0	$0.00
Energy Charges/Credits		
On-Peak	50,941 KWH at $0.07767	$3,956.59
Off-Peak	116,950 KWH at $0.04569	$5,343.45
Fuel Cost Adjustment - Prior Year	167,891 KWH at $0.00138	$231.69
Other Service Charges/Credits		
WI Low Income Assistance Fee		$37.45
	Subtotal:	**$20,689.50**
	Electric Service Total:	**$20,689.50**

Account Summary
Bill Period: 09/01/2023 to 10/02/2023

	Oct 2023	Sep 2023
Billing Days	32	30
Avg Temp	62°F	66°F
Heating Deg Days	109	22
Cooling Deg Days	76	131
KWH Used	167891	171605
Avg KWH / Day	5246.6	5720.2
Therms Used	1680.1	1268.6
Avg Therms / Day	52.5	42.3

Graphs





Gas Service
Gas Sm Coml & I
Meter 445470

Local Distributio
Customer Charg $30.58
Distribution $271.67
Gas Supply Serv
Base Gas $20.39
PGA $240.47
PGA $25.88
$56.29

ACCOUNT NUMBER /EC_PDF_Out 24406 {12}

Utility Bill Components

Fixed =	$91.73	0.4%
Demand =	$11,028.59	53.3%
Energy =	$9,531.73	46.1%
Other =	$37.45	0.2%
Total =	$20,689.50	100%

Please return this stub with your payment.

ACCOUNT NUMBER: 0401272549-00087

Amount Due By 11/27/2023 $40,508.19

A 1% late fee will be charged on any unpaid balance

Please write your account number on your check

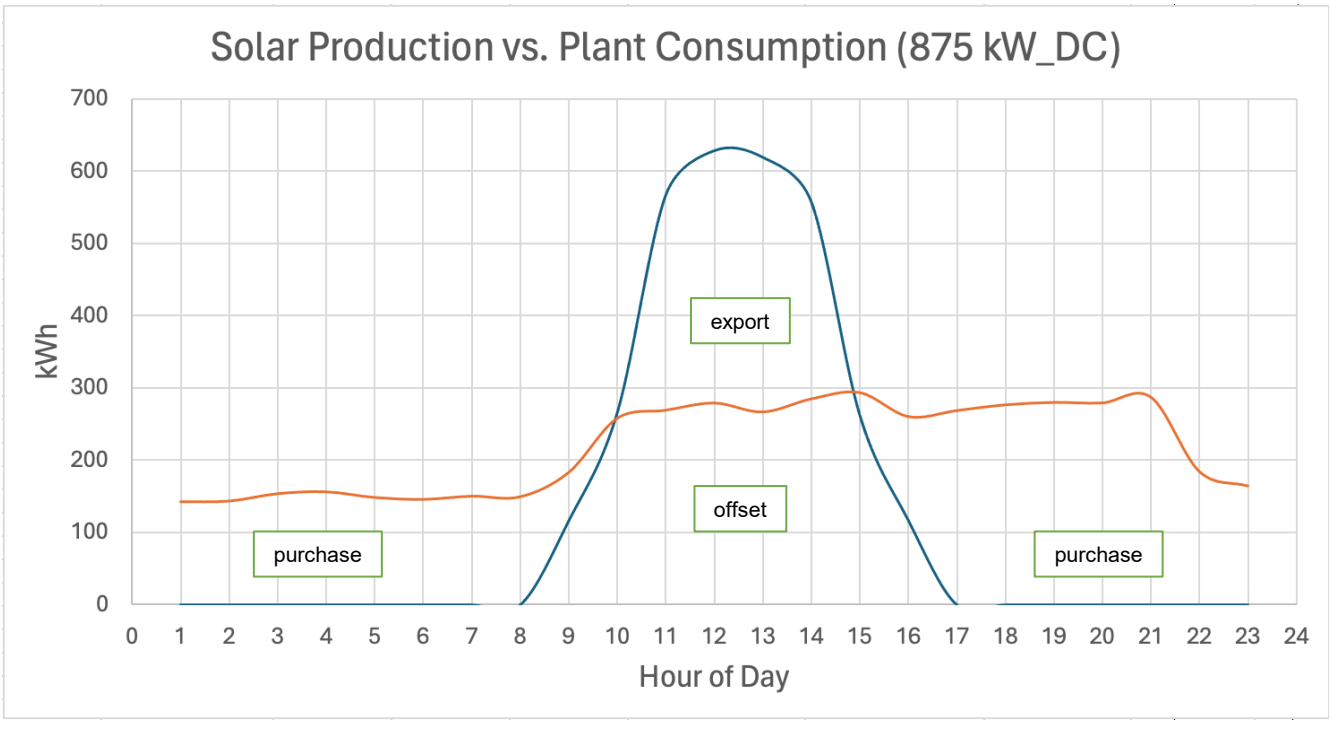
Amount Enclosed

WAUSAU WATER WORKS
407 GRANT ST
WAUSAU WI 54403-4737

Wisconsin Public Service
PO Box 6040
Carol Stream IL 60197-6040

0110401272549000872 4004050819

Purchase, Offset, and Export for Parallel Generation Example



Offset & Purchase Rates (CG20)

Season	Time	Rate ($/kWh)	Customer Demand ($/kW)	Demand Charge ($/kW)
Winter (Oct-May)	On-peak (Mon-Fri 8AM-1PM & 5PM-9PM)	$0.0728	$2.399	$11.992
Winter (Oct-May)	Off-peak	$0.4282	$2.399	$0.000
Summer (June-Sep)	On-peak (Mon-Fri 8AM-6PM)	$0.0728	$2.399	$18.449
Summer (June-Sep)	Off-peak	$0.4282	$2.399	$0.000

Avoided Energy and Capacity Cost Rates (PG-2B)

Season	Time	Rate ($/kWh)
Winter (Oct-May)	On-peak (Mon-Fri 7AM-10PM)	$0.07013
Winter (Oct-May)	Off-peak	$0.02904
Summer (June-Sep)	On-peak (Mon-Fri 7AM-11PM)	$0.08132
Summer (June-Sep)	Off-peak	$0.03041

Utility Rate Structure

WISCONSIN PUBLIC SERVICE CORPORATION

P.S.C.W. Volume No. 7 — 33rd Rev. Sheet No. E6.10
Replaces 32nd Rev. Sheet No. E6.10
Amendment 789 Schedule Cg-20

Small Comm'l and Indus. Service-Time of Use **Electric**

AVAILABILITY

This schedule is available to small commercial and industrial customers where one or both of the following have been exceeded for three consecutive months and also exceeded for at least one billing month in each succeeding rolling 12-billing month period:

1. Total demand of 100kW; or
2. Total monthly energy consumption of 25,000 kWh.

If the customer's system demand falls below 100 kW or the customer's energy consumption falls below 25,000 kWh for 12 consecutive billing months, the Company will complete a billing comparison using the customer's previous 12 months of consumption showing the customer's historical bills under the Cg-20 rate schedule and the Cg-5 rate schedule. If these bill comparisons show that the customer had a lower bill under the Cg-20 rate schedule than they would have had under the Cg-5 rate schedule, the customer will be notified that they can opt to stay on the Cg-20 rate schedule or be moved to the Cg-5 rate schedule. If the customer does not respond within 15 days of notification, the customer will remain on the Cg-20 rate schedule. This provision may be modified in future rate case proceedings.

WISCONSIN PUBLIC SERVICE CORPORATION

P.S.C.W. Volume No. 7 — 25th Rev. Sheet No. E6.01
Replaces 24th Rev. Sheet No. E6.01
Amendment 794 Schedule Cg-5

Small Commercial and Industrial Service **Electric**

AVAILABILITY

This schedule is available to small commercial and industrial customers where:

1. Total monthly energy consumption has exceeded 12,500 kwh for three consecutive months and, after qualifying at least once in succeeding rolling 12 month periods; or
2. Does not meet the availability criteria for the Cg-20 and Cp rate schedules.

For new customers the company may, at its discretion, waive the three month qualification period when, in the company's judgment, the customer would obviously meet the qualification criteria. The company shall inform the customer in writing that failure of the customer to meet the qualification criteria after a waiver is granted will result in:

1. The customer being immediately placed on the appropriate rate schedule, and
2. Backbilling to reflect the appropriate rate schedule from the date the waiver was originally effective.

Utility Rate Structure

WISCONSIN PUBLIC SERVICE CORPORATION

P.S.C.W. Volume No. 7 — 33rd Rev. Sheet No. E6.10
Replaces 32nd Rev. Sheet No. E6.10
Amendment 789 Schedule Cg-20

Small Comm'l and Indus. Service-Time of Use — **Electric**

AVAILABILITY
This schedule is available to small commercial and industrial customers where one or both of the following have been exceeded for three consecutive months and also exceeded for at least one billing month in each succeeding rolling 12-billing month period:

CUSTOMER CHARGE
For customers with company metering equipment installed at:

	Daily
Under 6,000 volts	$3.0575
6,000 volts to 15,000 volts inclusive	$5.5890

The above listed voltages are phase-to-ground for wye-connected company systems and phase-to-phase for delta-connected company systems.

CUSTOMER DEMAND $2.399/kW
Per kW of maximum demand during the current or preceding 11 months.

DEMAND CHARGE
ON-PEAK
a. Winter (Calendar Months Oct-May): $11.992/kW
8AM - 1PM; & 5PM - 9PM; Mon - Fri (Except Holidays)

b. Summer (Calendar Months Jun-Sep): $18.449/kW
8AM - 6PM; Mon - Fri (Except Holidays)

OFF-PEAK
All Hours Not in On-Peak Period $0/kW

ENERGY CHARGE
ON-PEAK
a. Winter (Calendar Months Oct-May): $0.07278/kWh
8AM - 1PM; & 5PM - 9PM; Mon - Fri (Except Holidays)

b. Summer (Calendar Months Jun-Sep): $0.07278/kWh
8AM - 6PM; Mon - Fri (Except Holidays)

OFF-PEAK
All Hours Not in On-Peak Period $0.04282/kWh

Utility Rate Structure

WISCONSIN PUBLIC SERVICE CORPORATION

P.S.C.W. Volume No. 7

14th Rev. Sheet No. E4.19
Replaces 13th Rev Sheet No. E4.19
Amendment 794 Schedule PG-2B

Parallel Generation-Purchase by WPSC **Electric**

EFFECTIVE IN
All territory served.

AVAILABILITY
To customers who (1) purchase power from the Company under a time-of-use tariffed rate, (2) satisfy the requirements of "qualifying facility" status under Part 292 of the Federal Energy Regulatory Commission's regulations under the Public Utility Regulatory Policies Act of 1978, (3) generate electrical energy with total customer owned generating capacity of 1,000 kW or less, and (4) desire to sell electrical energy to the Company.

Avoided Energy Cost Rate:
The customer will receive a credit on their bill equal to the kilowatt hours supplied to the Company multiplied by the customer's Avoided Energy Cost Rate (shown below). The customer's Avoided Energy Cost Rate is not subject to any adjustments, such as the adjustment for cost of fuel, or any other miscellaneous surcharges or adjustments. This tariff is intended to provide payment for energy sent to the Company.

		Secondary	Primary	Transmission
On Peak				
	Winter	$0.04219	$0.04147	$0.04095
	Summer	$0.05338	$0.05247	$0.05182
Off Peak				
	Winter	$0.02904	$0.02855	$0.02819
	Summer	$0.03041	$0.02989	$0.02952

The Avoided Energy Cost Rate shall be updated on January 1 of each year and will be calculated as follows:
Avoided Energy Cost Rate = A x (1 + B), where
A = The forecasted January through December load weighted average Day- Ahead Locational Marginal Pricing for the WPS.WPSM pricing load zone approved in the Company's annual fuel plan.

Avoided Capacity Cost Rate: The customer will receive a capacity credit equal to the amount of energy that is supplied to the Company during the designated on-peak period.

	Secondary	Primary	Transmission
All on-peak excess energy, per kWh	$0.02794	$0.02713	$0.02679

The Avoided Capacity Cost Rate will be updated each June 1 to reflect the current MISO Cost of New Entry (CONE) value for the applicable Local Resource Zone and Planning Year, and will be adjusted for distribution and transmission line losses based on the most recently authorized values.

Avoided Transmission Cost Rate:
The customer will receive a credit on their bill equal to the kilowatt-hours supplied to the Company multiplied by the Avoided Transmission Cost Rate (shown below).

All excess energy, per kWh	$0.00000

ON-PEAK HOURS
Winter (calendar months of October through May):
7:00 AM to 10:00 PM; Monday through Friday (except holidays).

Summer (calendar months of June through September): 7:00 AM to 11:00 PM; Monday through Friday (except holidays).

OFF-PEAK HOURS
All hours not listed as on-peak hours.

Drinking Water Division:

Plant	Hours
Operation, Monitoring, Adjustments	3432
Sampling (WDNR, EPA)	1248
Emergency Power/ Generators	500
Eye wash/ fire ext./ Safety eqip.	150
Pumping structure	800
Pump Equip maint and repair	2080
Site visits, inspections	2080
Treatment structure	800
Treatment equip and repair	2080
Training	1040
Vehicle/ equipment maint.	160
Total	14370
Plant Staff avail hrs.	7108

7262 Hours short
3.5 FTE's

Drinking Water Division:

Distribution	Hours
Hours for Meters and RPZ's	8210
Locates	3120
Flushing/draining res.	656
Hyd Maint/flow tests	480
winter op/maint	320
Dig jobs (breaks, services, hyd)	6000
Uni-directional flushing/ valve turning	1600
Materials handling/ yard maint.	480
Steet ans const projects	480
Lead verification and sampling	620
GIS Updates	480
Shop and equip maint	160
Total	22606
Dist staff avail hours	15947
	6659 hours short
	a bit over 3 FTE's

Drinking Water Division:

	Current Pay Grade	Annual Hours Avail.	Vac/Hol/Per/comp/av sick	*	Hours Avail.	Hours Per Group
Superintendent	12	2080	360		1720	
Distribution Supervisor	16	2080	360		1720	
Admin II	20	2080	260	32	1788	
Admin III	19	2080	285		1795	7023
Dist Maint	18	2080	320		1760	
Dist Maint	19	2080	389		1691	
Dist Maint	19	2080	364		1716	
Dist Maint	19	2080	306		1774	
Dist Maint	19	2080	256		1824	
Dist Maint	19	2080	258		1822	
Dist Maint	19	2080	240		1840	
Dist Maint	19	2080	240		1840	15947
Dist Maint/ Relief Op	18	2080	280	120	1680	
Plant Operator	18	2080	240		1840	
Plant Tech	18	2080	360		1720	
Plant tech	18	2080	240		1840	
Senior Plant Tech	17	2080	372		1708	7108
Totals:		35360	5130	152	30078	

17 employees W/ 1 open position

used 2 days sick for Averg.
Actual would be more

WAUSAU WATER WORKS
FOR YOU!

When justifying an increase in staffing at the Wausau Waterworks-Wastewater Division, concrete evidence and data has been provided to support the need for two additional staff at the Wastewater Treatment Plant and one additional staff onto the Collections Crew. The attached data sheets include workload analysis. Increasing staff requires clear justification, especially in a business context. Here are several reasons why the Wausau Waterworks – Wastewater Division is able to justify an increase in staffing:

1. **Increased Workload**: Wastewater and Collections staff become overwhelmed with work. Bringing on additional staff will help distribute the workload more evenly and prevent burnout. This justification is supported by the data sheets provided.

2. **Improved Efficiency and Productivity**: Additional staff can lead to improved efficiency and productivity and all tasks can be accomplished and not put on hold and not completed.

3. **Expansion or Growth**: Wausau Wastewater Utility has expanded its operations adding more technical equipment which requires more staff to operate.

4. **Specialized Skills**: The need to hire staff with specialized skills or expertise is imperative to tackle specific projects or initiatives.

5. Regulatory Compliance or Risk Management: Having strict WDNR regulatory requirements, additional staff are needed to ensure compliance and mitigate risk.

6. **Improved Customer Experience**: Increasing staffing levels can lead to a better overall customer experience by reducing wait times, providing more personalized service, and addressing customer inquiries more promptly.

7. **Cost Savings in the Long Run**: While hiring additional staff incurs upfront costs, it can lead to long-term cost savings by preventing employee burnout, reduction of turnover, and avoiding costly mistakes due to understaffing.

