



**CITY OF RIVER FALLS WISCONSIN
UTILITY ADVISORY BOARD AGENDA
CITY HALL – COUNCIL CHAMBERS
April 18, 2016**

Call Meeting to Order: 6:30 p.m.
Roll Call
Approval of Minutes: March 21, 2016

ACTION MAY BE TAKEN ON ANY OF THE FOLLOWING ITEMS

PUBLIC COMMENTS:

CONSENT AGENDA:

1. Acknowledgement of the following minutes:
 - a. West Central Wisconsin Biosolids Facility Commission – 03-01-16
 - b. POWERful Choices Committee – 3-10-16

NEW BUSINESS

2. Ordinance Amending Wellhead Protection Regulation
3. Water Rate Increase Update
4. Water Emergency Plan Update

REPORTS:

5. Finance Report
6. Utility Dashboards
 - a. Electric
 - b. Water
 - c. Waste Water Treatment Plant
 - d. Powerful Choices
7. Monthly Utility Report

ANNOUNCEMENTS:

ADJOURNMENT:

Post: 04-8-16

**REGULAR MEETING
RIVER FALLS UTILITY ADVISORY BOARD
March 20, 2016 6:30 p.m.
Council Chambers, City Hall**

The Regular Meeting of the River Falls Utility Advisory Board was called to order by Secretary Beebe at 6:30 p.m. Present: Chris Gagne, Diane Odeen, Wayne Beebe, and Tim Thum. Absent: Grant Hanson, Duane Pederson, Adam Myszewski. Staff present: Kevin Westhuis, Utility Director; Kristi Hartmon, Administrative Assistant; Ron Groth, Water/Waste Water Superintendent; Julie Bergstrom, Finance Director; Ray French, Management Analyst; Reid Wronski, City Engineer; and Tamarra Jaworski, Engineering Technician Other Present: Marty Melchior, Inter-Fluve, Inc.; Ron, TKDA.

M/S Odeen/Beebe to approve minutes of the February 15, 2016 Regular Meeting. Motion Carried.

CONSENT AGENDA:

1. Acknowledgment of the following minutes:
West Central Wisconsin Biosolids Facility Commission Meeting – 01-19-16
POWERful Choices Committee – 2-11-16

M/S Odeen/Gagne to approve Consent Agenda. Motion Carried.

NEW BUSINESS:

2. Sediment Assessment Report – Hydro Relicensing. Ray French gave the board brief context of the sediment study. The City of River Falls went out for proposals in June of 2015. In July of 2015 an application was submitted for license extension. This gave the city and community time to step back and plan for the river corridor. It was found out last week that the extension was granted. The focus can now be on the Kinnickinnic River Corridor Planning process. The primary goal of the sediment analysis was to identify the costs and methods for sediment management if the city were to pursue dam removal in the future at one or both hydroelectric facilities. This included an initial assessment of sediment volumes, targeted sediment sampling and analysis, and a discussion of the sediment management options available to the city. There was stakeholder input in the selection of Inter-Fluve and in the proposed sediment sampling plan in October prior to the samples being taken in November. The DNR and members of the local chapter of Trout Unlimited reviewed and provided comments on the final Sediment Assessment Report. French stated that this study does not answer every question, but it helps us further along the path and brought clarity to the speculation and unknown questions to contaminants within the impoundments.

French introduced Marty Melcher the Regional Director of Inter-Fluve to give the results of their study. The full study was included in the Utility Advisory Board Packets. Inter-Fluve evaluated the existing sediment conditions in the upper and lower impoundments, Lakes

George and Louise. The main focus of the work was to assess the quantity and quality of impounded sediment behind both dams, and to determine the potential volume of sediment that may be evacuated or need to be excavated in the event of dam removal. Field assessment of existing impounded sediment composition and volume was completed using bathymetric surveys and sediment depth probing.

The sediments impounded within Lake George and Lake Louise area primarily fine to medium sands, with 20-40% silt, clay, and organics. The foreset bed or deltas at the upstream end of each impoundment are primarily medium to coarse sands. Sediment samples were collected at representative locations along the existing main channel and along the off-channel areas within each impoundment, and the collected material was analyzed for physical characteristics, metals, PCBs, organochlorine pesticides, and PAHs. The main channel sediments in Lake George were relatively uncontaminated, although concentrations of two PAH compounds exceed their respective TECs. In the off-channel, floodplain sediments of Lake George, concentrations of mercury, lead, arsenic, hexavalent chromium, total PCBs, and three PAH compounds exceed TECs or EPA screening levels in some of the sediment core samples. In Lake Louise, the downstream channel sediments (LL-C1 and LL-C2) were relatively uncontaminated. However, a high concentration of arsenic was present at LL-C1, exceeding the probable effect concentration (PEC). The cadmium concentration at LL-C1 exceeds the TEC. Arsenic concentrations exceed EPA screening levels for human health concerns at all three sites. At LL-C3, concentrations of 10 PAH compounds exceed their respective TECs and PECs, suggesting that this is a site of contaminant concern. In the Lake Louise floodplain sediments, concentrations of mercury, nickel, arsenic, and hexavalent chromium exceed their respective TECs or EPA screening levels. In addition, concentrations of seven PAH compounds exceed their respective TECs, MECs, PECs, or EPA screening levels. PAH contamination in the upper portion of sample LL-F2 is of particular concern. Sediment management options will include some combination of active and passive sediment management as described above, but the actual management scenarios used in each case will depend on regulatory guidance regarding management of contaminants and ecological impacts. The following next steps will be important tasks in developing refined costs for sediment management under any scenario, including dam removal.

Next Steps: Review of contaminant data will be completed by the Wisconsin DNR to determine possible sediment management scenarios and the need for any further sampling and testing, if any. If dam removal is pursued, a dam removal feasibility study can be completed to build on the sediment volume and quality assessment. Concept designs would be included in the feasibility study, which will also include structural review, dam removal construction logistics, and sediment management and water routing options during construction.

Marty told the board that he was available for any questions and that they could contact him at any time. French stated that the final report is posted on the City of River Falls website at rfcity.org. Beebe and Odeen stated that there is a lot of information in this report and

thanked Marty for the detailed report. Odeen stated that she was happy to hear she read the report correctly and that even though there are some trace metals and contaminants, it is really a lot cleaner than many had feared. Thum was curious about a couple of things. Assuming that we would remove the dams and have a combination of active and passive sediment management, the sediment that would remain (mostly sand) is that stable/non erodible and would it take some sort of treatment to establish vegetation. Marty stated that they have a lot of experience in the state with dam removal. There was a study done on re-vegetation of impoundments following a dam removal and what was found is that if you leave these impoundments alone and do not do any active restoration you are going to get 95-100% invasive vegetation. You can do a lot of things to restore those floodplain areas. Stabilization of the area could be done first and then figure out if it would be a viable surface for planting and what would need to be done. Gagne asked if there would be active and passive sediment management done if we do go with dam removal. Marty stated that based on his prior experience he would say yes. Thum stated assuming the concentrations remain low of contaminants and what we would remove physically/mechanically could that material be used as fill in other areas. Marty stated if the location is close it would make sense.

RESOLUTIONS:

3. Resolution Recommending Bid Award for 2016 Sanitary Sewer Lining Project. Tamarra Jaworski, Engineering Technician with the City of River Falls presented the 2016 Sanitary Sewer Lining Project to the Utility Advisory Board. Maintenance and rehabilitation of existing sewer system infrastructure is essential to preserving the sanitary sewer system. Jaworski showed a short video explaining the process (cured in place pipe CIPP) of the lining of a sanitary sewer pipe. Jaworski stated that you end up with a plastic type PVC pipe inside of the clay pipes you have lined. Maps were shown of the various areas of the City that staff has requested lining from. Staff viewed pre-lined televised data and some of these areas were given a rating of 5 (poor rating). Jaworski gave a summary of what the City wants to line this year. There is roughly 4,700 feet of eight-inch pipe, and one 18" pipe that is 284 feet (Lametti Interceptor Line) that is in rough shape. A total of 5,032 feet of pipe needs to be cleaned and televised.

The city received eight bids with the lowest bid of \$137,470.70 by Insituform Technologies. This is below the budgeted amount for the work. Jaworski stated that the City has used Insituform in the past and has been satisfied and staff recommends the UAB to support a bid award to Insituform Technologies for the provision of the 2016 Sanitary Sewer Lining Project.

UAB member Thum asked how many feet of pipe are they planning on doing. Jaworski stated they are doing a total of 5,032 of pipe. Beebe stated when they divert the sewage, what do they actually do because it is a big pipe (18" Lametti). Jaworski said they put a hose down the hole on the front end (a hose long enough to reach the end manhole) so that the section between will be dry. Odeen stated that generally the re-lining sections are short; is that because there are shorter sections rather than longer sections that need the work.

Jaworski stated that is not always the case and it just ended up that way this year. A video of a televised pipe was shown to the board showing cracks in the pipes. Odeen asked how long does the lining add to the lifespan of the pipe. Jaworski stated it will last fifty plus more years. Gagne asked when you line one section of the pipe and the other section is the old pipe, how do you seal off the end. Jaworski stated they don't need to seal off the ends when they are doing it (would bypass from manhole to manhole). Gagne asked how is the section sealed up that is not lined. So far a single piece has not been done and has only done manhole to manhole. Jaworski explained that the way it cures, it cures right to the pipe. You can have it grouted if after the lining is done and after viewing the post televised lining it shows infiltration.

Thum moved to approve of the resolution number 2016-06 recommending bid award for the 2016 Sanitary Sewer Lining Project. Odeen seconded the motion and the motion passed.

4. Resolution Recommending Professional Services for North Interceptor Sewer Project
Reid Wronski, City Engineer presented a recap on the North Interceptor Sewer Project stating that the north sewer area currently serves 27% of the existing developed area of the city and will eventually serve 42%. This includes all three of the City's Corporate Parks and much of its commercial property. The existing North Interceptor (sometimes referred to as Lametti) was built in 1971 and the N Main Lift Station was built in 1992. A comprehensive sewer study was done in 2009 and predicted the lift station would reach capacity between 2011 and 2018. Wronski stated that pump modifications have added efficiencies and delayed the projected capacity date. The lift station is 25 years old and maintenance needs are increasing. Wronski stated we are not currently at capacity. Analysis has been done on businesses that have shown interest in potentially coming to River Falls and has made staff realize that could eat up the capacity quickly.