Sewer Utility Labor Increase Justification

Task	2023 Job Costing Hours	Future Annual Estimated Hours	Explanation	Future Added Job Tasks
Locates	696	1,400	2024 and 2025 hours will go up substantially with Frontier/Mastec Boring Project. The Collections crew currently does not locate laterals because of the lack of information/location. In the future, they will start locating laterals that will double man hours. Ryan has been very hands-on for the last 4 years with the locates in 2023 alone, he spent approximately 122 hours on Locates Admin. He has reviewed each ticket, eliminated tickets not needed response, and organized each locate into a route around town to make them efficient to complete. Ryan responds to contractors with locate questions, as well as maps. This is work that will be delegated onto staff in the future requiring more man hours.	
Jetting & Root Sawing	2,092	2,100	**DNR requires the City to clean 20% of our Collection System each year**. The Citys Collection System is aging and many of the sewer mains have issues with root intrusion. These roots are hard to remove and to stay on top of. They take more time to remove them and with more roots entering the main in more areas of town each year, it slows the crew from getting through the entire system as often as needed. This will create more sewer back-ups. There's enough jetters to keep two crews busy, but due to the staffing shortage, one is allowed. This shortage has caused the crew to adapt to only performing emergency issues. The jetting and televising crew has lessened down to three or even two staff, whereas in years past a crew if four was required for safety reasons. Operating this way is less safe when it comes to assistance with lifing and traffic control.	
Televising	1,283	2,100	DNR requires the City to televise 10% of our Collection System each year. We have been currently meeting this requirement, but with the added duty of lateral launching, our mainline televising numbers will suffer and risk not meeting our 10% requirement. Because our crew hasn't had enough staff since 2019-2020, our crew has had to adapt a lot. A lot of the time, our jetting and televising crew has gone down to three or even two employee crews, whereas in years past we typically always had a crew of four and at times three. Operating this way is less safe because there isn't another person assisting in the heavy lifting and watching traffic.	
Lateral Launch & GPS	0	960	**This is new equipment which will require many man hours of training to use.** One (1) additional staff will need to be dedicated to lateral launch & GPS while running lateral launch equipment.	
MH Inspections & Recording	0	480	Curretnly manhole inspections are not being recorded. Ryan has been working with the GIS Department in order to perform inspections using a tablet. Using a tablet will enable staff to fill in information, take picutures while out in the field, and the stored information can be used for future manhole projects. When and If an asset management program is implemented, MH inspections could be performed on it. However, the additon of one full time employee would be necessary in order to accomplish this. Ryan currently performs between 50-100 MH inspections each year and inputs the information onto excel. This was never a part of the previous Supervisor's position, but due to the staffing shortage and new staff not having theknowledge, Ryan has been doing the inspections for the last 4-5 years and giving it to the engineering department and DPW for each overlay project or MH repair. This added duty has taken time away from other duties and requires to work addtional hours.	
Flushing	1,043	1,040	The City has a lot of areas where the sewerage doesn't move well on its own because the lines are flat and the new appliances/faucets use less water. This creates sewer back-ups, so we have a routine flush list and hot spot list that helps us keeps eyes on our system and help push the debris/water downstream. We have also been trying to be more proactive and have been trying to flush more areas in town each year to get eyes on every manhole and sewer main more often to help reduce back-ups. Because our crew hasn't had enough staff since 2019-2020, our crew has had to adapt a lot. When flushing at times, our crew has gone down to one employee and at times two employee crews,a whereas in years past we typically always two person crew. Operating this way is less safe because there isn't another person assisting in the heavy lifting and watching traffic.	

Equipment Repairs	561	500	Getting a new tv chassis and equipment so hopefully equipment repair hours comes down some. Ryan spent and additional 375 hours on mainly fleet/equipment maintenance (scheduling repairs for outside vendors, crew repairs, purchasing fluids & parts, etc.) This added duty has taken time away from other duties and adds man hours. Some, but not many hours of the 375 hours were spent on procuring pipe, fittings, and manhole parts. Staff are spending hundreds of additional hours on repairs that were not required in the past and that is due to the fleet department performing all repairs before. When the Fleet Dept was doing all repairs it reduced equipment down time as well as a lot of reduced time/efforts to the former Collections Supervisor.
Snow Plowing/Removal	444	550	2023 Winter was mild with lighter snow fall than previous years. Prior years required more man hours.
Shop Work	428	450	Shop work, organizing, and household cleaning have been lacking in recent years and field work took precedence.
Safety Training, Equipment Training & CDL Training/Course	419	400	Safety training greatly needs improvement: A safety program needs to be implemented and managed by a safety director. There currently is not a safety program that can efficiently be managed by Supervisors. Ryan goes over many safety topics and equipment with the arrival of each new employee upon hire. He does his best to schedule additional training that is provided by Rural Water Assoc. Record keeping presents a great challenge when figuring out who needs what training and when. The need for a structured safety program that can keep track of record keeping and provid annual safety training is imperative. With strictor state Class A and B requirements staff are required to receive CDL training at a state certifed training facility. New staff not holding a CDL are now required to take CDL training through the NTC. This has created an additional 250 man hours in which these are hours staff are not at work performing every day tasks. Over a 1 year time frame this has accumulated to 500 hours of not having an employee at work. This could be avoided if starting wages were increased to attract candidate already holding a CDL. Now that the incentive plan has been approved staff will be provided the opportunity for the proper training in order to obtain certifications.
Point Repair_Pipe Patch	12	480	Our crew would like to be able to repair more of our sewer main using our Pipe Patch equipment, but we currently can't re-allocate hours from other tasks to complete these repairs. We would also need to bring in a trainer to train the crew on this task because of the lack of experience we currently have on the crew. We need a crew of four to complete these repairs. (SEE BELOW FOR TABLE AND ANNUAL PIPE PATCHES INSTALLED)
Manhole Repairs	112	600	Our crew would like to be able to repair more of our manholes on our own, but we currently can't re-allocate hours from other tasks to complete these repairs. We need a crew of three to complete these repairs. DPW currently completes our surface manhole repairs. In 2023, DPW spent approximately 120 hours on these repairs. In 2024, they have already spent 259 hours on these repairs. Work inside of the manholes takes a crew of three to perform the work safely. Many of our manholes have been neglected over the years and in order to start rehabbing/reconstructing them, we need more employees, otherwise the Utility will have to hire out the work and pay more.
Grab Samples, I&I & Grease Investigation	0	200	We don't currently do any grab sampling of the collection system and I feel that this would benefit our department and the City to know where our main sources of higher pollutant/contaminent levels. We could do a better job of keeping understanding and controlling areas of higher grease build up, as well as other debris that shouldn't be discharged to the sewer main. More mailers could be sent out to more areas that we find through doing these investigations. There could be other options that could be created to better inform the public, as well as the areas we find needs the most education. We purchase or lease and install our own I&I monitoring devices to also get a better idea on isolating where the most I&I comes into the collection system. Finding this information out would help try to reduce the clear water that gets treated at the WWTP.
Sewer Troublecalls	79	80	Sewer related calls for back-ups and/or concerns for staff to inspect.
Plant Work-Assistance	181	180	Our Collection Crew helps the plant with duties around the treatment facility and cleaning lift stations.
Other Miscellaneous	361	360	We have many miscellaneous tasks that don't have a lot of work hours attached to them.

Total Hours	**7,711**	**11,880**	In 2023, we were short one employee for a period of time until position was filled.
Annual Available Work Hours	**8,840**	**8,840**	5 employees at 1,768 hours/yr
Additional Hours Needed		**3,040**	
Employees Required		**6.72**	

Total Regular Pay Hours Worked in 2023: 7,710.75

Annual Hours Available 2,080

Annual Paid Holiday Hours	80	10 Paid Days/Year
Annual Vacation Hours	120	3 Weeks
Annual Personal Leave Hours	24	3 Days
Annual Sick Leave Hours	88	11 Days
Annual Available Work Hours	***1,768***	

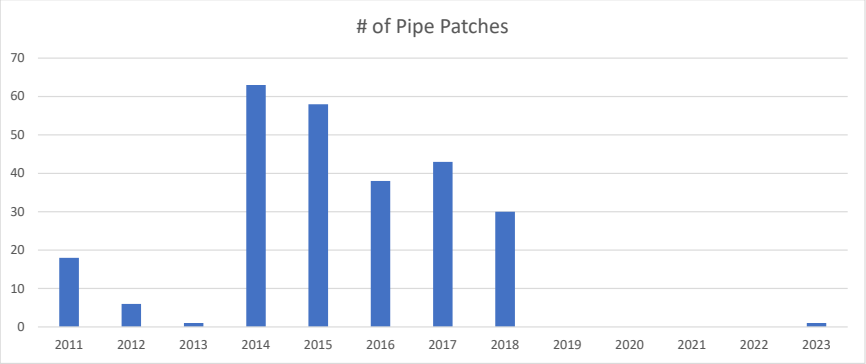
***2023 Hours came from 2023 Job Costing hours that our crew put into WorkDay each day for each job task they did.**

**** We need additional staff to get back to doing our tasks in a safer manner. The equipment is heavy and awkward and there is traffic all around our employees when we are working in the middle of the street/intersections every day. We shouldn't need to have one employee going out flushing by themselves or having a two employee crew for televising and jetting combined. We used to almost always have four in the past. At times, we had three employees, but never two.**

**** We could use an additional crew for doing manhole repairs and pipe patches all over town. We would need additional equipment for manhole repairs.**

****In addition to additional field staff, we need a lead position for the Collection Crew. Ryan has been maxed out on vacation for over two years and hasn't taken a sick day in three of the past four years. One of the big reasons why it's been very challenging to take time off is that Ryan doesn't have a person in charge on the crew. When Ryan is off, there is no clear person to hand over responsibilities to. Certain crewmembers get frusterated if they they aren't automatically the 'person in charge' when Ryan is off. Ryan can't take one crewmember and focus on training that individual all the specifics of his position and how answer certain questions when he's off because others, again, get frustrated about these individuals getting 'special treatment.' Ryan worked hundreds of unpaid additional hours last year and gets calls when he is off with questions that should already be able to be answered by the crewmembers or others. Ryan is getting very frustrated with the several additional duties, staffing shortages, lack of experience of staff, and working many unpaid additional hours to make up or cover not having enough staff. Not only do we need more staff, but we need more 'experienced' staff. Ryan and his crew cannot afford to constantly be spending time on training new employees literely everything about the industry. Ryan can't afford to spend his time, and can't afford to spend his crewmember's time because it is constantly taking away from their 'normal' day to day duties. Ryan and his crew have trained 9 people since 2020! This is a lot of time and effort. We need to get the wages higher in order to advertise these positions to get these more experienced people to even entertain working for the City.**

Year	# of Pipe Patches
2011	18
2012	6
2013	1
2014	63
2015	58
2016	38
2017	43
2018	30
2019	0
2020	0
2021	0
2022	0
2023	1



Collection Crew Background and Task Explanation

Background: Since 2019, our experienced staff has retired or separated from the City. At this time, we lost nearly 70 years of experience. We currently have two employees that have been with our department/collections crew for less than a year. One employee has already completed a CDL training/class at NTC that took over 2 months to obtain their CDL. The other employee is currently enrolled in the class. These employees are still learning a lot because they came in with no experience. Another collections employee has been with the department/collections crew for two years. He is also still learning a lot about televising, jetting, and repairs. The other two employees have been with our department/collections crew for 3 years and 5 years. They get leaned on for a majority of the repairs to equipment and making some of the calls in the field. At this time, it is very challenging to introduce more and more duties to the crew when they are still learning a lot about their core duties.

**2020-2022 had more locates due to TDS Fiber boring project

**2024-? Projected to be similar to 2020-2022 because of new Frontier/Mastec Fiber boring project.

Prior to 2020, Fleet Department handled almost all of the sewer department vehicle and equipment repairs. Similar to the sewer collections crew, they went to crtitical staffing levels in 2020-2021 and told the sewer department that we had to go on our own to figure out repairs. **Ryan has been acting as a fleet manager and his crew have been acting as mechanics to complete as many of the repairs as possible in-house. Sewer equipment has some specialty repairs and trouble-shooting that every mechanic might not be familiar with. Some of the companies that support the equipment are nowhere near Wausau and would take additional time and financial resources to get the equipment to these repair shops. Ryan schedules and coordinates the PM-B,C levels of work to be done on each piece of equipment. He also purchases the parts and fluids to be replaced on most chassis and equipment. **This has added many additional hours (300+ Hours) of work to his schedule/workload that didn't need to be completed by his predecessor.** Doing equipment repairs and PM's has taken up a lot of time and resources that we didn't/don't have to begin with. Ryan would like to go back to having the Fleet Department handle all of the PM's and repairs, as it was in the past because the mechanics can work on our equipment overnight (2nd and 3rd shift). This assured us that our equipment would be done by the next morning in the past and we wouldn't have any involvement in it.

The new TV equipment will have a Lateral Launch camera/equipment. **Lateral Launching will require one additional staff to locate and GPS the laterals in the field. The collections crew will **be learning all new equipment, including televising sewer laterals.** This is a **new/added task** to the collections crew and Ryan. This will take months to learn and fully implement. There will be **additional equipment to learn.(Lateral Launch equipment, GPS Trimble Unit, Sond Locator)** There is a lot of behind the scenes work to get the laterals properly identified, televised, and plotted into GIS that Ryan will be working through. This takes additional time and resources from Ryan and **adds to his workload**. This equipment will eventually break/fail and will need to be repaired. This again will add additional work to our crew and Ryan. In 2020, Ryan brought up current and projected concerns with staffing levels and experience of operation when he was advised to get the Lateral Launch equipment with the purchase of the next TV equipment because it takes additional skill and department resources to operate this type of equipment and log it into GIS. Ryan was still advised to get it this equipment.

The new TV Software will be new to the sewer collections crew and Ryan. There will be a lot to learn about the software and how to properly use and maintain it. This will take additional time away from getting work done for months to get everything implemented. Ryan has been and will be working through building/customizing the software to work for the City and specifically our department's needs. This takes additional time/hours to research, build, maintain, and **adds to his workload.

Manhole Repairs and Pipe Patches: Ryan has experience with installing Pipe Patches, but it's been years since he's installed these on a regular basis and doesn't have anyone else to lean on or figure things out as they come up while in the field. He doesn't want to take the risk of having a Pipe Patch fail in the road, leading to excavating. Manhole repairs are needed throughout the City, but making these repairs typically takes a crew of three to safely complete. Each manhole repair is different and it takes an experienced crewmember to make calls in the field as they arise. Ryan can/has guided them on the repairs that were made in-house over the past few years, but can't always be available. We lack experience and Ryan's workload is already maxed out to keep adding more duties to his staff without having several questions to answer and many manhole or pipe patch material/resources to be purchased, tracked, and invoiced.

**Surface level MH Repairs have been getting completed by DPW. We used to handle a number of these a year in-house. We don't have the time/labor and some equipment resources at this time to complete them. Many manholes are severely deteriorating beneath the surface.

**In 2023, we did complete some manhole repairs to repair/repour manhole bottoms. These too are deteriorating in many manholes throught the City. We don't have the time/labor resources to to complete more of these each year.

We could keep a crew of 3 guys busy for many years completing manhole repairs throughout the City. Contracts for manhole rehabilitation should also be put out to get a start on these repairs if we aren't going to ever have enough staff to complete these in-house. **This creates an issue for Ryan because he's already working many additional hours a year and creating and overseeing a project like this would add many more hours. This will come with additional expense to City if outside contractors complete the work.

**Pipe Patches(Trenchless/No Dig Repairs) The sewer department purchased the equipment and resources to do this type of sewer main repair 2011-2012. The collections crew installed many of these Pipe Patches all over town for several years, saving the City hundreds of thousands of dollars in expense if it was contracted out. The sewer collections crew that was around to install all of these Pipe Patches is no longer employed by the City and we have only completed one repair in the past five years because of the lack of experience and time. If one thing goes wrong while doing these installs, we have to dig the road up to retrieve equipment or material.

**CIPP & Manhole Rehabilitation Projects: Ryan currently creates and oversees the CIPP projects. In every municipality of our size, an engineer of the City creates and oversees the projects. The Collection Supervisor in these municipalities provide the televising videos and lets the engineering department know which sanitary lines and manholes need attention sooner for rehab projects or full replacement. With current and future staff needing more training and needs, it depletes a lot of time that was available by the previous Supervisor to put together these projects. There is a lot of time dedication and attention to detail that needs to take place while putting these projects together and Ryan can't do this because of all the of the current staffing needs, as well as all of the additional time allocation to overseeing the repairs of the equipment. This time was also available to the previous Supervisor to complete this task. Manhole's haven't been repaired or replaced quick enough around town and we currently have many that are in need rehab. These repairs are both to the surface of the manhole, as well as the bottoms. If the sewer crew isn't going to get enough staff to have a full-time crew addressing the issues, then there should be manhole rehabilitation projects created and overseen. Again, Ryan doesn't have the time to take on these projects and typically the engineering department oversees these projects in other municipalities.

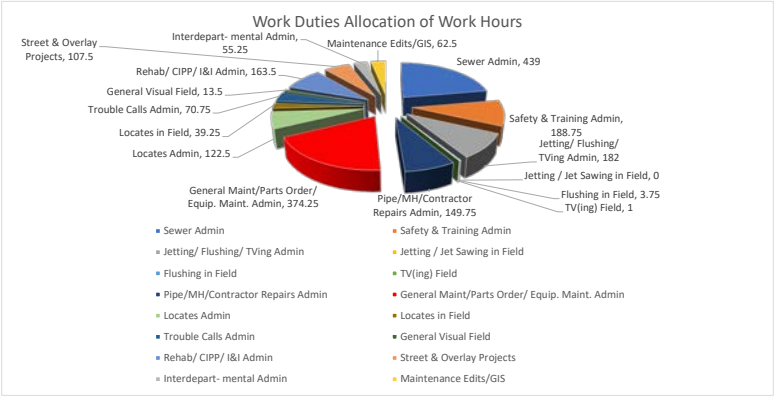
Collection Crew Staffing Turnover

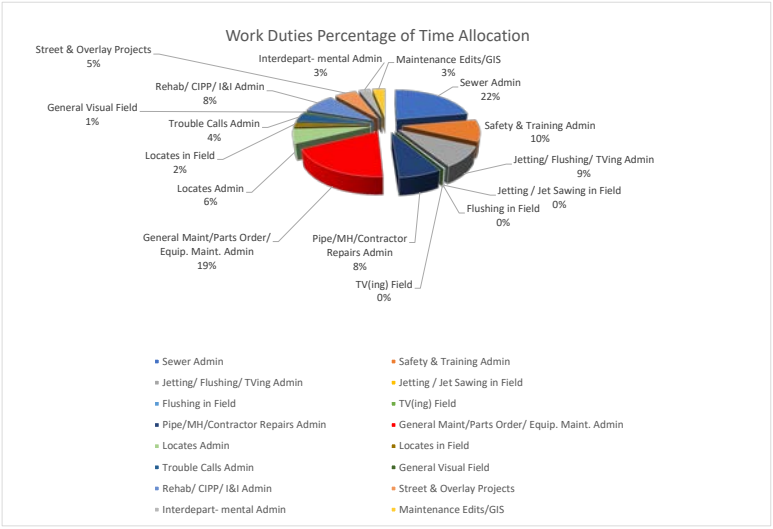
Current Employee Retention	Experience_Time w/City-Department		
Ryan Dwelly	8 years, 3 months		
William Olsen	5 years, 4 months	5.33	
Steve Celona	3 years, 8 months	3.67	
Matt Stockman	2 years, 4 months	2.33	
Benn Her	11 months	0.92	
Jared Johnson	8 months	0.67	
Total Experience of Crew		**12.92**	Bill and Steve make up 70% of the experience of the crew.