On November 16, 2015, staff presented a draft request for proposals to the Utility Advisory Board and laid out a plan for proceeding forward with necessary planning of a North Interceptor Sewer project. On December 1, 2015, a request for proposals was mailed to five firms including: Ayres, MSA, SEH, Strand and TKDA. On December 17, 2015, a pre-proposal meeting was held for prospective consulting firms to seek clarification to questions regarding the RFP. On January 15, 2016, staff issued a revision to the RFP adding additional scope of work to address coordination of sewer interceptor issues with upcoming substation and trail projects. The due date for proposals was extended from January 20, 2016 to February 3, 2016. On February 3, 2016, staff received proposals from MSA, SEH, and TDKA. A selection committee was formed and members included Reid Wronski, City Engineer; Kevin Westhuis, Utility Director; Diane Odeen, City Council; Chris Gagne, Utility Advisory Board; Ron Groth, Waste Water and Water Superintendent. On February 23, 2016, the selection committee met and discussed various aspects of the three proposals received. General consensus and recommendation was to go with TKDA. Staff liked TKDA's project management experience and their acquisition experience and understanding through a company they use called Land Service Company. Staff asked TKDA to finalize their scope of work and included four items to focus on including a north interceptor routing study, St.

Croix Street outfall study, downstream interceptor planning and preliminary design and preparation for land acquisition.

The purpose of the North Interceptor Routing Study (estimated fee \$45,300) is to determine a route for a new 21" sewer interceptor line that would replace the existing north side lift station and forcemain with a gravity flow sewer. The new interceptor sewer would discharge into an existing or rebuilt gravity sewer manhole located in the current St. Croix Street Outfall Pond or another manhole downstream of that one. The purpose of the St. Croix Street Outfall Study (estimated fee \$48,800) is to create a concept plan for expansion and rehabilitation of the St. Croix Street Outfall Pond in order for the pond to provide rate control and sediment treatment consistent with current standards and be coordinated with the plans for the North Interceptor. The purpose of the Downstream Interceptor Planning And Preliminary Design (estimated fee \$39,800) work will be to determine the routing and alignment associated with the eventual upsizing of the North Interceptor south of the St. Croix Street Outfall as identified in the 2009 Sanitary Sewer Collection System Study. This will allow better coordination with the upcoming substation project and the Heritage Park to Division Street trail project. The purpose of the Land Acquisition (estimated fee \$14,500) work will be to get a head start on land acquisition that will ultimately be necessary once the above noted studies are complete and provide some up front outreach to parties that may be affected by the project.

Wronski introduced Ron from TKDA. Ron stated he would be the project manager for this project. Ron stated TKDA is an employee owned firm and been around for over 100 years. TKDA has a Municipal Division that will be working on this project and will pull from other divisions of TKDA where needed. Gagne thanked Ron for the detail in the proposal and appreciates the years of experience the staff has.

Wronski and staff recommended approval of the Resolution 2016-07 recommending that the City Council enter into an agreement with TKDA for professional services necessary to complete initial work for the North Interceptor Sewer Project. Beebe made a motion to approve of the resolution recommending professional services for the North Interceptor Sewer Project. Thum seconded the motion and the motion passed.

REPORTS:

5. Finance Report: Finance Director Bergstrom stated the Electric, Water and Sewer funds are where she expects them to be at this time. Staff heard from the PSC and has scheduled a public hearing for the water rates and will be on April 20th at 2pm at City Hall. Information on the public hearing will be included in the April Utility Bills, will be published in the River Falls Journal and listed on the City website. Bergstrom stated that for an average user (4,000 gal per month) there would be an approximate increase from \$15.30 to \$17.70. Bergstrom stated that bids will be received tomorrow for the sewer revenue bonds and this is for the Waste Water Treatment Plant project.

6. Utility Dashboards for, Electric, Water, Waste water and Powerful Choices were included in the UAB Packets. Utility Director Westhuis mentioned that the utility has had numerous calls from residents concerned that Advanced Disposal was putting trash and recyclables in the same truck. Advanced Disposal was contacted and they stated they have a split truck that can handle both trash and recycle materials (separate compartments on the same truck).
7. Monthly Utility Report was included in the UAB packets for review. Gagne stated that there was an outage on March 13th and commends the utility staff for the quick action they took to restore power. A single squirrel took out the entire South Fork substation. After the power was restored a customer mentioned on Facebook that her power was still out and Westhuis sent out lineman to investigate and her service line to her house was bad and they fixed her service. The reliability tracker 2015 annual report was included in the packets for review. Westhuis stated that the Utility about four months ago introduced a seven day on call service and up until that point had a lineman on call for Friday, Saturday and Sundays and during the week it was whoever was available. This will help our reliability and getting customer's service back into service faster. Westhuis also reported that the utility received the Demonstration for Energy and Efficiency Developments (DEED) award from the American Public Power Association.

Westhuis invited the Utility Advisory Board to the WPPI Regional Power Dinner on April 27th in Eau Claire.

ADJOURNMENT:

M/S Thum/Gagne moved to adjourn at 8:01 p.m. Unanimous.

Reported by: Kristi Hartmon, Administrative Assistant

Wayne Beebe, Secretary

West Central Wisconsin Biosolids Facility

Commission meeting minutes

March 1st 2016

Gary Newton called meeting to order at 8:30am.

Board members present: Gary Newton, Greg Engeset, John Bond and Steve Skinner.

Board members absent: Kevin Westhuis.

Other present: Richard Bignell, Chris Moarn, Eugene Laschinger, Mike Kavanagh, and Joe Beaudry.

Consent agenda:

Motion was made to approve April bills. M/S John/Greg

Motion was made to approve April meeting minutes. M/S Greg/Steve

Financial report:

Randy discussed April's financial report as outlined in the agenda. Motion was made to approve the April financial report. M/S Steve/Greg

Facilities Report:

Randy said polymer feed system is down to one pump. Pump is on order. Process has been able to continue on one pump. Other than this one item facility has been operating fine. Scada project is ongoing and has gone fairly well to this point. Health insurance reimbursement concerns have been resolved as insurance has paid all bills that were in questions.

Old Business:

Chris Moarn with Blu Teq updated that the new system was hooked up and running. Chris with Mike Kavanagh gave an overview of the history and evolution to the current infrared dryer process at the facility. Chris has been working with the biosolids facility for years on several dryer concepts. He is close to finishing a system that he is hoping will be marketable within the next year. He discussed what the system will look like and the cost associated with it depending on options. Thanking the board for their support over the years for working with Blu Teq to allow for product testing in developing of the dryer system.

Eugene Laschinger updated on the Scada project progression. Project is about 80% complete and project has gone well to this point. The switch over from the old system to the new system went better than planned. The facility is operating on new scada system. There is more to do and hopefully will continue to go smoothly.

New Business:

Randy reported he was waiting on the final Audit report and when he receives it he would send final numbers. It's looking as if there will be a budget surplus of about \$150,000 dollars. There was discussion on how to allocate the surplus funds. After discussion a motion was made to put a max of \$150,000 into the replacement fund. Anything over that would be refunded back to the members and non-members. M/S Steve/John

Randy talked about the Schwing Bioset service agreement proposal. Randy thoughts are that four times a year service time line is too often. He was going to talk to Bioset about rewriting a new proposal with different service time line.

Carus Corporation contacted Randy about running an odor control pilot. Board recommended getting a list of references of facilities that are using Carusol before pilot. A pilot would not happen until storage area has been cleaned out.

Miscellaneous:

Next monthly meeting will be held on March 22nd.

Adjournment:

Motion was made to adjourn meeting at 10:10am. M/S John/Greg



MINUTES

March 10, 2016

City Hall Training Room

12:00 p.m. – 1:00 p.m.

Committee members and guests present: Mike Noreen (RFMU), Dave Engstrom (SCV-Habitat), Chuck Eaton (RFSD), Jill Coleman Wasik (UWRF), Nathan Croes (City of RF), Peter Morsch (St Croix Energy Solutions), Matt Fitzgerald (UWRF), Aleisha Miller (Miller Escapes), Rebecca Ferguson (Resident/ First Cong), Erin Tomlinson (Tomlinson Financial Services), Keri Schreiner (City of RF), Tom Schwalen (City of RF), Al Bohl (Focus on Energy), Tom Kalina (West Cap), Anna Luebke (RFHS), Don Richardson, Weston Arndt (WPPI) and Kristi Hartmon (RFMU)

Mike Noreen welcomed everyone to Powerful Choices and explained that this is an advisory group on sustainability. Everyone is welcome and there is no membership. Mike asked for the minutes to be approved for the February 11, 2016 meeting. Aleisha Miller made a motion and Weston Arndt seconded the motion. Minutes were unanimously approved.

1. Low income program development

Noreen stated that the utility has a surplus in funding for low income programming. RFMU is required to collect money from Commitment to Community (CTC) through rate payers. The funds can be sent to the state or programs can be created in-house by RFMU. A couple reasons why there is a surplus in funding is less people needing the funds right now and the tariff was changed to collect the proper amount for the Commitment to Community (CTC) on utility bills. How can the money be used to help River Falls residents. Some solutions could be, increase the amount for bill pay assistance, ramp up the refrigeration replacement program, use for Breaking the Cycle Program, and scholarships for education.

Noreen talked about developing a Weatherization Program and asked the committee for input. Tom Kalina from West Cap, the Director of Weatherization Program was present for this meeting to talk about their program. Pete from St. Croix Energy Solutions stated he would be looking for something easier to administer. It was discussed to include the installation of a smart thermostat and include full weatherization, a full house approach. Funding includes a combination (state, federal and public benefit program). It was asked why is there a hold-up with the state on the smart thermostats? It needs to be tested and proved that it is worthwhile. There could be WIFI issues with a smart thermostat and the solution could be to use the programmable type instead.

When clients go through the process to get approved for the program and are on a waiting list for the Federal or State program, could they get bumped up and apply for the RFMU program.

Wes asked what the current wait list was for the standard program. They filter the wait list by elderly, handicap, and family with small children. The Average time is 5-6 months because of paperwork involved (time from application to finished project).

St. Croix Energy works closely with Focus on Energy. Client's get the free test done, but doesn't always have the funds to do the work. Mike stated that there are a lot of folks that are struggling, and don't know about the program.

Dave Engstrom stated that they have a homeowner program (Brush with Kindness) for exterior repairs only (roof, siding, ect) and funding through Thrivent Financial. Dave Engstrom could see some partnership with Westcap volunteers. Dave stated he has so many volunteers available. Possibility of gifting of materials and Anderson Windows has donated roofing and paint. Dave could talk to some of the vendors they work with for potential donations.

2. Creation of Commercial for Community Solar.

This is a 30 second commercial that would be play at the River Falls Theatre. The main message would be to purchase community solar. Mike asked what kind of video do we want (drone footage, people, ect.). This ad will run May through November. Mike asked committee to write down their ideas and give them to him at the end of the meeting.

3. Other items of Interest

Jill Coleman Wasik from UWRF announced the St. Croix Summit will be held on March 22 & 23rd at UW-River Falls. There are great speakers and a community engagement workshop as well as short films focused on environmental issues. Jill will send Mike an email with registration information.

St. Croix Valley Restorative Justice is holding their Spring into Justice fundraiser on Saturday, April 23rd at Kilkarney Hills Golf Course.

Aleisha Miller announced a Wild & Scenic Film Festival will be hosted at Junior's Bar & Restaurant.

Mike Noreen announced that there is a loan available for Community Solar through River Falls Municipal Utilities. Information can be found at www.rfmu.org.