Previous Employee Retention	Timeframe(Rounded)
Levi Williams	2 years, 2 months
Greg Cina	10.5 months
Ken Engen	4 months
Jordan Resch	3 weeks
Basil Smith	11 months

Collection System Supervisor Duties

Sewer Admin	439	22%
Safety & Training Admin	188.75	10%
Jetting/ Flushing/ TVing Admin	182	9%
Jetting / Jet Sawing in Field	0	0%
Flushing in Field	3.75	0.19%
TV(ing) Field	1	0.05%
Pipe/MH/Contractor Repairs Admin	149.75	8%
General Maint/Parts Order/ Equip. Maint. Admin	374.25	19%
Locates Admin	122.5	6%
Locates in Field	39.25	2%
Trouble Calls Admin	70.75	4%
General Visual Field	13.5	1%
Rehab/ CIPP/ I&I Admin	163.5	8%
Street & Overlay Projects	107.5	5%
Interdepart- mental Admin	55.25	3%
Maintenance Edits/GIS	62.5	3%
	1973.25	1





CIPP & Other Rehab Projects:

It takes a lot of time to design and oversee these projects. In the past, this position was hourly and was paid out in overtime when previous 'Senior Maintainer' had to stay late designing and overseeing these projects. In other municipalities, the engineering department creates and oversees these projects and assigns an engineering technician to the project to oversee/inspect and answer any day to day questions that arise.

General Maint/Parts Order/ Equip. Maint. Admin

Ryan spent and additional 375 hours on mainly fleet/equipment maintenance (scheduling repairs for outside vendors, crew repairs, purchasing fluids & parts, etc.) This added duty has taken time away from other duties and adds many hours of unpaid overtime each year. Some, but not many hours of the 375 hours were spent for pipe, fittings, and manhole parts. We are spending hundreds of additional hours on repairs that we didn't need to complete in the past because the fleet department used to do all of our repairs. This reduced down-time for our crew, as well as a lot of reduced time/efforts to the former Collections Supervisor.

****This position needs to get back to being able to focus on managing the crew's work. The previous 'Senior Maintainer' spent most of his time reviewing videos planning televising & jetting work, updating maintenance edits, and updating GIS layers to keep track of our collection system. Since the day I took this position over, I haven't been able to focus on these things because of all of the additional training, being short staffed, and added work duties.**

Digger's Hotline Tickets:

Year	Total Locate Tickets
2020	6,010
2021	9,105
2022	7,505
2023	5,161

Wastewater crew Staff Hours Required per Task

Task	Avg Hrs Week	Hours per Month	Hours per Year	Days per Year
Sludge Processing				
BFP	12	52	624	78
GBT	10	43	520	65
Dryer	25	108	1300	163
TPSD/Thickener	4	17	208	26
Sludge Handling				
Sludge hauling equipment maint	2	9	104	13
Sludge hauling	5	22	260	33
Farmer coordination	1	4	52	7
Plant Process				
Scum system	4	17	208	26
Influent screening system	5	22	260	33
Influent pumping	1	4	52	7
Grit system operation	2	9	104	13
Clarifier drives	2	9	104	13
Monitor tank levels	8	35	416	52
Anoxic zone operation/maint	2	9	104	13
Aeration sytem operation/maint	4	17	208	26
Chemical feed systems	8	35	416	52
Effluent disc filters	3	13	156	20
W3 system	3	13	156	20
UV disinfection System	3	13	156	20
Garbage services	1.5	7	78	10
Gear box/bearing oil levels	6	26	312	39
DG system operation/maint	9	39	468	59
Turbine system operation/maint	8	35	416	52
Channel maint	3	13	156	20
Plant Buildings				
Generator monitoring/maint	4	17	208	26
HVAC	8	35	416	52
Calibrate meters	4	17	208	26
Electrical diagnostics/maint	5	22	260	33
General housekeeping	12	52	624	78
Boilers/loop monitoring/maint	8	35	416	52
Tank PM/cleaning/maint	4	17	208	26
Lift Stations				
Generator monitoring/maint	5	22	260	33
Lift station monitoring	2	9	104	13
Lift station maint	60	260	3120	390
Lift station PM	4	17	208	26
Radio system maint	4	17	208	26
Wastewater General				
Rolling equip maint	3	13	156	20
Fire alarm/extinguisher Maint	5	22	260	33
Fabrication repairs	4	17	208	26
Bypass pumping equipment	2	9	104	13
Inventory management	3	13	156	20
Laboratory				
Plant labratory duties	40	173	2080	260

Total Annual Hours	Employees Required	Employees Required
16042	2080 minus 3 wk vac	2080 minus all
	@ 1960 hrs each	alloted PTO - 3 wk vac
	8.18 Employees	3 Personal Days
		10 Holidays, 12 sick
		@1760 hrs each
		9.11 Employees

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Wausau Water Works, Wisconsin

Final Report

November 14, 2022

Contents

bakertilly

now, for tomorrow.

1. Project Background, Objectives and Scope

Bakery Tilly Municipal Advisors, LLC (Baker Tilly) was engaged by Wausau Water Works (WWW) to undertake a staffing needs assessment of both the water and wastewater division to determine the current and future staffing needs to effectively provide utility services today and over the next five years. This document includes an organizational profile, an overview of the background and purpose of the study, provides a comparative analysis of selected benchmarks, and presents specific findings and recommendations for staffing levels and organizational improvement.

Background

The U.S. Census Bureau 2020 census population for the City of Wausau is 39,994. The City encompasses a land area of 19.22 square miles. The City maintains a median value of $121,100 for owner-occupied homes. The City's median household income is $47,438. The population of Wausau is highly educated, with 90.8% of residents 25 years or older being a high school graduate or higher education and 28.4% of this demographic group possessing either a bachelor's degree or a higher degree.

This section includes a summary description of the structure, staffing, services, and responsibilities of the City Utilities. The purpose of this profile is to document – at a high level – the current composition of the operating divisions and our initial observations based on the in-person interviews and information provided by the Utility.

A utility commission governs Wausau Water Works. The Wausau Water Works Commission is established under Chapter 13.04.020 of the municipal code, which provided that the commission shall consist of the Mayor, one alderperson elected from the membership of the common council, and three citizens of the City of Wausau. The three citizens would be appointed to the commission by the Mayor. Wausau Water Works provides water and wastewater services to approximately 16,877 customer accounts.

As a part of the City of Wausau government, the Wausau Water Works embodies the City's mission and core values. The City of Wausau's Mission is:

> ***In response to our citizens, we will provide services in the most effective and efficient manner in order to promote and enhance our living environment. Plan and encourage positive growth. Promote a positive community image by encouraging citizen involvement and civic pride.***

The City's Core Values include:

- Professionalism

  We choose to take pride in our work, communicate effectively, project a positive image, and deliver service at the highest standards every time, in every situation.

- Accountability

  We accept responsibility and take ownership for our actions.

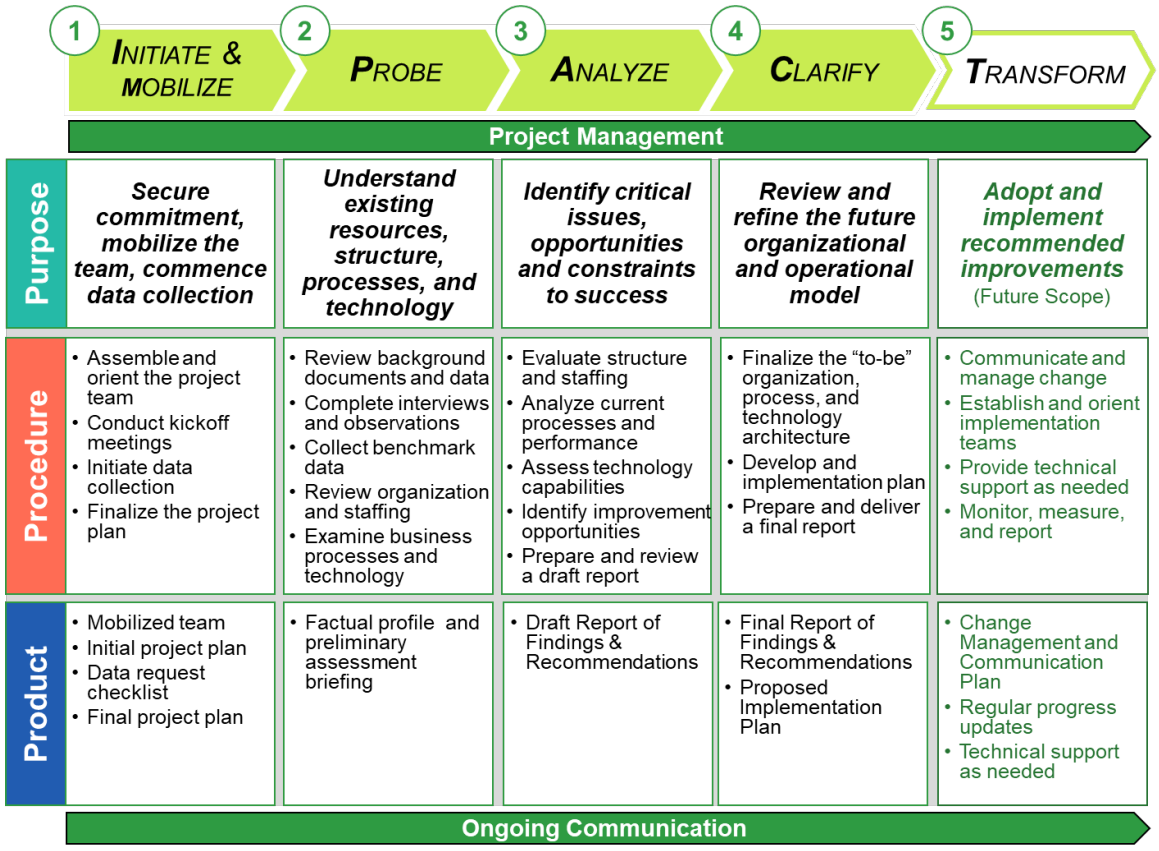
- Integrity

  We act ethically, honestly, and lead by example by having our actions reflect our word.

- Respect

  We choose to treat everyone the way we would like to be treated.

In conducting its review, the Baker Tilly team applied an operations and process improvement methodology that was organized within a structured yet flexible framework Called ***ImPACT***, this framework logically organizes those tasks necessary to document and analyze the Waterwork's operations. This framework is illustrated in the graphic below, the methodology is organized into five major phases:



Within the methodology framework, the team used a variety of information gathering and analytical techniques appropriate to the specific requirements of this project's scope of work. In addition to extensive interviewing, data collection, and research, the team performed a variety of other analyses including:

- Organizational and operational analysis
- Workload and staffing analysis
- Business process analysis
- Industry research
- Benchmark staffing research

Interviews conducted for this organizational analysis included the following individuals:

- Eric Lindman – Director of Public Works
- Scott Boers – Drinking Water Superintendent
- Shanon Lane – Water Distribution Supervisor
- Ben Brooks – Wastewater Superintendent
- Pat VanOuse – Wastewater Supervisor
- Ryan Dwelly – Wastewater Collection Supervisor
- Tyler Wagner – Lab Technician
- Employee Focus Group 1
    - Rick Dorn – Senior Distribution Maintainer
    - Floyd Smith – Distribution/Relief Operator
    - Ryan Fischer – Distribution Maintainer
    - Ray Younger - Distribution Maintainer
    - John Langren - Distribution Maintainer
    - Jonathon Lindloff - Distribution Maintainer
    - Mitchell Pempek - Distribution Maintainer
    - Andy Kuhnert - Distribution Maintainer
- Employee Focus Group 2
    - Kevin Behnke – Senior Water Plan Technician
    - Tim Mesalk – Water Plant Operations Technician
    - Darren Jensen - Water Plant Operator
    - Floyd Smith - Distribution/Relief Operator
- Employee Focus Group 3
    - Gina Vang – Administrative Assistant II
    - Michelle Weasler – Administrative Assistant III
- Employee Focus Group 4
    - Bill Olsen - Collection System Technician
    - Steve Celona - Collection System Technician
    - Matt Stockman - Collection System Technician
    - Basil Smith - Collection System Technician
- Employee Focus Group 5
    - Mark Hilgendorf – Wastewater Operations Technicians
    - Brad Wendtland - Wastewater Operations Technicians
    - Scott Carman - Wastewater Operations Technicians

    - Jeremy Steinman - Wastewater Operations Technicians
    - Jason Ladwig - Wastewater Operations Technicians
- Donohue Associates
    - Susan Wojkiewicz
    - Mike Gerbitz

PROJECT SCOPE

A detailed project plan following our prescribed methodology included the completion of the following tasks:

Task 1	Project planning and management
Task 2	Current state assessment and analysis
Task 3	Reporting

Acknowledgements

The Staffing Needs Assessment was conducted as a collaboration between the Baker Tilly consulting team and members of the Wausau Water Works management team and staff. The background information and access necessary for the completion of the review was readily made available, and employees at all levels of the organization actively participated in interviews and focus groups to provide candid feedback and valuable insight to the consultants. No request for additional information was declined.

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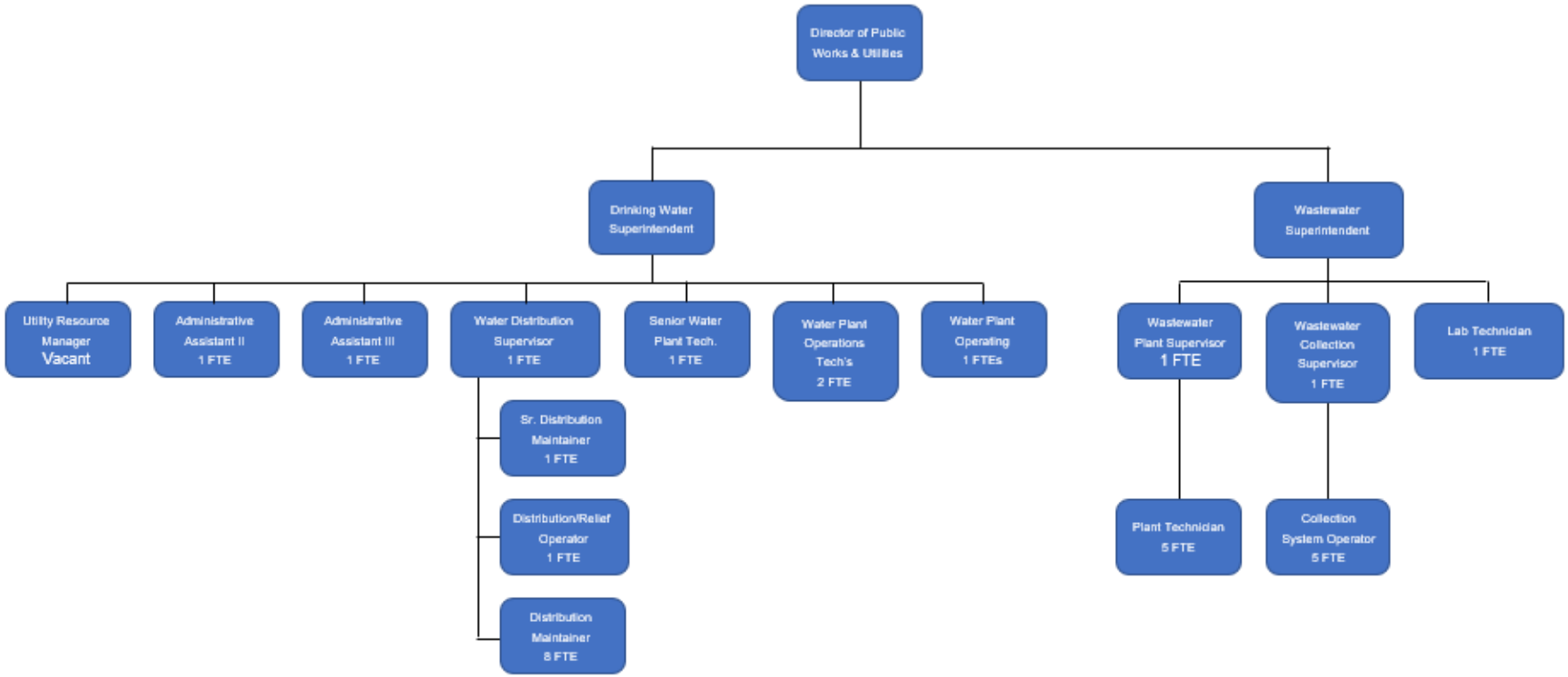
2. Organizational Profile

The Utility operates and maintains the water and wastewater systems for the City. These include:

- Water Supply and Treatment:
  - Water Treatment Plant capacity of 9.0 MGD with an average daily treatment of 5.0 MGD
    - ❖ Supplied by six wells with a combined capacity of 11,345 gallons per minute (gpm)
  - 239.9 miles of water transmission mains ranging in size from 2" to 30" in diameter
  - 16,877 service connections
  - 1,661 hydrants
  - Ten booster stations
  - Three elevated storage tanks and four reservoirs with a combined capacity of 5.75 million gallons
  - 15,879 customer accounts
- Wastewater Collection and Treatment
  - Wastewater treatment plant (design average daily flow of 8.2 MGD, treatment plan capacity is 13.5 MGD)
  - 232.06 miles of sewer mains including
    - ❖ 222.93 miles of gravity mains, interceptors, and siphon
    - ❖ 9.13 miles of force main
  - 25 lift stations
  - 15,440 customer accounts

The Utility has 32 full-time-equivalent employees. The organizational structure of the City places Wausau Water Works under the Department of Public Works and Utilities. The Utility consists of two departments that include wastewater and drinking water led by a Drinking Water Superintendent and Wastewater Superintendent. The Utility reports directly to the Director of Public Works and Utilities.

Current Organizational Structure



Wastewater

Wastewater consists of three divisions: Wastewater Plant, Wastewater Collection, and a Laboratory. They have a staff of fourteen full-time employees (F.T.E.s). Wastewater provides for the collection and treatment of sanitary sewers through its three divisions. The Wastewater Superintendent manages the division.

Wastewater Collection

Wastewater Collection is responsible for repairing and maintaining the sanitary sewer collection system, including the sanitary sewer mains and manholes. Services they provide include:

- Review new connections to sewer mains
- Some equipment maintenance
- Clean and televise sewer collection system. Annual goal is to clean 20% of system and televise 10%
- Maintenance and repair of sewer manholes
- Write specifications for lining sewers and manholes and review construction
- Review street construction plans for fittings, pipe sizing, manhole placement and spacing
- Plow snow in winter months

Wastewater Collection has a staff of six which includes:

- Wastewater Collection Supervisor
- Collection System Operators (5) (one position currently vacant)

Wastewater Plant

The Wastewater Plant is responsible for the operation, repair and maintenance of the treatment plant and lift stations. Services they provide include:

- Operation, maintenance, and repair of the wastewater treatment plant and twenty-five lift stations
- Haul-treated biosolids to disposal sites
- Back up lab and collections crews
- Maintain equipment

Wastewater Plant has a staff of six which includes:

- Wastewater Plant Supervisor
- Plant Technician (5)

Wastewater Lab

The Wastewater Lab is a DNR certified lab that provides testing of wastewater effluent, influent and biosolids for permit compliance and process control. Tests performed include total suspended solids (TSS), biological oxygen demand (BOD), total phosphorus (TP), mercury, pH, Alkalinity, Nitrogen series, and collects all wastewater samples for state required testing that isn't analyzed at the plant. The Lab maintains all analytical equipment and all supporting ancillary

equipment throughout the wastewater plant. The Lab creates spreadsheets for process control as well as interprets the data produced. The Lab is staffed with one full-time Lab Technician.

Drinking Water

Drinking Water has three divisions: Water Distribution, Water Treatment, and Administration. They have a staff of eighteen full-time employees (F.T.E.s). Drinking Water provides for the City's drinking water services, including water supply, treatment, transmission and distribution, and storage through its three divisions. The Drinking Water Superintendent manages the division.

Water Distribution

The Water Distribution division is responsible for repairing and maintaining the Utility's water distribution system, including water mains, hydrants, and valves. Services they provide include:

- Service changes
- Repair water main breaks
- Repair and replace hydrants
- Flush hydrants and clean snow from around them in winter
- Read, test, and replace water meters
- Exercise water valves
- Haul lime sludge from the Water Treatment Plant two times each week
- Inventory and replace lead and copper water lines
- Utility locates
- Hydrant painting (outsourced in future)
- Cross connection inspections (industrial and commercial are contracted out)
- Residential inspections
- Annual backflow testing
- Unidirectional flushing of water mains
- Data entry for GIS
- Light equipment maintenance

They have a staff of eleven, which includes:

- Water Distribution Supervisor
- Senior Distribution Maintainer
- Distribution/Relief Operator
- Distribution Maintainer (8)

Water Treatment

Water Treatment is responsible for maintaining and operating the Water Treatment Plant, wells, booster stations, reservoirs, and elevated storage tanks. Services they provide include:

- Collect water samples for state-required testing
- Maintain wells, booster stations, reservoirs, and elevated storage tanks
- Maintain and repair water treatment plant equipment and buildings
- Prepare specifications for equipment, motors, pumps, and other plant equipment
- Maintenance planning

- Scheduling and oversight of contractors
- Purchasing and maintenance of inventory
- Record keeping
- Equipment and fleet maintenance

They have a staff of four which includes:

- Senior Water Plant Technician
- Water Plant Operation Technician (2)
- Water Plant Operator

Administration

The Administration staff provides support to the water and wastewater operations staff. Services they provide include:

- Meter appointments/change outs
- Receive complaints
- Manage lead grants
- Manage accounts payable
- Process clothing reimbursements
- Prepare Consumer Confidence Reports
- Attend Commission meetings and record minutes
- Other support as needed

Administration has a staff of two including:

- Administrative Assistant III
- Administrative Assistant II

3. Staffing Analysis

The staffing analysis involved a number of strategies and methodologies to obtain relevant information to review and assess Wausau Water Works staffing needs. These included on-site visits with WWW department heads, staff, and employee focus groups. Our interviews were directed to provide an overview of the Department's operations including:

- Organizational structure
- Duties and responsibilities
- Staffing levels and deployment
- Management
- Use of technology

Other information collected and reviewed for the staffing analysis included:

- Wausau Water Works organizational chart
- Number of employees
- Position descriptions
- Data about the number, type, and extent of utility services provided
- Data about assets maintained
- Comparable utility benchmark data
- National benchmark data

The analyses and the resulting conclusions reached were developed, in part, using comparative benchmark data gathered specifically for this project, data from Baker Tilly's data base, and the *AWWA Utility Benchmarking Performance Management for Water and Wastewater 2020*. It is important to understand that this benchmark data provides averages from the comparative benchmark utilities and overall industry averages from organizations performing similar services with "similar" is distinct from "identical" in terms of comparisons.

The application of this data incorporates the professional experience and judgement of the consultant team in both the interpretation of the benchmark data and its applicability to the service being benchmarked. The resulting analysis allows the users of this information to strive for continuous improvement and to adapt service levels if significant differences are identified which could indicate that adjusting operations or modifying levels of service could achieve greater efficiencies and cost savings.

The staffing analysis was done separately for Drinking Water and Wastewater with each analysis based on utilities that provided a good comparison basis to WWW. The comparison utilities were selected in discussion with WWW staff and the utility's consulting engineer. For Drinking Water the comparison utilities selected were:

- Appleton
- Manitowoc
- Oak Creek
- Oshkosh

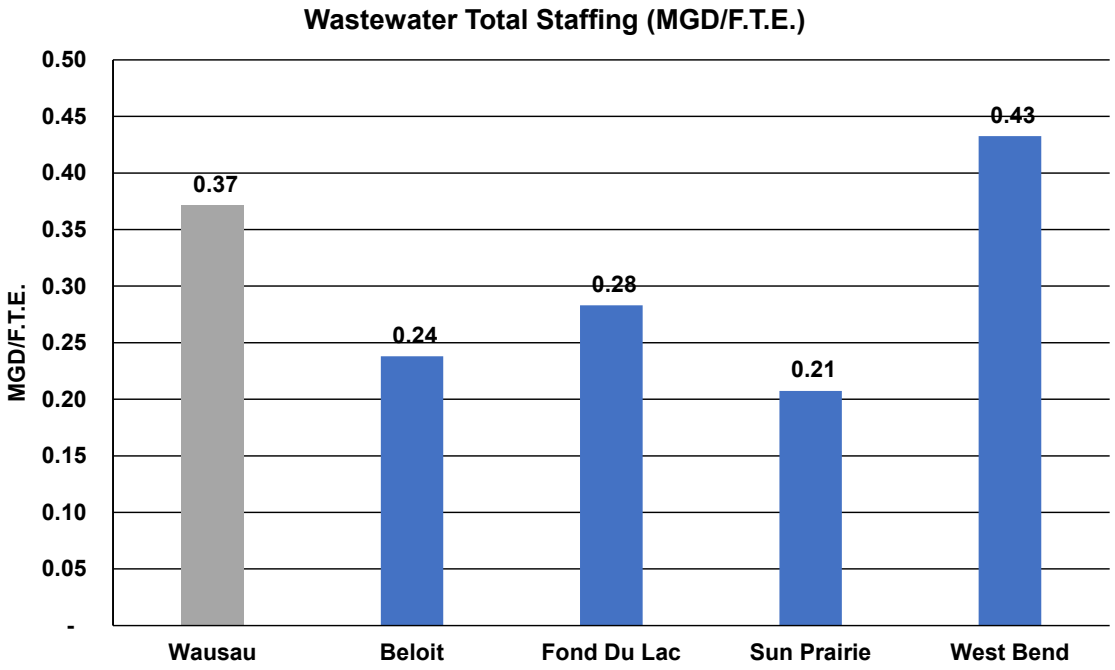
For Wastewater they were:

- Beloit
- Fond Du Lac
- Sun Prairie
- West Bend

In addition, national benchmark data from the American Water Works Association (AWWA) *2020 AWWA Utility Benchmarking Performance Management for Water and Wastewater* publication was also used where applicable data was available.

Wastewater

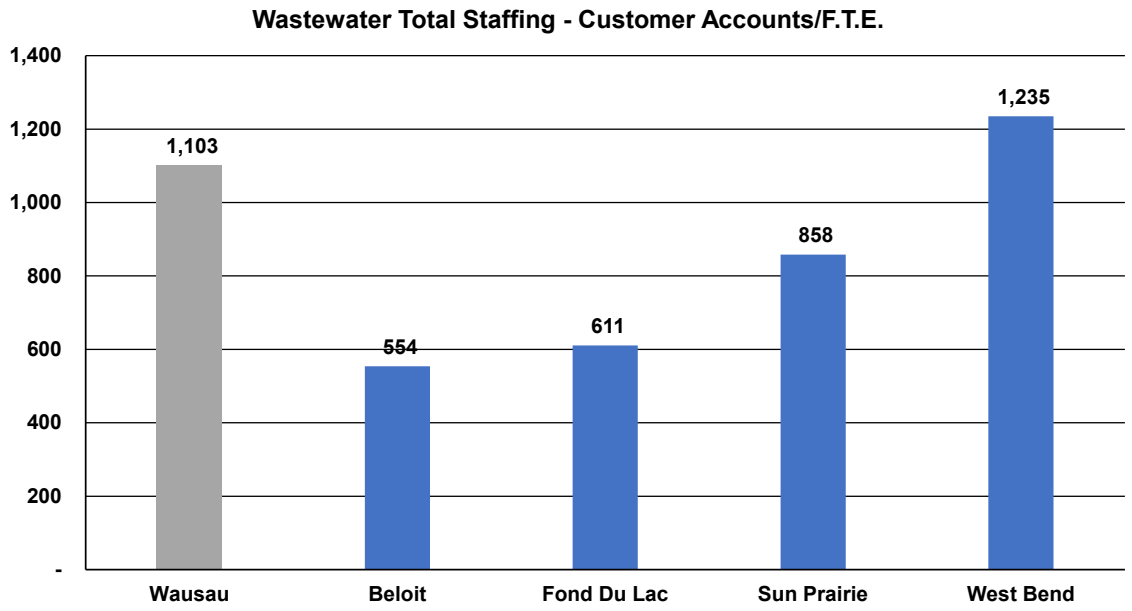
Wastewater's total staffing of fourteen F.T.E.s was compared to the benchmark utilities and to the AWWA benchmark based on the average million gallons/day treated (MGD). WWW treats an average of 5.20 MGD resulting in a ratio of 0.37 MGD/F.T.E. which was the second highest ratio and the second lowest staffing level of the group. Only West Bend with a ratio of 0.43 MGD/F.T.E. was staffed at a lesser level by this measure as shown in the chart below.



The AWWA median staffing was 0.19 MGD/F.T.E. which is approximately half of the WWW ratio. WWW would need to have 19.15 F.T.E.s to be staffed at the average of the comparison utilities and would need to have 27.37 F.T.E.s to be staffed at the AWWA median benchmark as shown in the table on the following page.

City/Wastewater Utility	F.T.E.s	Average MGD	MGD/F.T.E.
Wausau	**14.00**	**5.20**	**0.37**
Beloit	24.16	5.75	0.24
Fond Du Lac	26.50	7.50	0.28
Sun Prairie	16.00	3.32	0.21
West Bend	9.50	4.11	0.43
Average of Comparison Utilities	**19.04**	**5.17**	**0.27**
Median of Comparison Utilities	**20.08**	**4.93**	**0.25**
AWWA Benchmark Median			**0.19**
Wausau at Average of Comparison Utilities	**19.15**	**5.20**	**0.27**
Wausau at Median of Comparison Utilities	**21.18**	**5.20**	**0.25**
Wausau at AWWA Benchmark	**27.37**	**5.20**	**0.19**

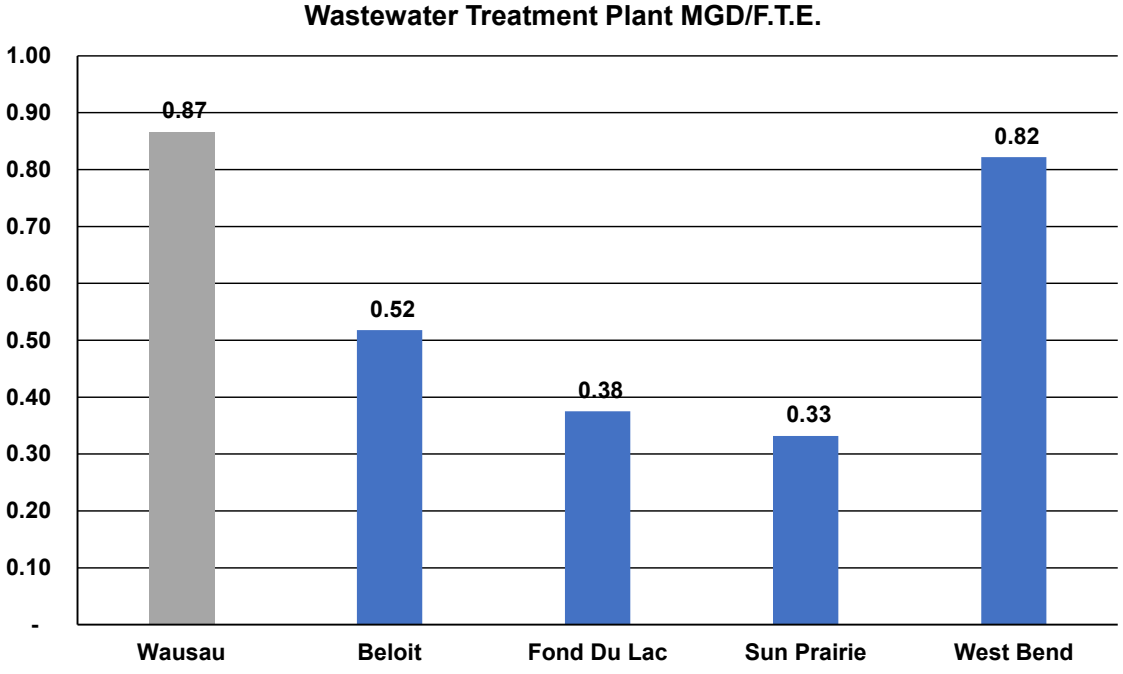
A second comparison of total staffing was based on the number of customer accounts per F.T.E. WWW has 15,440 wastewater customer accounts resulting in a ratio of 1,103 customer accounts/F.T.E. which was the second highest ratio and the second lowest staffing ratio of the comparison utilities. As with the previous comparison, only West Bend with 1,235 customer accounts/F.T.E. was staffed at a lower ratio. This comparison is shown in the chart below.



WWW would need to be staffed at 21.36 F.T.E.s to be at the average of the comparison utilities and would need to be staffed at 29.24 F.T.E.s to be at the AWWA median staffing level. This comparison is shown on the following page.