Meeting minutes were taken by Kristi Hartmon



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MEMORANDUM

TO: Utility Advisory Board

FROM: Raymond French, Management Analyst

DATE: April 18, 2016

TITLE: Ordinance Amending Wellhead Protection Regulation

RECOMMENDED ACTION

Approve the Ordinance to Create Chapter 17.70 Relating to Wellhead Protection and to forward that recommendation to the Plan Commission.

BACKGROUND

The 2015 Sanitary Survey Report of River Falls Waterworks completed by the Wisconsin Department of Natural Resources (DNR) identified deficiencies in the City's wellhead protection plan and ordinance. Namely, the wellhead protection plan on file with the DNR did not include Municipal Well No. 6 (MW6), which was also not incorporated into the City's Wellhead Protection ordinance contained in [Chapter 8.44](#). The updated Wellhead Protection Plan that includes MW6 has since been provided to the DNR.

The next major step is an update of the City's Wellhead Protection Ordinance. It was first adopted by Ordinance 2001-21 on October 9, 2001. This ordinance adopted separation distances for certain uses around Municipal Well Nos. 2 – 5 and established permitted uses within the overall district. It was largely based on DNR sample ordinances and administrative code enacted at the time.

The existing ordinance was put to the test in the mid-2000s, specifically with regard to the location of gas stations near the Municipal Wells and the location of stormwater ponds. Opportunities for improvement were noted for how the districts are presented on a published map and how the separation distances worked with the recharge areas identified through the wellhead protection plan. This led to discussion in 2007 on updating the ordinance to create permitted use zones and move the regulations to the zoning code.

Since that discussion, the DNR has advised that the ordinance and map need to be updated to conform to current administrative code and show the area around Municipal Well No. 6. The attached draft ordinance accomplished these goals.

DISCUSSION

Attached is a draft ordinance amendment that builds on the discussions and amendments drafted in 2007. There are three primary changes to the ordinance:

Creates Groundwater Protection Overlay District

This ordinance change is built on moving the wellhead protection plan from Title 8 regarding Health and Safety to the Title 17 Zoning Code. Instead of general protection areas, the Wellhead Protection Zones will be shown as an overlay district on the City's Official Zoning Map, similar to the Downtown Overlay District. The draft Zoning Map is also attached for your reference.

Additionally, this ordinance creates three zones within the overlay district around each Municipal Well that establish the permitted uses. They are:

- Zone A – 400 ft radius
- Zone B – 600 ft radius
- Zone C – 1200 ft + any remaining 5 year time-of-travel to the well beyond the boundary

These zones are aligned with the separation distances noted later in the ordinance.

Requests for Exemptions and Waivers

One of the issues previously discussed was the process for reviewing requests for exemptions (or variances) from the wellhead protection ordinance. To clarify the approval process, the required environmental assessment reports will be sent to the Utilities Director for review and recommendation of the Utility Advisory Board (then Utilities Commission) and Plan Commission, subject to a final decision by the Common Council.

Miscellaneous Updates

All other updates to the wellhead protection ordinance are minor changes that reflect updates to the Administrative Code since 2001 or were discussed as potential updates in 2007.

CONCLUSION

The 2015 Sanitary Survey Report of River Falls Waterworks requires an update to the wellhead protection ordinance to include the protection area for MW6 on the official map.

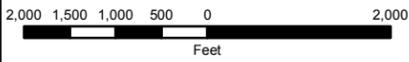
The attached draft ordinance establishes Chapter 17.70 – Groundwater Protection Overlay District from the existing Wellhead Protection ordinance in Chapter 8.44. It reflects the changes discussed by staff in 2007, recent revisions to the Administrative Code, and the intent to establish an overlay district to be shown on the Official Zoning Map.

Staff recommends the Utility Advisory Board approve the Ordinance to Create Chapter 17.70 Relating to Wellhead Protection and forward that recommendation to the Plan Commission.



CITY OF RIVER FALLS OFFICIAL ZONING MAP

St Croix & Pierce County



Certified:
City Clerk, Lu Ann Hecht

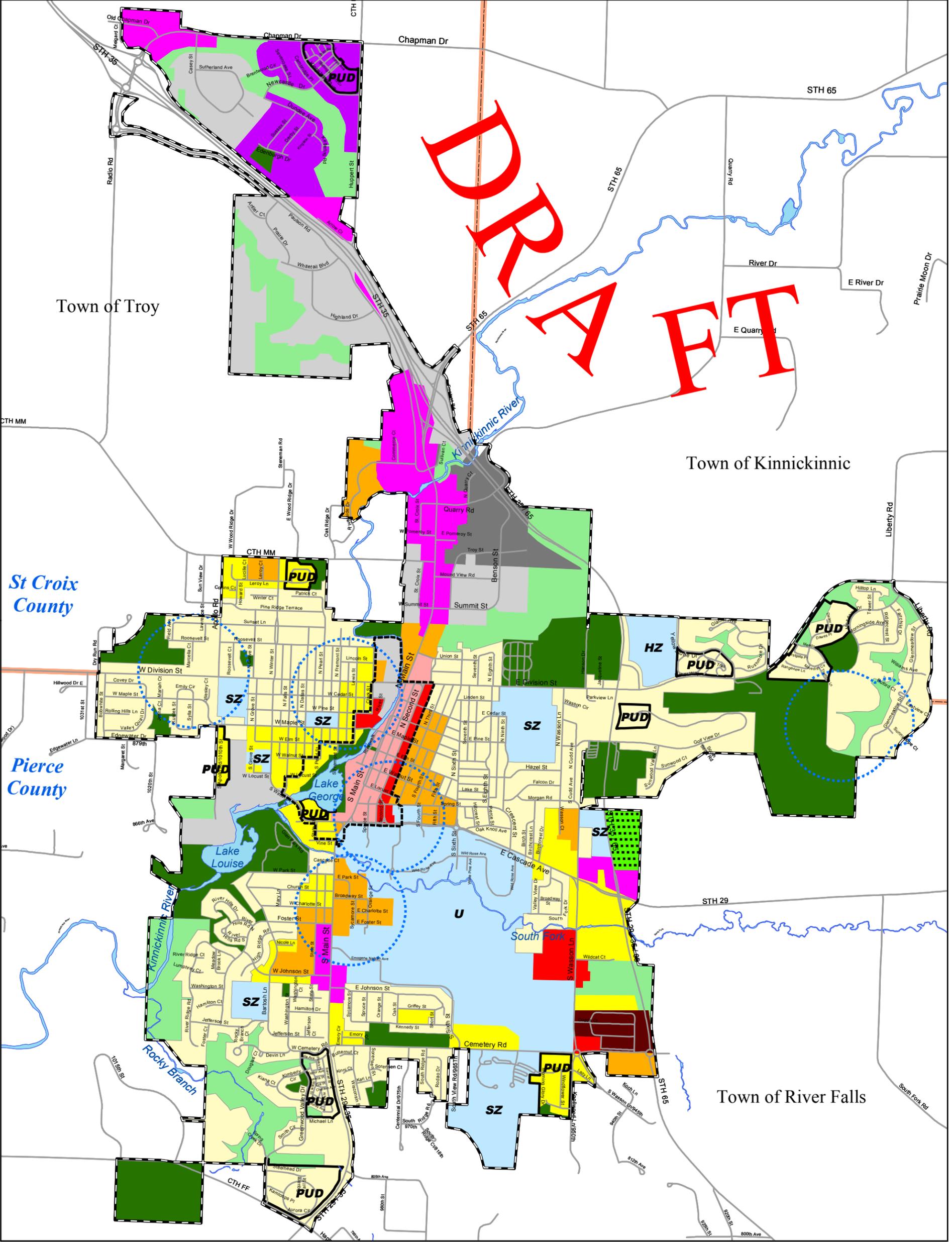
Date: _____

Draft XX, 2016 ORD 2016-XX

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|--|-----------------------|---|
| R1 - Single Family Low Density | I1 - Industrial | PUD - Planned Unit Development |
| R2 - Multiple Family Medium Density | I2 - Heavy Industrial | Downtown Overlay District |
| R3 - Multiple Family High Density | A - Agriculture | Groundwater Protection Overlay District |
| MHP - Mobile Home Park | C - Conservancy | City Limits |
| TND - Traditional Neighborhood Development | P - Park | Township Boundaries |
| B1 - General Commercial | U - University | |
| B2 - Limited Commercial | HZ - Hospital Zone | |
| B3 - Highway Commercial | SZ - School Zone | |

NOTES:

1. The Common Council may amend the Official Zoning Map. Any ordinances and/or resolutions reflecting revisions that are adopted after the most recent map date shown become a part of the Official Zoning Map.
2. The Official Zoning map is considered the official version when it has been certified as correct and contains the signature of the City Clerk. If the City Clerk's signature does not appear on this map, it is not an official version. The most recent official version of the Official Zoning Map is kept on file in the City of River Falls Community Development Division.
3. Any questions regarding specific zoning issues should be directed to the City of River Falls Community Development Division, 222 Lewis St., Suite 212, River Falls, WI 54022.





ORDINANCE NO. 2016-XX

AN ORDINANCE TO CREATE CHAPTER 17.70
RELATING TO WELLHEAD PROTECTION

THE COMMON COUNCIL OF THE CITY OF RIVER FALLS DO ORDAIN:

SECTION 1. That Chapter 8.44 of the City of River Falls Municipal Code be repealed.

SECTION 2. That Chapter 17.70 of the City of River Falls Municipal Code be hereby created to read:

Chapter ~~8.44~~17.70 – ~~Wellhead Protection~~ Groundwater Protection Overlay District

~~8.44~~17.70.010 – ~~Construction of chapter.~~

~~A. Title. This chapter shall be known, cited and referred to as the "Wellhead Protection Ordinance."~~

~~B. Purpose and authority.~~

~~1~~A. The residents of the City of River Falls (hereafter city) depend exclusively on groundwater for a safe drinking water supply. Certain land use practices and activities can seriously threaten or degrade groundwater quality. The purpose of this chapter is to institute land use regulations and restrictions to protect the city municipal water supply and wells, and to promote the public health, safety and general welfare of the residents of the city.

~~2~~B. These regulations are established pursuant to the authority granted to cities by ~~the Wisconsin Legislature in Sections 62.11(5) and 62.23(7)60.61(1), (2)(g), and 60.62, Wis. Stats., to adopt ordinances to protect groundwater and by the Department of Natural Resources pursuant to Wis. Adm. Code Ch. NR 811.~~

~~17.70.020 - C. - Applicability. - The regulations specified in this chapter shall apply to the groundwater protection overlay district.~~

A. The regulations of this chapter shall apply to those areas of the city that lie within one or more of the Wellhead Protection Zones (WHPZ), which have been designated for municipal wells within the corporate limits.

B. Each WHPZ shall be shown on the official City Zoning Map. A detailed map together with the report of the zones and zoning districts underlying each WHPZ shall be kept at the office of the city clerk, available for public inspection during office hours.