City/Wastewater Utility	Total F.T.E.s	Customer Accounts	Customer Accounts/F.T.E.
Wausau	**14.00**	**15,440**	**1,103**
Beloit	24.16	13,387	554
Fond Du Lac	26.50	16,190	611
Sun Prairie	16.00	13,729	858
West Bend	9.50	11,735	1,235
Average of Comparison Utilities	**19.04**	**13,760**	**723**
Median of Comparison Utilities	**20.08**	**13,558**	**675**
AWWA Benchmark Median			**528**
Wausau at Average of Comparison Utilities	**21.36**	**15,440**	**723**
Wausau at Median of Comparison Utilities	**22.87**	**15,440**	**675**
Wausau at AWWA Benchmark	**29.24**	**15,440**	**528**

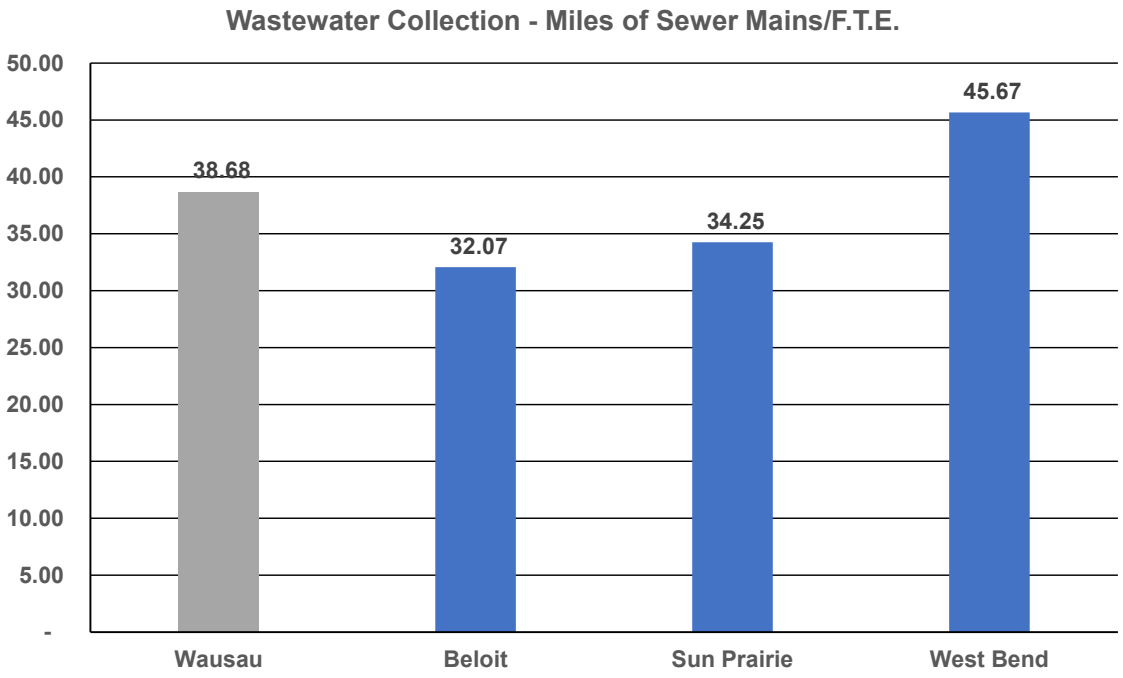
WWW has 6.0 F.T.E.s at the Wastewater Treatment Plant which results in a staffing ratio of 0.87 MGD/F.T.E. which was the highest ratio and the lowest staffing ratio of the comparison utilities as shown in the chart below.



This staffing ratio was also higher than the 0.66 MGD/F.T.E. AWWA median. WWW would need to be staffed with 11.59 F.T.E.s to be at the average of the comparison group and at 7.88 F.T.E.s to be at the AWWA median ratio as shown in the table on the following page

City/Wastewater Utility	WWTP F.T.E.s	Average MGD	MGD/F.T.E.
Wausau	**6.00**	**5.20**	**0.87**
Beloit	11.10	5.75	0.52
Fond Du Lac	20.00	7.50	0.38
Sun Prairie	10.00	3.32	0.33
West Bend	5.00	4.11	0.82
Average of Comparison Utilities	**11.53**	**5.17**	**0.45**
Median of Comparison Utilities	**10.55**	**4.93**	**0.47**
AWWA Benchmark Median			**0.66**
Wausau at Average of Comparison Utilities	**11.59**	**5.20**	**0.45**
Wausau at Median of Comparison Utilities	**11.13**	**5.20**	**0.47**
Wausau at AWWA Benchmark	**7.88**	**5.20**	**0.66**

There are six F.T.E.s in wastewater collection who maintain 232 miles of sewer mains. This is a staffing ratio of 38.68 miles of sewer mains/F.T.E. which was the just above the 36.02 miles of sewer/F.T.E. average of the group. WWW would need 6.44 F.T.Es to be staffed at the average of the comparison utilities. Please note that Fond Du Lac was excluded because their public works staff assists in the cleaning and televising of sewers. The comparison is shown in the chart below and the table on the following page.



City/Wastewater Utility	Collection F.T.E.s	Miles of Sewer Mains	Miles of Sewer Mains/F.T.E.
Wausau	**6.00**	**232**	**38.68**
Beloit	5.55	178	32.07
Sun Prairie	4.00	137	34.25
West Bend	3.00	137	45.67
Average of Comparison Utilities	**4.18**	**151**	**36.02**
Median of Comparison Utilities	**4.00**	**137**	**34.25**
Wausau at Average of Comparison Utilities	**6.44**	**232**	**36.02**
Wausau at Median of Comparison Utilities	**6.78**	**232**	**34.25**

A summary of the staffing comparison shown below suggests that WWW is understaffed in its Wastewater Department. Total staffing of the comparison utilities would have WWW staffed at 20.26 F.T.E.s based on the average of the total staffing comparisons ((19.15 +21.26)/2) staffing by function would have WWW with 18.04 F.T.E.s. (6.44 +11.59 = 18.04). This understaffing is consistent with what was stated by most of the staff interviewed for this study. Understaffing is resulting in some maintenance functions not being performed. For example, the cleaning and televising of the sewer collection system is not being done at the level established by the WWW. Lift stations maintenance is also not getting done and are they checked every other week which is well below industry standards. The current upgrades to the Wastewater Treatment plant will create a need for additional staff to operate and maintain the added pumping, filtration and biosolids drying equipment.

Benchmark	Benchmark	Wausau Current F.T.E.s	F.T.E.s at Average	F.T.E.s at AWWA Median	Staffing Over (Under Average)
Total Utility Staffing	MGD/F.T.E.	14.00	19.15	27.37	(5.15)
Total Utility Staffing	Customer Accounts/F.T.E.	14.00	21.36	29.24	(7.36)
Collection System	Miles of Sewer Mains/F.T.E.	6.00	6.44	-	(0.44)
Wastewater Treatment Plant	F.T.E.s/MGD	6.00	11.59	7.88	(5.59)

Baker Tilly's benchmark database shows total Wastewater staffing for WWW would be at 20.80 F.T.E.s based on total staffing and at 19.60 F.T.E.s based on functions. This is consistent with the benchmark analysis described herein. WWW should increase current staffing at the wastewater treatment plant by two F.T.E.s who should be electrical and instrumentation technicians or licensed electricians to address current skill needs discussed later in this report. One additional F.T.E. should be hired for the collection system who should be a DNR certified with a collection system subclass. Two F.T.E.s should be hired when the wastewater treatment plant additions go into service and both should also be DNR certified wastewater operators with all subclasses required by the DNR for the wastewater treatment facility.

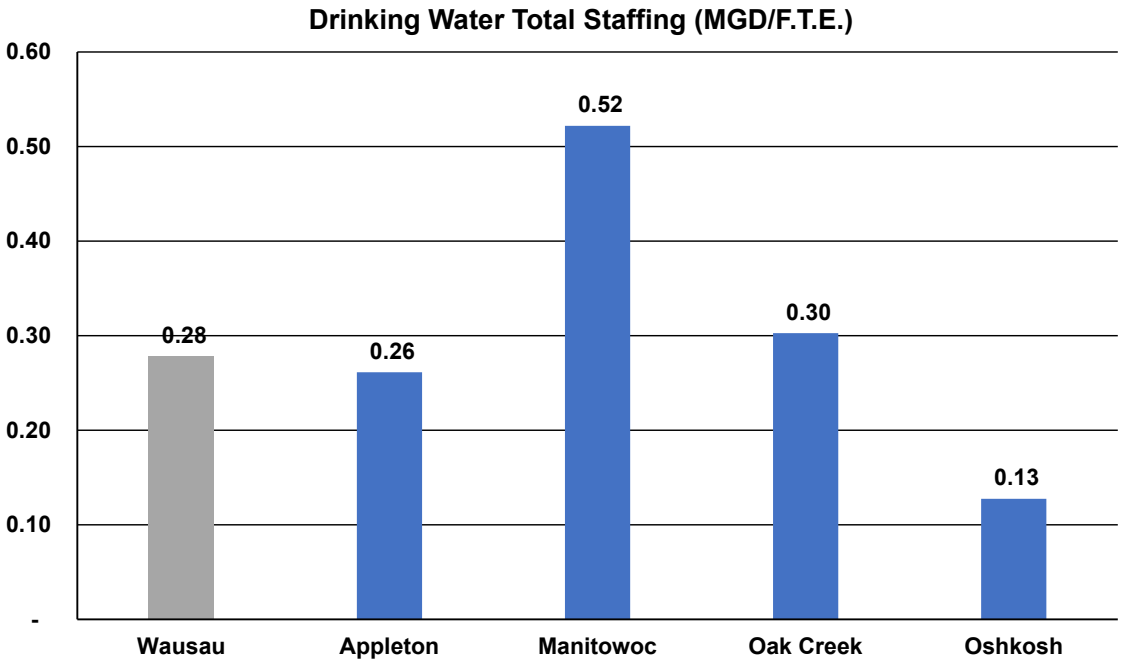
RECOMMENDATION

Wausau Water Works should develop a plan to increase staffing in Wastewater by three full-time equivalent employees to address the current shortage and by two full-

time-equivalent employees when the wastewater treatment plant additions go into service.

Drinking Water

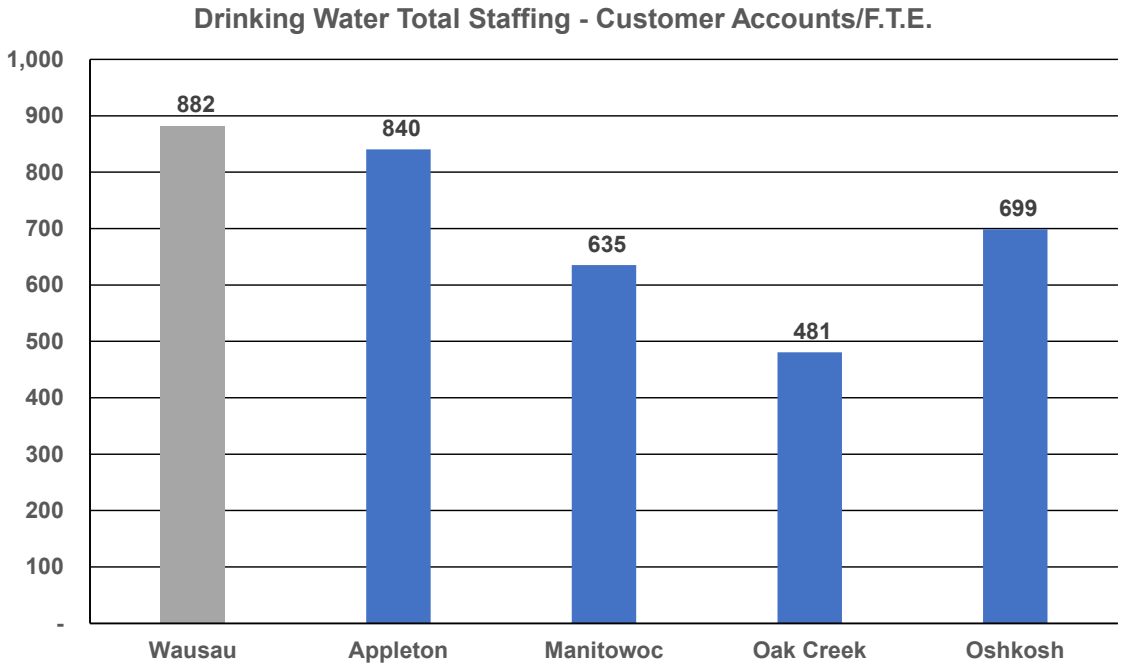
Drinking Water's eighteen F.T.E.s staffing was compared to the benchmark utilities and to the AWWA benchmark based on the average MGD of water treated. WWW treats an average of 5.0 MGD resulting in staffing ratio of 0.28 MGD/F.T.E. which is equal to the average of the comparison utilities. This comparison is shown in the chart below.



The AWWA median staffing ratio was 0.21 MGD/F.T.E. which is a higher staffing level than WWW's current level. WWW would need 23.81 F.T.E. to be staffed at the AWWA median. The table below shows the comparison staffing ratios.

City/Water Utility	F.T.E.s	Average MGD	MGD/F.T.E.
Wausau	**18.00**	**5.00**	**0.28**
Appleton	33.50	8.75	0.26
Manitowoc	21.85	11.40	0.52
Oak Creek	23.65	7.16	0.30
Oshkosh	34.50	4.40	0.13
Average of Comparison Utilities	**28.37**	**7.93**	**0.28**
Median of Comparison Utilities	**28.57**	**7.95**	**0.28**
AWWA Benchmark Median			**0.21**
Wausau at Average of Comparison Utilities	**17.90**	**5.00**	**0.28**
Wausau at Median of Comparison Utilities	**17.96**	**5.00**	**0.28**
Wausau at AWWA Benchmark	**23.81**	**5.00**	**0.21**

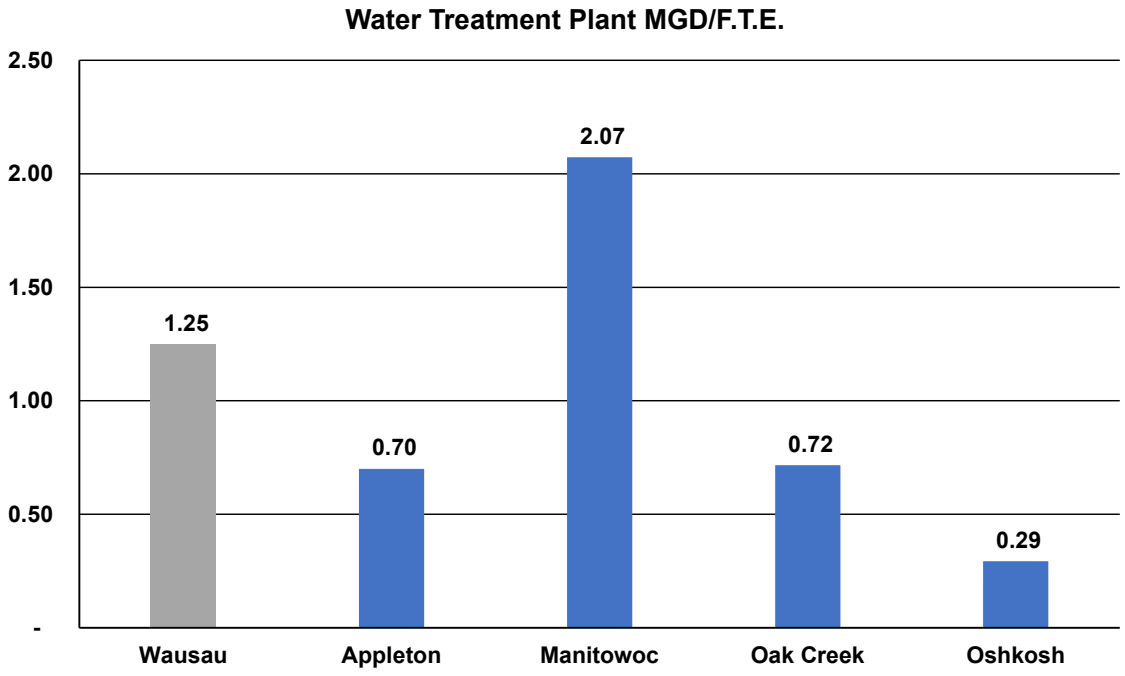
A second comparison of total staffing was based on the number of customer accounts per F.T.E. WWW has 15,879 water customer accounts resulting in a ratio of 882 customer accounts/F.T.E. which was the highest ratio and the lowest staffing ratio of the comparison utilities as shown in the chart below.



The table below shows WWW would need to be staffed at 22.99 F.T.E.s to be at the average of the comparison utilities and would need to be staffed at 30.07 F.T.E.s to be at the AWWA median staffing level.