8.44.02017.70.030 - Definitions.

A. "Aquifer" means a saturated, permeable geologic formation that contains and will yield significant quantities of water.

B. "Existing facilities" means current facilities, practices and activities which may cause or threaten to cause environmental pollution within that portion of the city's wellhead protection area that lies within the corporate limits of the city. Existing facilities include but are not limited to the type listed in the Department of Natural Resources' form 3300-215, Public Water Supply Potential Contaminant Use Inventory Form, which is incorporated herein as if fully set forth ~~(consult your attorney regarding incorporation by reference of Form 3300-215).~~

BC. "Groundwater divide" means a ridge in the water table or the potentiometric surface from which ground water flows away at right angles in both directions. A groundwater divide is represented by the line of highest hydraulic head in the water table or potentiometric surface.

CD. "Groundwater protection overlay district" means that area described within the city's wellhead protection plan. See ~~map attached to Ord. 2001-21~~ the Official Zoning Map for location.

DE. "Recharge area" means the land area which contributes water to a well by infiltration of water into the subsurface and movement with groundwater toward the well.

EF. "Time of travel" means the determined or estimated time required for a contaminant to move in the saturated zone from a specific point to a well.

FG. "Well field" means a piece of land used primarily for the purpose of supplying a location for construction of wells to supply a municipal water system.

8.44.03017.70.040 - Groundwater protection, overlay district.

The following described groundwater protection overlay district shall be created for the purposes of this ordinance, to be composed of three sub districts, designated as Zones "A", "B", and "C".

- A. Intent. The areas to be protected as ~~a-WHPZ district~~ Districts A, B, and C constitute ~~that~~ portions of the River Falls well recharge areas ~~extending to the groundwater divide contained~~ within the city ~~boundary~~ limits and shown by their largest extent on the official zoning map attached to Ordinance 2001-21, as amended from time to time. These lands are subject to land use and development restrictions because of their close proximity to ~~the City~~ wells and ~~the~~ corresponding high threats of contamination thereto.
- B. Permitted uses - Zone A. Subject to the exemptions listed in subsection ~~E-G~~ of this section, the following are the only permitted uses within the district. Uses not listed are to be considered non-permitted uses.
1. Parks, provided there is no on-site waste disposal or fuel storage tank facilities associated with this use;
 2. Playgrounds;
 3. Wildlife areas;
 4. ~~Non-motorized~~ Trails, such as biking, skiing, nature and fitness trails;
 5. Rain barrels;
 6. Municipally sewered residential development, free of flammable and combustible liquid underground storage tanks;
 7. Municipally sewered business development zoned B-1, B-2, or B-3, except for the following uses:
 - a. Above ground storage tanks;
 - b. Asbestos product sales;
 - c. Automotive service and repair garages, body shops;
 - d. Blue printing and photocopying services;
 - e. Car washes;
 - f. Equipment repair services;
 - g. Laundromats and diaper services;
 - h. Dry cleaning;

- i. Gas stations;
 - j. Holding ponds or lagoons;
 - k. Nurseries, lawn and garden supply stores;
 - l. Small engine repair services;
 - m. Underground storage tanks;
 - n. Wells, private, production, injection or other;
 - o. Salt storage including sand/salt combinations;
 - p. Any other use determined by the River Falls Utilities Director zoning administrator to be similar in nature to the above listed items.
78. Agricultural uses in accordance with the county soil conservation department's best management practices guidelines;
89. All storm drainage shall be ~~retained on site or~~ discharged to a municipally operated storm drain. ~~If retained on site, storm water shall be discharged to settling ponds where it will percolate through at least six inches of topsoil.~~ Use of drywells or other subsurface drains for storm water drainage is prohibited.

C. Permitted Uses – Zone B.

- 1. All uses listed as permitted in Zone A.
- 2. Storm water drainage ponds consistent with City storm water regulations.

D. Permitted Uses – Zone C.

- 1. All uses listed as permitted in Zones A and B.
- 2. Gasoline or fuel oil storage tank installation that has received written approval from the Wisconsin Department of Agriculture, Trade and Consumer Protection (hereafter ATCP) or its designated agent under Section ATCP 93.100, Wis. Adm. Code.

~~E~~. Separation distances. The following separation distances as specified in Section. NR ~~811.12(5)(d)~~811.16(4)(d), Wis. Adm. Code, shall be maintained and shall not be exempted as listed in subsection ~~E-G~~ of this section.

1. Fifty (50) feet between a well and a storm sewer main.
2. Two hundred (200) feet between a well and any sanitary sewer main, sanitary sewer manhole, lift station or a single family residential fuel oil tank. A lesser separation distance may be allowed for sanitary sewer mains where the sanitary sewer main is constructed of water main materials and joints and pressure tested in place to meet current AWWA C600 specifications. In no case may the separation distance between a well and a sanitary sewer main be less than fifty (50) feet.
3. Four hundred (400) feet between a well and a septic system, tank, or drain field, and receiving less than eight thousand (8,000) gallons per day, a cemetery or a storm water drainage pond. This distance corresponds with Zone A referenced above.
4. Six hundred (600) feet between a well and any gasoline or fuel oil storage tank installation that has received written approval from ~~the Wisconsin Department of Commerce (hereafter commerce)~~ ATCP or its designated agent under Section ATCP 93.100 ~~Comm 10.10~~, Wis. Adm. Code. This distance corresponds with Zone B referenced above.
5. One thousand (1,000) feet between a well and land application of municipal, commercial or industrial waste; boundaries of a landspreading facility for spreading of petroleum-contaminated soil regulated under ch. NR 718 while that facility is in operation; industrial, commercial or municipal wastewater, lagoons or storage structures; manure stacks or storage structures; and septic tanks or soils absorption units receiving eight thousand (8,000) gallons per day or more.
6. One thousand two hundred (1,200) between a well and any solid waste storage, transportation, transfer, incineration, air curtain destructor, processing, wood burning, one time disposal or small demolition facility; sanitary landfill; any property with residual groundwater contamination that exceeds ch. NR 140 enforcement standards that is shown on the Department of Natural Resources' geographic information system registry of closed remediation sites; coal storage area; salt or deicing material storage area; gasoline or fuel oil storage tanks that have not received written approval from ~~Commerce~~ ATCP or its designated agent under Section ~~Comm 10.10~~ ATCP 93.100, Wis. Adm. Code; bulk fuel storage facilities and pesticide or fertilizer handling or storage facilities. This distance, in addition to any of the five-year time of travel beyond this distance, corresponds with Zone C referenced above.