City/Water Utility	Total F.T.E.s	Customer Accounts	Customer Accounts/F.T.E.
Wausau	**18.00**	**15,879**	**882**
Appleton	33.50	28,150	840
Manitowoc	21.85	13,881	635
Oak Creek	19.50	9,375	481
Oshkosh	34.50	24,106	699
Average of Comparison Utilities	**27.34**	**18,878**	**691**
Median of Comparison Utilities	**27.68**	**18,994**	**686**
AWWA Benchmark Median			**528**
Wausau at Average of Comparison Utilities	**22.99**	**15,879.00**	**691**
Wausau at Median of Comparison Utilities	**23.14**	**15,879.00**	**686**
Wausau at AWWA Benchmark	**30.07**	**15,879**	**528**

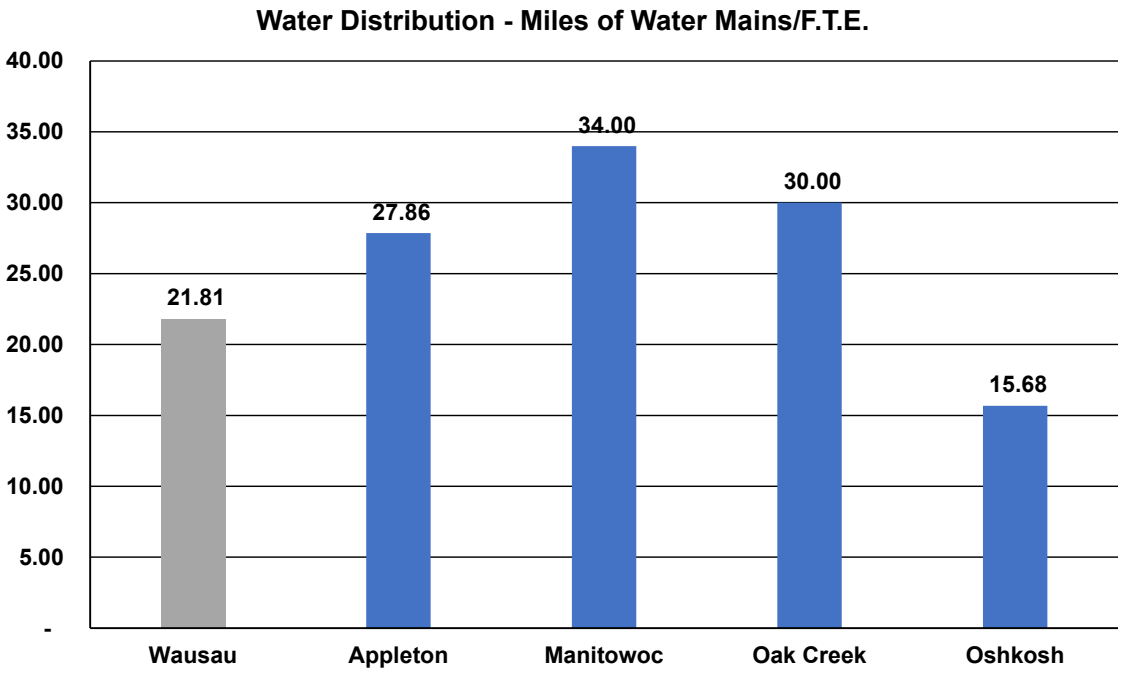
WWW has 4.0 F.T.E.s at the Water Treatment Plant which results in a staffing ratio of 1.25 MGD/F.T.E. which was the second highest ratio and the second lowest staffing ratio of the comparison utilities as shown in the chart below. However, WWW staffing ratio was approximately equal to the AWWA median of 1.27 MGD/F.T.E.



WWW would need to be staffed with 6.78 F.T.E.s to be at the average of the comparison utilities as shown below.

City/Water Utility	WTP F.T.E.s	Average MGD	MGD/F.T.E.
Wausau	**4.00**	**5.00**	**1.25**
Appleton	12.50	8.75	0.70
Manitowoc	5.50	11.40	2.07
Oak Creek	10.00	7.16	0.72
Oshkosh	15.00	4.40	0.29
Average of Comparison Utilities	**10.75**	**7.93**	**0.74**
Median of Comparison Utilities	**11.25**	**7.95**	**0.71**
AWWA Benchmark Median			**1.27**
Wausau at Average of Comparison Utilities	**6.78**	**5.00**	**0.74**
Wausau at Median of Comparison Utilities	**7.07**	**5.00**	**0.71**
Wausau at AWWA Benchmark	**3.95**	**5.00**	**1.27**

There are eleven F.T.E.s in water distribution who maintain 240 miles of water mains. This is a staffing ratio of 21.81 miles of water mains/F.T.E. which was the below the 23.78 miles of water mains/F.T.E. average of the group indicating WWW is staffed at a higher level. WWW would need 10.09 F.T.Es to be staffed at the average of the comparison utilities. The comparisons are shown in the chart and the table on the following page.



City/Water Utility	Distribution F.T.E.s	Miles of Water Mains	Miles of Water Mains/F.T.E.
Wausau	**11.00**	**240**	**21.81**
Appleton	14.00	390	27.86
Manitowoc	5.50	187	34.00
Oak Creek	6.51	195	30.00
Oshkosh	19.00	298	15.68
Average of Comparison Utilities	**11.25**	**268**	**23.78**
Median of Comparison Utilities	**10.25**	**247**	**24.05**
Wausau at Average of Comparison Utilities	**10.09**	**240**	**23.78**
Wausau at Median of Comparison Utilities	**9.97**	**240**	**24.05**

A summary of the staffing comparison shown below presents a mixed result. Total staffing comparisons shows the utility is understaffed in three of the four benchmark comparisons. Baker Tilly's benchmark database also shows total staffing would need to be at 19.23 F.T.E.s based on MGD/F.T.E. and 24.81 F.T.E.s based on customer accounts/F.T.E. Distribution seems to be staffed adequately, but the water treatment plant is staffed at a lower level than the comparison utilities and at a lower level than Baker Tilly's benchmark database which shows a staffing level of 4.95 F.T.Es would be needed. The overall understaffing is consistent with what was stated by most of the staff interviewed for this study. Understaffing is resulting in some maintenance functions not being performed. Examples include the exercising of water valves at the level established by the DNR and unidirectional flushing of water mains are not getting done. The WWW's consulting engineer advises that the current upgrades to the water treatment plant will create a need for additional staff to manage the new processes that will be added (ion exchange and GAC for PFAS).

Benchmark	Benchmark	Wausau Current F.T.E.s	F.T.E.s at Average	F.T.E.s at AWWA Median	Staffing Over (Under Average)
Total Utility Staffing	MGD/F.T.E.	18.00	17.90	23.81	0.10
Total Utility Staffing	Customer Accounts/F.T.E.	18.00	22.99	30.07	(4.99)
Distribution System	Miles of Water Mains/F.T.E.	11.00	10.09	-	0.91
Water Treatment Plant	F.T.E.s/MGD	4.00	7.07	3.95	(3.07)

RECOMMENDATION

Wausau Water Works should develop a plan to increase staffing in Drinking Water by two full-time equivalent employees to address the current shortage and by one additional full-time employee when the water treatment plant additions go into service.

Summary

A summary of the staffing recommendations is shown in the table below. Current Wastewater staffing is recommended to increase from 14.00 F.T.E.s to 17.00 F.T.E.s with the addition of 1.00 F.T.E. in collections and 2.00 F.T.E.s at the Wastewater Treatment Plant. An additional 2.00 F.T.E.s should be added at the Wastewater Treatment Plant when the additions go into service.

Current Drinking Water staffing is recommended to increase from 18.00 F.T.E.s to 20.00 F.T.E.s with addition of 2.00 F.T.E.s at the Water Treatment Plant. An additional 1.00 F.T.E. should be added at the Water Treatment plant when the additions go into service.

Wastewater	Current F.T.E.s	Recommended F.T.E.s	Recommended F.T.E.s Treatment Plant Additions In Service
Collection System	6.00	7.00	7.00
Wastewater Treatment Plant	6.00	8.00	10.00
Administration/Lab	2.00	2.00	2.00
Total Wastewater Staffing	**14.00**	**17.00**	**19.00**
Drinking Water	**Current F.T.E.s**	**Recommended F.T.E.s**	**Recommended F.T.E.s Treatment Plant Additions In Service**
Distribution System	11.00	11.00	11.00
Water Treatment Plant	4.00	6.00	7.00
Administration/Support	3.00	3.00	3.00
Total Drinking Water Staffing	**18.00**	**20.00**	**21.00**
Total F.T.E.s	**32.00**	**37.00**	**40.00**

4. Organizational Structure

The structure of any organization will evolve over time and is the result of the continual analysis of the evolving needs of each organization's ability to fulfill its vision. A sound and widely understood structure helps the organization to meet its goals while simultaneously ensuring that employees know how they fit into the larger organization and their role in achieving its goals. Effective organizational design helps to define the organization's purpose, accountabilities, and key performance indicators.

The WWW uses a functional organizational structure with Drinking Water in one branch and Wastewater in a separate branch of the chart. Drinking Water is organized with distribution and treatment in separate branches. Similarly, Wastewater is divided into three branches including Wastewater Plant, Wastewater Collection and Laboratory.

There were no concerns with the organizational structure of WWW. However, some staff stated that the organizational structure is not clearly understood by the staff and at times the chain of command was not followed. The impact of this is that at times some staff getting orders and direction from multiple managers and other staff are unsure who they report to within the supervisory chain.

RECOMMENDATION

The Drinking Water Superintendent and the Wastewater Superintendent should review the organizational structure with their respective staff to clarify the reporting relationships so staff are cognizant of who they report to and who should provide them with direction.

5. Observations & Recommendations

This section provides an overview of the identified observations and recommendations which were developed based on our assessment of the Wausau Water Works. The information provided is intended to address improvement opportunities observed throughout the study process and are offered as constructive suggestions for the enhancement of the Wausau Water Work's operations and service delivery over the long term. Each of the identified observations is based on the consulting team's experience and its analysis of the organization and operations of the Wausau Water Works and its departments. Each of the following observations is supported with evidence from the assessment which led to the conclusions. Specific recommendations for improvements are then provided to address the identified issues.

Observation: Technology needs to be improved in a number of areas

Our on-site interviews, observations, and review of data and information provided to us showed the Wausau Water Works has a number of technology needs. The needs identified include:

- Some staff lack laptops or tablets to make better use of SCADA
- Staff receives SCADA alarm calls on their cellphones but lacks the ability to use SCADA to see what the problem is that is causing the alarm.
- Timesheets are still done on paper
- There are no computers in the plant for staff, only one shared computer
- GIS mapping is not up to date
- A water meter inventory system is needed
- Some staff use their personal cell phones (Water Treatment- Administrative staff requested phone stipends/business phone but the request was denied. They are currently using their personal phone for work)
- There is no maintenance management system in place
- There is no customer complaint software. Complaints are recorded on paper forms that are later scanned into digital and entered into Excel

These may be driven in part because the Water Works does not have a technology plan. A technology plan should address:

- The Water Works' long-term technology goals
- What technology is the Water Works is currently using
    - What is working
    - What needs improvement
- What technology skills does the Water Works' staff have
- Who provides technology support
- What technology does the Water Works need to provide its services
- Solutions to meet the Water Works' needs
    - Hardware
    - Software
    - Staff training
    - IT support

RECOMMENDATION

Wausau Water Works should develop a technology plan to improve its use of technology in providing services and the efficiency of its staff.

Observation: The current compensation structure is not competitive with the market

The current compensation paid to Water Works' staff is a significant issue for the staff and was mentioned universally in our on-site work. A comparison of the mid-point compensation for several representative Water Works positions was made with those utilities selected for the staffing comparison benchmarks to gain a better understanding of the current situation. This comparison showed Water Works compensation for those positions was less than all the benchmark utilities for each position with one exception. The Lab Technician position was compensated less than three of the comparisons and greater than one. Overall, all of the Water Works positions were paid less than average of the benchmark utilities. The compensation comparisons are shown below.

Position	Wausau Current Pay (Midpoint)	Oshkosh	Appleton	Fond Du Lac	Manitowoc	West Bend	Average of Comparable	Wausau Above (Below) Average
Water Superintendent	$ 37.74	$ 46.67	$ 45.95	$ 48.91		$ 41.91	$ 45.86	(8.12)
WW Superintendent	$ 37.74	$ 46.67	$ 45.95	$ 48.91	$ 42.71	$ 41.91	$ 45.23	(7.49)
Water Supervisor	$ 28.85	$ 38.53	$ 41.22	$ 34.76		$ 37.29	$ 37.95	(9.10)
WW Supervisor	$ 28.85	$ 35.83	$ 41.22	$ 34.76	$ 38.22	$ 37.29	$ 37.46	(8.61)
Water Plant Operator	$ 25.77	$ 28.91	$ 29.45	$ 27.38		$ 29.54	$ 28.82	(3.05)
WW Lab Tech	$ 25.77	$ 28.91	$ 24.74	$ 27.38			$ 27.01	(1.24)
Sr. Water Distr. Maintainer	$ 25.77	$ 28.91	$ 27.08	$ 27.38			$ 27.79	(2.02)
Sr. WW Collection Maintainer	$ 25.77	$ 28.91	$ 27.08	$ 27.38			$ 27.79	(2.02)
Sewer Maintainer	$ 24.09	$ 25.88	$ 27.08	$ 24.91			$ 25.96	(1.87)
Water Maintainer	$ 24.09	$ 25.88	$ 27.08	$ 24.91			$ 25.96	(1.87)
Plant Mechanic Sewer	$ 25.77	$ 28.91	$ 27.08	$ 27.38	$ 29.21	$ 29.54	$ 28.42	(2.65)
Plant Mechanic Water	$ 25.77	$ 28.91	$ 27.08	$ 27.38		$ 29.54	$ 28.23	(2.46)
Admins	$ 21.97	$ 22.85	$ 24.74	$ 22.46	$ 24.73	$ 24.82	$ 23.92	(1.95)

In addition to the compensation level concerns, the staff at Water Works sees no incentive or value in learning new skills since it does not affect their compensation. Skills such as DNR certification for operator licenses, Electrical and Instrumentation Technician, and other that would benefit both the employee and Water Works. As a result of this, there are only two staff members that have DNR licenses for the majority of the subclasses (EI, solids treatment, disinfection, laboratory, collection system, and other).

The City has retained a consultant to perform a compensation and market study that should provide a more detailed analysis of the current situation and enable the Water Works to address the compensation issue.

RECOMMENDATION

Water Works should review the compensation and market study when completed and make appropriate compensation adjustments to retain current staff, attract new employees as needed, and to provide an incentive for staff to improve their skills.

Observation: The requirement that a commercial driver's license is required as a condition of employment for some positions makes hiring new employees difficult.

During our on-site work, the need for a commercial driver's license (CDL) as a condition of employment was mentioned as a barrier to attracting and hiring new employees. A review of positions descriptions finds that six positions require a CDL as a condition of employment. These include:

- Water Plant Operator
- Water Distribution Supervisor
- Senior Water Plant Operations Technician
- Senior Water Distribution Maintainer
- Collection System Supervisor
- Sewer Maintainer

Five other positions require a CDL be obtained within a specified time period of hire (six to eighteen months).

To the extent the requirement for a CDL in the current job market makes hiring needed staff a problem, the Water Works should review this requirement to allow an employee to obtain the needed CDL within a reasonable time after hire.

RECOMMENDATION

Water Works should review the requirement for a CDL as a condition of hire if it presents a barrier finding new employees in the current job market and make appropriate adjustments such as within six months of hire to fill needed vacancies.

Observation: There is no succession plan in place to replace employees who retire.

Wausau has employees who are eligible to retire and others who will be eligible to retire in the next five to ten years. Employees retiring in the near future will leave with a wealth of knowledge about the Wausau Water Works and its operations. The Water Works should begin the process of succession planning to fill these positions as retirements commence. The strategies should include:

- Develop a mentoring program to train replacement staff and to transfer the institutional knowledge of the retiring staff to their replacements
- Hire replacement staff in advance of retirements so they can be mentored as stated above
- Have existing staff document their current practices and knowledge to establish a written record and to create standard operating procedures
- Evaluate the market compensation of the current positions to ensure it can attract qualified candidates

The process of succession planning will enable the Wausau Water Works to transition through these retirements without losing institutional knowledge and ensure Water Works operations will continue without loss of efficiencies.

RECOMMENDATION

Wausau Water Works should begin the process of succession planning to transfer the knowledge of its current staff who will be eligible to retire in the next five years to their replacement staff.

Observation: Safety training needs to be improved.

The employee training program currently consists primarily of safety training videos provided by the City's insurance company that employees can only watch on their computers. These videos were largely described as "horrible". Safety training for employees is an important function of the Water Works to reduce on the job injuries and lost time due to accidents. The Water Works should review its current employee safety training program to improve both employee interest in and delivery of the program. The training program should recognize that employees learn in different ways. Some learn visually through images and videos other learn more effectively through reading materials to digest the information. An effective safety training program should provide opportunities to engage employees in learning experiences that recognize the differences in their preferred way of learning.

RECOMMENDATION

Wausau Water Works should review its safety training program to improve both employee interest in and delivery of the program.

Observation: Employee training needs to be improved.

Employee training outside of safety training was consistently mentioned as an issue. Employees indicated that there is no formal training program and training was basically limited to that necessary to keep their DNR certificates. The shortage of staff was cited as a reason for the lack of training. A specific need to train other staff in electrical instrumentation and to achieve the DNR Wastewater Certification was also identified.

Training is important because it provides an opportunity for employees to grow their knowledge base and improve their job skills to become more effective in the workplace. The benefits of employee training include the following:

- Improves employee knowledge and skills
- Prepares employees for greater responsibilities
- Shows employees they are valued
- Increases productivity and performance
- Boosts employee morale
- Improves employee retention

I am reminded of a post on LinkedIn some time ago:

> *CFO asks the CEO, "What happens if we invest in developing our people and they leave us?"*
> *The CEO responds, "What happens if we don't and they stay?"*

RECOMMENDATION

Wausau Water Works should develop an employee training program to provide opportunities for its employees to improve their skills and to obtain additional DNR certifications.

Observation: There is no formal inventory control system in place.

There is no single person in charge of inventory control and management and there is no formal inventory management system. Inventory management would allow the management of inventory from purchase to use. An effective inventory management system would benefit the Water Works in a number of ways:

- Provide an accurate measure of inventory including number and type of each asset
- Document when an asset is received and when it is taken out of inventory, who took it, and where it was placed into service
- Enable the Water Works to ensure it has a sufficient inventory of parts in stock to respond to operational needs and emergencies

RECOMMENDATION

Wausau Water Works should develop an asset inventory system to management and track replacement parts and other inventory accurately.

Observation: Communication between Water Works and the City could be improved.

Communication internally within Water Works was reported as good by staff. However, communication between Water Works and the City was stated to need improvement. Communication is frequently cited as an issue in organizational management studies. Recognizing that communication is a two-way street, the Water Works should meet with City staff to identify opportunities to improve communication and sharing of information.

RECOMMENDATION

Wausau Water Works should meet with the City to identify opportunities to improve communication and sharing of information.

Observation: Job descriptions are not accurate and are missing critical technical language and skill gaps.

Our on-site interviews indicated that some job descriptions were not accurate and are missing critical technical language and skills. There were also comments that the former City Human Resources Director edited job descriptions to remove technical skills with the belief this was done to reduce the compensation for those positions. The City is currently undertaking a compensation market study. However, the Request for Proposals for this study did not include updating job descriptions as part of the scope. Accurate job descriptions provide a several benefits for Water Works including:

- Recruiting candidates that are a good fit for the position
- Setting clear expectations for employees of the responsibilities of their positions
- Provides a tool for evaluating employee performance based on defined job duties
- Identifies training needs for the position
- Offers protection after termination when an employee performance does not meet the standards defined for the position by the job description
- Enables the Water Works to make valid compensation comparisons with other similar entities based on actual position knowledge, skills, and abilities

Water Works should review the current job descriptions to identify technical and skills gaps and update them to eliminate any discrepancies. Once updated, they should be shared with employees so that everyone understands the requirements for their positions which will eliminate any misunderstandings.

RECOMMENDATION

Wausau Water Works should review the current job descriptions to identify technical and skills gaps and update them to eliminate any discrepancies. Once updated, they should be shared with employees so that everyone understands the requirements for their positions which will eliminate any misunderstandings.

Observation: Some maintenance functions are not being performed

A number of maintenance requirements for the water and wastewater operations are not being performed. Wastewater has a goal of cleaning 20% and televise 10% of the sewer collection system each year but staff shortages have resulted in not achieving this goal. In the past year they estimate only 10% of the collection system was cleaned and 5% of the collection system was televised. The goals established are industry standard for wastewater utilities which are in place to prevent sewer backups into customers houses and businesses due to blockages that could have been cleared through routine cleaning and to identify areas where pipe failures or other problems exist so they can be repaired.

In addition to the collection system maintenance issue discussed above, staff indicated that lift station maintenance is not getting done due to staff shortages and that lift stations are only checked every other week. Lift station maintenance ensures they will continue to operate as needed which will prevent sewer backups. The industry standard for checking lift stations is weekly although the

frequency should be based on the size of the lift station with larger lift stations checked more frequently often on a daily basis.

Water distribution system valves require periodic turning, often called “exercising,” to keep them from seizing or freezing up due to corrosion and tuberculation, and to ensure they are fully operational when needed. Generally, critical valves (those on water mains serving hospitals, restaurant or industrial areas that have stringent needs for regular water delivery and those on major supply lines) should be exercised more frequently. Some utilities exercise critical valves yearly. Other valves are typically exercised on a three to five-year cycle. The Water utility indicates the Wisconsin DNR Administrative Code requires WWU to exercise 1,200 valves each year based on a five-year rotation, but WWU requested and was granted a variance to exercise valves on a ten-year rotation which requires 600 valves be exercised each year. However, they have only exercised about 100 so far this year which is again attributable to staffing shortages.

Uni-directional flushing of water lines is another maintenance that is not getting done. This flushing is performed to clean the water mains, possibly prevent nitrification, and improve water quality. The flushing was recommended as part of a corrosion control treatment study done after a lead exceedance in 2014.

The cleaning and televising of the sewer collection system, the maintenance and checking of lift stations, the exercising of water distribution system valves, ands unidirectional flushing of water mains are important operational functions that need to be done on a regular basis. Water Works should address these maintenance issues either through additional staffing, contracting them out to a private service provider, or some combination of these.

RECOMMENDATION

Water Works should address sewer collection cleaning and televising, maintenance and checking of lift stations and the exercising of water distribution valves either through additional staffing, contracting them out to a private service provider, or some combination of these.

MEMORANDUM

TO: City of Wausau, WI Water Works Commission

FROM: Brian Roemer, Senior Municipal Advisor, Ehlers

DATE: April 10, 2024

SUBJECT: 2024 Environmental Improvement Fund Program Loans

In late 2023 the City of Wausau, WI requested Ehlers complete a Long-Range Cash Flow Analysis in 2024 for the Water and Sewer Utilities. Part of the analysis is to identify the ability to fund upcoming capital projects including the anticipated Safe Drinking Water Fund and Clean Water Fund Loans through the Wisconsin Department of Natural Resources. Prior to this engagement Ehlers has completed the following analysis for the utilities:

- 2020 Water and Sewer Rate Studies which included a Conventional Rate Case through the Wisconsin Public Service Commission for the Water Utility
- 2023 Water and Sewer Rate Studies which included a Conventional Rate Case through the Wisconsin Public Service Commission for the Water Utility

The WI DNR EIF program offers funding for necessary utility infrastructure in a competitive process against other municipalities based on a scoring system. Upon qualification and acceptance through the WI DNR the utilities can receive principal forgiveness (grant funding) and subsidized interest rates for up to 30 years pending the design life of the individual project. The loans are not prepayable and therefore many communities will issue the loans pledging the revenues of the utility system (absent any other abatement sources) rather than pledging a General Obligation pledge to secure their General Obligation borrowing capacity. As a revenue bond and in order to secure the funding through the WI DNR program the utility must prove at the time of loan closing it has adequate revenues available for debt service through the Additional Bonds Test. Wherein based on the last fiscal year revenues available for debt service are set to the amount designated in the originating revenue bond resolution above existing and projected debt service (of the loan in question). As depicted in Appendix A and B both utilities meet the Additional Bonds Test based on the loan amounts furnished by City staff on April 9, 2024 and no utility rate adjustments are necessary to close the loans. From this point forward the City will coordinate with Ehlers, Donahue (engineering firm), Bond Counsel (Quarles), and the state to finalize loan documents to presented to Council for their acceptance at a later date likely a May or June meeting.

Beyond the 2024 EIF Loans, the 2024 Long-Range Cash Flow Analysis is intended to:

- Continue to analyze the utilities ability to fund existing and projected obligations.
- Analyze the impacts of the operation budget increases for adding staff as was recommended by the Baker Tilly Staffing Assessment.
- Make recommendations on revenue adjustments as necessary.
- Identify the impacts of the recommendations to rate payers as necessary.

Based on the discussion at the 11/21/2023 Council meeting this analysis will be delivered in August 2024.

Mock DOA Financial Review

City of Wausau, WI

	Audited 2021	Audited 2022	Draft 2023	CNR (as needed) 2023
Water System Revenues				
Sale of Water	7,366,396.00	7,292,532.00	9,946,632.00	12,231,775.00
Other Water Revenue	250,443.00	207,057.00	179,000.00	179,000.00
Interest Income	657.00	36,416.00	10,000.00	10,000.00
Total "Gross Earnings"	7,617,496.00	7,536,005.00	10,135,632.00	12,420,775.00
Water & Sewer System Expenses				
Operation & maintenance	3,457,837.00	3,600,395.00	4,542,495.00	4,542,495.00
Total "Current Expenses"	3,457,837.00	3,600,395.00	4,542,495.00	4,542,495.00
Net Revs Available for Debt Service	4,159,659.00	3,935,610.00	5,593,137.00	7,878,280.00

Sewer Revenue Debt Issues	**2025 MAX DS Prin & Int**	**Required Debt Cover**
$4,815,000, Commericial Market, Series 2017C	489,875.00	110%
$2,695,000, Commercial Market, Series 2019D	177,131.26	110%
$43,399,238, SDWFLP, Proj. No. 4930-09	2,865,389.31	110%
$13,000,000, SDWFLP, Proj. No. 4930-19	800,549.69	110%
reserved	0.00	
Max Annual Debt Service	4,332,945.26	

Net Revenues / Max Annual Debt Service --> 5,593,137.00 / 4,332,945.26 = 129.08% Debt Coverage

Conclusion: need Net Revenues of at least --> 4,766,239.79 (4,332,945.26 x 110%) to meet Debt Coverage Test

Net Revenues Excess or (Shortfall) --> 826,897.21

Annual Debt Service Schedule

City of Wausau, WI

	Year	Commericial Market Water Rev $4,815,000 Series 2017C Dated 12/05/2017	Commercial Market Water Rev $2,695,000 Series 2019D Dated 10/01/2019	SDWFLP Water Rev $43,399,238 Proj. No. 4930-09 Dated 5/3/2017	SDWFLP Water Rev $13,000,000 Proj. No. 4930-19 Dated 6/26/2024	Annual Debt Service Total	
1	2024	491,375.00	176,831.26	2,863,230.63	96,822.92	3,628,259.81	
2	2025	489,875.00	177,131.26	2,865,389.31	800,549.69	4,332,945.26	**MAX Annual**
3	2026	487,775.00	172,331.26	2,865,051.37	800,428.36	4,325,585.99	
4	2027	151,875.00	172,431.26	2,864,707.47	800,304.45	3,989,318.18	
5	2028	148,025.00	168,056.26	2,864,357.54	800,177.87	3,980,616.67	
6	2029	154,575.00	169,231.26	2,864,001.43	800,048.58	3,987,856.27	
7	2030	150,975.00	165,981.26	2,863,639.05	799,916.51	3,980,511.82	
8	2031	147,375.00	168,246.88	2,863,270.30	799,781.61	3,978,673.79	
9	2032	153,625.00	170,237.50	2,862,895.07	799,643.81	3,986,401.38	
10	2033	149,725.00	172,031.25	2,862,513.22	799,503.06	3,983,772.53	
11	2034	155,675.00	173,525.00	2,862,124.66	799,359.29	3,990,683.95	
12	2035	151,475.00	169,775.00	2,861,729.26	799,212.44	3,982,191.70	
13	2036	157,031.25	170,962.50	2,861,326.89	799,062.44	3,988,383.08	
14	2037	152,343.75	176,756.25	2,860,917.45	798,909.22	3,988,926.67	
15	2038		177,150.00	2,860,500.80	798,752.71	3,836,403.51	
16	2039		177,406.25	2,860,076.82	798,592.84	3,836,075.91	
17	2040			2,859,645.37	798,429.55	3,658,074.92	
18	2041				798,262.75	798,262.75	
19	2042				798,092.38	798,092.38	
20	2043				797,918.35	797,918.35	
21	2044				797,740.59	797,740.59	
22	2045				-	-	
23	2046				-	-	
24	2047				-	-	
25	2048				-	-	
26	2049				-	-	
27	2050				-	-	
28	2051				-	-	
29	2052				-	-	
30	2053				-	-	
31	2054				-	-	
32	2055				-	-	
33	2056				-	-	
34	2057				-	-	
35	2058				-	-	
36	2059				-	-	
37	2060				-	-	
38	2061				-	-	
39	2062				-	-	
40	2063				-	-	
41	2064				-	-	
	Total	3,141,725.00	2,758,084.45	48,665,376.64	16,081,509.42	70,646,695.51	

Mock DOA Financial Review

City of Wausau, WI

	Audited 2021	Audited 2022	Draft 2023
Sewer System Revenues			
Sales of Sewer	8,033,614.00	9,494,966.00	11,388,391.00
Other Sewer Revenue	8,674.00	2,173.00	
Interest Income	1,051.00	52,160.00	
Total "Gross Earnings"	8,043,339.00	9,549,299.00	11,388,391.00
Sewer System Expenses			
Operation & maintenance	3,536,956.00	4,335,722.00	3,865,934.34
Payroll Taxes			
Total "Current Expenses"	3,536,956.00	4,335,722.00	3,865,934.34
Net Revs Available for Debt Service	4,506,383.00	5,213,577.00	7,522,456.66

Sewer Revenue Debt Issues	**2025 MAX DS Prin & Int**	**Required Debt Cover**
$6,225,000, Commericial Market, Series 2017D	703,000.00	110%
$6,530,000, Commercial Market, Series 2019C	428,325.00	110%
$84,069,220, CWFLP, Proj. No. 4138-05	3,862,197.14	110%
$3,600,000, CWFLP, Series 2024	225,377.87	110%
reserved	0.00	
Max Annual Debt Service	5,218,900.01	

Net Revenues / Max Annual Debt Service --> 7,522,456.66 / 5,218,900.01 = 144.14% Debt Coverage

Conclusion: need Net Revenues of at least --> 5,740,790.01 (5,218,900.01 x 110%) to meet Debt Coverage Test

Net Revenues Excess or (Shortfall) --> 1,781,666.65

Annual Debt Service Schedule

City of Wausau, WI

	Year	Commericial Market Sewer Rev $6,225,000 Series 2017D Dated 12/5/2017	Commercial Market Sewer Rev $6,530,000 Series 2019C Dated 10/1/2019	CWFLP Sewer Rev $84,069,220 Proj. No. 4138-05 6/24/2020	CWFLP Sewer Rev $3,600,000 Series 2024 Dated 6/26/2024	Annual Debt Service Total	
1	2024	702,700.00	434,825.00	3,862,609.00	29,012.50	5,029,146.50	
2	2025	703,000.00	428,325.00	3,862,197.14	225,377.87	5,218,900.01	**MAX Annual**
3	2026	643,500.00	421,625.00	3,861,777.57	225,339.22	5,152,241.79	
4	2027	124,800.00	414,725.00	3,861,350.16	225,299.68	4,626,174.84	
5	2028	131,500.00	409,150.00	3,860,914.75	225,259.22	4,626,823.97	
6	2029	128,500.00	409,850.00	3,860,471.20	225,217.81	4,624,039.01	
7	2030	125,500.00	406,925.00	3,860,019.36	225,175.44	4,617,619.80	
8	2031	122,500.00	410,218.75	3,859,559.07	225,132.10	4,617,409.92	
9	2032	129,350.00	412,887.50	3,859,090.18	225,087.76	4,626,415.44	
10	2033	126,050.00	410,181.25	3,858,612.51	225,042.37	4,619,886.13	
11	2034	122,750.00	416,800.00	3,858,125.92	224,995.93	4,622,671.85	
12	2035	129,300.00	417,675.00	3,857,630.23	224,948.42	4,629,553.65	
13	2036	125,625.00	418,300.00	3,857,125.26	224,899.80	4,625,950.06	
14	2037	121,875.00	423,118.75	3,856,610.85	224,850.06	4,626,454.66	
15	2038		422,118.75	3,856,086.82	224,799.15	4,503,004.72	
16	2039		425,775.00	3,855,552.99	224,747.07	4,506,075.06	
17	2040			3,855,009.18	224,693.79	4,079,702.97	
18	2041			3,854,455.20	224,639.26	4,079,094.46	
19	2042			3,853,890.86	224,583.46	4,078,474.32	
20	2043			3,853,315.98	224,526.38	4,077,842.36	
21	2044			3,852,730.33	224,467.97	4,077,198.30	
22	2045			3,852,133.73	-	3,852,133.73	
23	2046			3,851,525.98	-	3,851,525.98	
24	2047			3,850,906.86	-	3,850,906.86	
25	2048			3,850,276.17	-	3,850,276.17	
26	2049			3,849,633.69	-	3,849,633.69	
27	2050			3,848,979.19	-	3,848,979.19	
28	2051				-	-	
29	2052				-	-	
30	2053				-	-	
31	2054				-	-	
32	2055				-	-	
33	2056				-	-	
34	2057				-	-	
35	2058				-	-	
36	2059				-	-	
37	2060				-	-	
38	2061				-	-	
39	2062				-	-	
40	2063				-	-	
41	2064				-	-	
	Total	3,436,950.00	6,682,500.00	104,120,590.18	4,528,095.26	118,768,135.44	

Wisconsin State Laboratory of Hygiene
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Madison, WI 53707-7996
(800)442-4618 - Fax (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

Environmental Health Division

WSLH Sample: 729828001

Report To:
BEN BROOKS
WAUSAU WWTP
430 ADRIAN ST
WAUSAU, WI 54401

Invoice To:
TONIRAYALA WAUSAU CITY CLERK
407 GRANT ST
WAUSAU, WI 54403

Customer ID: 358849

Field #: 20821021
Project No:
Collection End: 3/24/2024 9:07:00 AM
Collection Start:
Collected By:
Date Received: 4/15/2024
Date Reported: 4/29/2024
Sample Reason:

ID#:
Sample Location:
Sample Description:
Sample Type: IF-INFLUENT (UNTREATED WW)
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

Sample Comments

No result is available for PFPeA and MeFOSE due to interference.
Extra sample bottle was used as a matrix spike. No duplicate data is available.

PFAS in Waste Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 04/03/24 09:35	Analysis Date: 04/04/24 18:28	Prep Method:			
PFBA (375-22-4)	WSLH PFAS in Waste Water	13.6	ng/L	1.16	3.91
Interference					
The internal standard QC limit has failed low.					
4:2 FTSA (757124-72-4)	WSLH PFAS in Waste Water	<0.961	ng/L	0.961	1.96
PFHxA (307-24-4)	WSLH PFAS in Waste Water	8.48	ng/L	0.664	1.96
PFPeS (2706-91-4)	WSLH PFAS in Waste Water	<0.459	ng/L	0.459	0.978
HFPO-DA (13252-13-6)	WSLH PFAS in Waste Water	<0.671	ng/L	0.671	1.96
PFHpA (375-85-9)	WSLH PFAS in Waste Water	4.13	ng/L	0.661	1.96
PFHxS (355-46-4)	WSLH PFAS in Waste	1.50F	ng/L	0.701	1.96

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Laboratory Report

Environmental Health Division

WSLH Sample: 729828001

PFAS in Waste Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 04/03/24 09:35	Analysis Date: 04/04/24 18:28	Prep Method: Water			
Interference Transition Ion Ratio Failure.					
DONA (919005-14-4)	WSLH PFAS in Waste Water	<0.576	ng/L	0.576	1.96
PFOA (335-67-1)	WSLH PFAS in Waste Water	10.1	ng/L	0.588	1.96
PFHpS (375-92-8)	WSLH PFAS in Waste Water	<0.580	ng/L	0.580	1.96
PFOS (1763-23-1)	WSLH PFAS in Waste Water	8.98	ng/L	0.523	1.96
PFNA (375-95-1)	WSLH PFAS in Waste Water	<0.650	ng/L	0.650	1.96
9Cl-PF3ONS (756426-58-1)	WSLH PFAS in Waste Water	<0.613	ng/L	0.613	1.96
8:2 FTSA (39108-34-4)	WSLH PFAS in Waste Water	<0.822	ng/L	0.822	1.96
The internal standard QC limit has failed high.					
PFDA (335-76-2)	WSLH PFAS in Waste Water	<0.515	ng/L	0.515	1.96
PFNS (68259-12-1)	WSLH PFAS in Waste Water	<0.645	ng/L	0.645	1.96
N-MeFOSAA (2355-31-9)	WSLH PFAS in Waste Water	<0.642	ng/L	0.642	1.96
FOSA (754-91-6)	WSLH PFAS in Waste Water	<0.763	ng/L	0.763	1.96
The internal standard QC limit has failed low.					
PFDS (335-77-3)	WSLH PFAS in Waste Water	<0.892	ng/L	0.892	1.96
11Cl-PF3OUdS (763051-92-9)	WSLH PFAS in Waste Water	<0.671	ng/L	0.671	1.96
PFDoA (307-55-1)	WSLH PFAS in Waste Water	<1.06	ng/L	1.06	3.91
The internal standard QC limit has failed low.					
PFDoS (79780-39-5)	WSLH PFAS in Waste Water	3.72F	ng/L	1.32	3.91
PFTrDA (72629-94-8)	WSLH PFAS in Waste Water	<1.17	ng/L	1.17	3.91
The internal standard QC limit has failed low.					

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

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Laboratory Report

Environmental Health Division

WSLH Sample: 729828001

PFAS in Waste Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 04/03/24 09:35	Analysis Date: 04/04/24 18:28	Prep Method:			
N-MeFOSA (31506-32-8)	WSLH PFAS in Waste Water	<0.603	ng/L	0.603	1.96
The internal standard QC limit has failed low.					
PFTeDA (376-06-7)	WSLH PFAS in Waste Water	<1.01	ng/L	1.01	3.91
Prep Date: 04/03/24 09:35	Analysis Date: 04/04/24 18:56	Prep Method:			
PFBS (375-73-5)	WSLH PFAS in Waste Water	531	ng/L	13.7	46.2
6:2 FTSA (27619-97-2)	WSLH PFAS in Waste Water	<15.5	ng/L	15.5	46.2
The internal standard QC limit has failed high.					
N-EtFOSAA (2991-50-6)	WSLH PFAS in Waste Water	<21.0	ng/L	21.0	46.2
PFUnA (2058-94-8)	WSLH PFAS in Waste Water	<14.8	ng/L	14.8	46.2
N-EtFOSA (4151-50-2)	WSLH PFAS in Waste Water	<10.6	ng/L	10.6	23.1
N-EtFOSE (1691-99-2)	WSLH PFAS in Waste Water	<13.5	ng/L	13.5	46.2

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Laboratory Report

Environmental Health Division

WSLH Sample: 729828001

WDNR LAB ID:113133790 NELAP LAB ID:2091 EPA LAB ID:WI00007, WI00008 WI DATCP ID:105-415

List of Abbreviations:
LOD = Level of detection
LOQ = Level of quantification (for PFAS the LOQ = MRL)
ND = None detected. Results are less than the LOD
F next to result = Result is between LOD and LOQ
Z next to result = Result is between 0 (zero) and LOD
if LOD=LOQ, Limits were not statistically derived

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Madison, WI 53707-7996
(800)442-4618 - Fax (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

Environmental Health Division

WSLH Sample: 727021001

Report To:
BEN BROOKS
WAUSAU WWTP
430 ADRIAN ST
WAUSAU, WI 54401

Invoice To:
TONIRAYALA WAUSAU CITY CLERK
407 GRANT ST
WAUSAU, WI 54403

Customer ID: 358849

Field #: VAC161222
Project No:
Collection End: 3/25/2024 9:00:00 AM
Collection Start:
Collected By: JASON SCHILL
Date Received: 3/26/2024
Date Reported: 4/16/2024
Sample Reason:

ID#:
Sample Location:
Sample Description:
Sample Type: EF-EFFLUENT (TREATED WW)
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 03/26/24 10:10	Analysis Date: 03/28/24 03:52	Prep Method:			
PFBA (375-22-4)	WSLH PFAS in Water	22.0	ng/L	0.627	1.77
PFPeA (2706-90-3)	WSLH PFAS in Water	7.98	ng/L	0.250	0.885
4:2 FTSA (757124-72-4)	WSLH PFAS in Water	<0.189	ng/L	0.189	0.885
The internal standard QC limit has failed high.					
PFHxA (307-24-4)	WSLH PFAS in Water	12.3	ng/L	0.297	0.885
PFPeS (2706-91-4)	WSLH PFAS in Water	<0.165	ng/L	0.165	0.885
HFPO-DA (13252-13-6)	WSLH PFAS in Water	<0.199	ng/L	0.199	0.885
PFHpA (375-85-9)	WSLH PFAS in Water	3.37	ng/L	0.279	0.885
PFHxS (355-46-4)	WSLH PFAS in Water	2.02	ng/L	0.327	0.885
DONA (919005-14-4)	WSLH PFAS in Water	<0.262	ng/L	0.262	0.885
6:2 FTSA (27619-97-2)	WSLH PFAS in Water	<0.215	ng/L	0.215	0.885
The internal standard QC limit has failed high.					
PFOA (335-67-1)	WSLH PFAS in Water	8.83	ng/L	0.217	0.885
PFHpS (375-92-8)	WSLH PFAS in Water	<0.194	ng/L	0.194	0.885

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Laboratory Report

Environmental Health Division

WSLH Sample: 727021001

PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 03/26/24 10:10	Analysis Date: 03/28/24 03:52	Prep Method:			
PFOS (1763-23-1)	WSLH PFAS in Water	4.48	ng/L	0.293	0.885
Branched isomer peak area ratio not observed in analytical standard					
PFNA (375-95-1)	WSLH PFAS in Water	0.359F	ng/L	0.241	0.885
9Cl-PF3ONS (756426-58-1)	WSLH PFAS in Water	<0.169	ng/L	0.169	0.885
8:2 FTSA (39108-34-4)	WSLH PFAS in Water	<0.386	ng/L	0.386	0.885
The internal standard QC limit has failed high.					
PFDA (335-76-2)	WSLH PFAS in Water	0.260F	ng/L	0.247	0.885
PFNS (68259-12-1)	WSLH PFAS in Water	<0.167	ng/L	0.167	0.885
N-MeFOSAA (2355-31-9)	WSLH PFAS in Water	1.06	ng/L	0.298	0.885
N-EtFOSAA (2991-50-6)	WSLH PFAS in Water	1.12	ng/L	0.176	0.885
FOSA (754-91-6)	WSLH PFAS in Water	<0.162	ng/L	0.162	0.885
PFUnA (2058-94-8)	WSLH PFAS in Water	<0.222	ng/L	0.222	0.885
PFDS (335-77-3)	WSLH PFAS in Water	<0.265	ng/L	0.265	0.885
11Cl-PF3OUdS (763051-92-9)	WSLH PFAS in Water	<0.165	ng/L	0.165	0.885
PFDoA (307-55-1)	WSLH PFAS in Water	<0.226	ng/L	0.226	0.885
PFDoS (79780-39-5)	WSLH PFAS in Water	<0.351	ng/L	0.351	0.885
PFTrDA (72629-94-8)	WSLH PFAS in Water	<0.344	ng/L	0.344	0.885
N-MeFOSA (31506-32-8)	WSLH PFAS in Water	<0.343	ng/L	0.343	0.885
N-MeFOSE (24448-09-7)	WSLH PFAS in Water	<0.207	ng/L	0.207	0.885
N-EtFOSA (4151-50-2)	WSLH PFAS in Water	<0.294	ng/L	0.294	0.885
N-EtFOSE (1691-99-2)	WSLH PFAS in Water	<0.325	ng/L	0.325	0.885
PFTeDA (376-06-7)	WSLH PFAS in Water	<0.228	ng/L	0.228	0.885
Prep Date: 03/26/24 10:10	Analysis Date: 03/28/24 04:19	Prep Method:			
PFBS (375-73-5)	WSLH PFAS in Water	491	ng/L	1.93	8.85
Result obtained from dilution. Isotope dilution not achieved.					

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Laboratory Report

Environmental Health Division

WSLH Sample: 727021001

WDNR LAB ID:113133790 NELAP LAB ID:2091 EPA LAB ID:WI00007, WI00008 WI DATCP ID:105-415

List of Abbreviations:
LOD = Level of detection
LOQ = Level of quantification (for PFAS the LOQ = MRL)
ND = None detected. Results are less than the LOD
F next to result = Result is between LOD and LOQ
Z next to result = Result is between 0 (zero) and LOD
if LOD=LOQ, Limits were not statistically derived

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Responsible Party

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Laboratory Report

Environmental Health Division

WSLH Sample: 727022001

Report To:

BEN BROOKS
WAUSAU WWTP
430 ADRIAN ST
WAUSAU, WI 54401

Invoice To:

TONIRAYALA WAUSAU CITY CLERK
407 GRANT ST
WAUSAU, WI 54403

Customer ID: 358849

Field #: J512873-2029
Project No:
Collection End: 3/25/2024 9:27:00 AM
Collection Start:
Collected By: JASON SCHILL
Date Received: 3/26/2024
Date Reported: 4/26/2024
Sample Reason:

ID#:
Sample Location:
Sample Description:
Sample Type: SL-SLUDGE
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

Sample Comments

No result is available for PFBA and PFDS due to interference.
Sample results are reported based on the dry weight of the sample. Results have been adjusted to account for the sample's moisture content.
Due to the sample's composition, less than the default 10 grams were extracted. Sample results and limits have been adjusted accordingly.

Dry Weight

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: No Prep Step	Analysis Date: 04/08/24 13:30	Prep Method:			
PERCENT SOLIDS	EPA 160.3	93.2	%	0.00200	0.00200

PFAS in Solids

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 04/15/24 09:45	Analysis Date: 04/16/24 12:30	Prep Method:			
PFPeA (2706-90-3)	WSLH PFAS in Solids	<0.0306	ng/g	0.0306	0.0876
PFBS (375-73-5)	WSLH PFAS in Solids	0.859	ng/g	0.0263	0.0876
4:2 FTSA (757124-72-4)	WSLH PFAS in Solids	<0.0700	ng/g	0.0700	0.219

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Environmental Health Division

WSLH Sample: 727022001

PFAS in Solids

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 04/15/24 09:45	Analysis Date: 04/16/24 12:30	Prep Method:			
The internal standard QC limit has failed high.					
PFHxA (307-24-4)	WSLH PFAS in Solids	0.459	ng/g	0.0438	0.0876
PFPeS (2706-91-4)	WSLH PFAS in Solids	<0.0306	ng/g	0.0306	0.0876
HFPO-DA (13252-13-6)	WSLH PFAS in Solids	<0.0438	ng/g	0.0438	0.0876
PFHpA (375-85-9)	WSLH PFAS in Solids	<0.0569	ng/g	0.0569	0.219
PFHxS (355-46-4)	WSLH PFAS in Solids	<0.0263	ng/g	0.0263	0.0876
DONA (919005-14-4)	WSLH PFAS in Solids	<0.0306	ng/g	0.0306	0.0876
6:2 FTSA (27619-97-2)	WSLH PFAS in Solids	0.0429F	ng/g	0.0394	0.0876
The internal standard QC limit has failed high.					
PFOA (335-67-1)	WSLH PFAS in Solids	1.04	ng/g	0.0350	0.0876
Branched isomer peak area ratio not observed in analytical standard					
Confirmation result = 0.390 ng/g					
Transition Ion Ratio Failure					
PFHpS (375-92-8)	WSLH PFAS in Solids	<0.0569	ng/g	0.0569	0.219
PFOS (1763-23-1)	WSLH PFAS in Solids	5.87	ng/g	0.0263	0.0876
PFNA (375-95-1)	WSLH PFAS in Solids	0.0854F	ng/g	0.0306	0.0876
9Cl-PF3ONS (756426-58-1)	WSLH PFAS in Solids	<0.0525	ng/g	0.0525	0.219
8:2 FTSA (39108-34-4)	WSLH PFAS in Solids	0.234	ng/g	0.0306	0.0876
The internal standard QC limit has failed high.					
PFDA (335-76-2)	WSLH PFAS in Solids	0.512	ng/g	0.0394	0.0876
PFNS (68259-12-1)	WSLH PFAS in Solids	<0.0350	ng/g	0.0350	0.0876
N-MeFOSAA (2355-31-9)	WSLH PFAS in Solids	2.87	ng/g	0.0350	0.0876
N-EtFOSAA (2991-50-6)	WSLH PFAS in Solids	2.99	ng/g	0.0438	0.0876
FOSA (754-91-6)	WSLH PFAS in Solids	0.932	ng/g	0.0394	0.0876
The internal standard QC limit has failed low.					
PFUnA (2058-94-8)	WSLH PFAS in Solids	0.306	ng/g	0.0657	0.219
11Cl-PF3OUdS (763051-92-9)	WSLH PFAS in Solids	<0.0306	ng/g	0.0306	0.0876

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WSLH Sample: 727022001

PFAS in Solids

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Prep Date: 04/15/24 09:45	Analysis Date: 04/16/24 12:30	Prep Method:			
PFDoA (307-55-1)	WSLH PFAS in Solids	0.333	ng/g	0.0438	0.0876
The internal standard QC limit has failed low.					
PFDoS (79780-39-5)	WSLH PFAS in Solids	<0.0569	ng/g	0.0569	0.219
PFTrDA (72629-94-8)	WSLH PFAS in Solids	0.198	ng/g	0.0350	0.0876
The internal standard QC limit has failed low.					
N-MeFOSA (31506-32-8)	WSLH PFAS in Solids	<0.0876	ng/g	0.0876	0.219
N-MeFOSE (24448-09-7)	WSLH PFAS in Solids	4.29	ng/g	0.101	0.219
Interference in internal standard; result is approximate.					
N-EtFOSA (4151-50-2)	WSLH PFAS in Solids	0.411	ng/g	0.0525	0.219
Branched isomer peak area ratio not observed in analytical standard					
N-EtFOSE (1691-99-2)	WSLH PFAS in Solids	1.83	ng/g	0.0350	0.0876
Interference in internal standard; result is approximate.					
PFTeDA (376-06-7)	WSLH PFAS in Solids	0.167	ng/g	0.0394	0.0876

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Laboratory Report

Environmental Health Division

WSLH Sample: 727022001

WDNR LAB ID:113133790 NELAP LAB ID:2091 EPA LAB ID:WI00007, WI00008 WI DATCP ID:105-415

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WAUSAU WASTEWATER: INFLUENT, EFFLUENT & BIOSOLIDS PFAS TESTING

							< 16 ng/g (ug/kg)= no further action required by WDNR	?
			< 20 ng/L (ppt)= WDNR proposed limit	**< 8 ng/L (ppt)= WDNR proposed limit**			**< 20 ng/g (ug/kg)= no further action required by WDNR**	2/15/24 DNR Guidance
Date:	**Influent PFOA: ng/L**	**Influent PFOS: ng/L**	**Effluent PFOA: ng/L**	**Effluent PFOS: ng/L**	**ng/g**	**ng/g**	**(ug/kg)**	**DRYER: ON/OFF**
1/5/2021			14.8	8.48				
10/24/2023	4.68	6.3	5.86	7.81	0.744	7.06	7.8	OFF
11/30/2023	4.8	8.91	7.73	34	0.561	7.78	8.3	ON
12/20/2023	4.67	6.36	6.68	6.74	1.00	10.3	11.3	OFF
1/22/2024	6.11	22.6	5.73	4.91	0.755	7.72	8.5	OFF
2/27/2024	5.84	6.03	7.39	5.41	0.352	5.94	6.3	OFF
3/25/2024	10.1	8.98	8.83	4.48	1.04	5.87	6.91	OFF

WAUSAU WATER WORKS
FOR YOU!

The Wastewater Utility is seeking approval to purchase a used tandem axle drive truck chassis which will be used to convert into a tanker truck. The truck will be used for sewer maintenance flushing and other assorted tanker tasks.

The Wastewater plant has acquired a 3000-gallon tank from the Water Treatment Plant that is ready to be installed onto this truck chassis. This 3000-gallon tanker truck would be a cost-effective addition to the fleet by allowing for more flushing time between fills over the existing 1200-gallon truck we currently have. The old truck can be sold or repurposed within the City.

The Wastewater Plant has found two trucks that will fit the required needs of a tanker truck. Both trucks meet the requirements of the tanker and both trucks are equipped with PTO drives that a pump system can be mounted on.

Additional costs for the water transfer pump, associated piping, and tank mounting will be $7,000. Total for truck chassis and additional items will equal $27,000.00.

1) **2010 International 7400**: Miles: 42,000, list price=$20,000.00 and located at Garcia's Truck Sales, Chicago, IL

2) **2013 International 4400**: Miles: 360,000, list price=$19,900 and located at Truck Services INC., Hamilton, MI