DE. Requirements for existing facilities.

1. Existing facilities shall provide copies of all federal, state and local facility operation approvals or certificate and on-going environmental monitoring results to the city.
2. Existing facilities shall provide additional environmental or safety structures/monitoring as deemed necessary by the city, which may include but is not limited to storm water runoff management and monitoring.
3. Existing facilities shall replace equipment or expand in a manner that improves the existing environmental and safety technologies already in existence.
4. Existing facilities shall have the responsibility of devising and filing with the city a contingency plan satisfactory to the city for the immediate notification of city officials in the event of an emergency.

EG. Exemptions and waivers.

1. Individuals and/or facilities may request the city in writing, to permit additional land uses in the district.
2. All requests shall be in writing, whether on or in substantial compliance with forms to be provided by the city and may require an environmental assessment report prepared by a licensed environmental engineer. Said report shall be forwarded to the city and/or designee(s) Utilities Director for review and recommendation of the Utility Advisory Board and Plan Commission, and subject to a final decision by the city common council.
3. The individual/facility shall reimburse the city for all consultant fees associated with this review at the invoiced amount plus administrative costs.
4. Any exemptions granted shall be conditional and may include required environmental and safety monitoring consistent with local, state and federal requirements, and/or bonds and/or securities satisfactory to the city.
5. Impermeable storm water holding vessels may be considered for an exemption or waiver under the conditions stated in one through four above.

8.44.04017.70.050 - Enforcement.

- A. In the event that an individual and/or facility causes any person shall cause or permit the release of any contaminants upon land within the district which that endangers the district municipal water supply, the individual and/or facility causing said release the person so causing or permitting the discharge shall immediately stop the release and shall clean up the release to the satisfaction of the city.

B. ~~The individual/facility shall be responsible for all costs of cleanup~~ Any person who shall cause or permit the release of any contaminants upon land within the district shall be responsible for all costs of cleanup, including all of the following:

1. City consultant fees at the invoice amount plus administrative costs for oversight, review and documentation;
2. The cost of city employees' time associated in any way with cleanup based on the hourly rate paid to the employee multiplied by a factor determined by the city representing the city's cost for expenses, benefits, insurance, sick leave, holidays, overtime, vacation, and similar benefits;
3. The cost of city equipment employed;
4. The cost of mileage reimbursed to city employees attributed to the cleanup;

C. Following any such discharge the city may require additional test monitoring and/or bonds/securities.

D. Enforcement shall be as provided pursuant to Section 11.05 of the code in chapter 17.104.

SECTION 3. This ordinance shall take effect on the day after publication.

Dated this 14th day of June, 2016.

FOR THE CITY OF RIVER FALLS

Dan Toland, Mayor

ATTEST:

Lu Ann Hecht, City Clerk

Adopted: _____

Published: _____



MEMORANDUM

TO: Utility Advisory Board Members

FROM: Kevin Westhuis, Utility Director
Julie Bergstrom, Finance Director/Asst. City Administrator

DATE: April 18, 2016

TITLE: **Water Rates – Docket 5110-WR-104**

RECOMMENDED ACTION

No action needed. PSC hearing on April 20th.

BACKGROUND

Attached are two rating information sheets from the PSC website, one entitled "How are rates set based on the revenue requirement and cost of service?" and one entitled "What is a Cost of Service Study (COSS)? They are provided to give background information regarding the rate setting process for water utilities in Wisconsin. They include a discussion of four main concepts that are useful in providing context for policy makers such as the City Council. They are:

1. Cost of Service Study (COSS)
2. Revenue Requirements
3. Rates for General Water Service
4. Rates for Public Fire Protection Service

The process for setting conventional rates with the Public Services Commission involves approximately eight main steps:

1. Review historical data by consultant/ staff
2. City completes application and submits to PSC
3. PSC accepts and processes request (Revenue Requirement, COSS, rate design)
4. PSC provides draft exhibits to utility (often discussion amongst City and PSC at this step)
5. Utility notifies customers
6. Public Hearing
7. City Council approves rates and sets effective date
8. PSC issue rate order (final exhibits)

The water rate study was initiated over a year ago to address an anticipated increase in expenditures due to capital expenses for painting of the Golfview and Sycamore water towers and increased maintenance costs. The water rate study was submitted to the Wisconsin Public Service Commission (PSC) in June, 2015 (Step 2 of 8). The application contained the revenue requirement, cost-of-service analysis, and proposed rates. The proposed rate increase was 6% and included information from the updated impact fee study prepared by Trilogy Consulting.

After discussion with PSC staff members over the following months, primarily regarding including costs for well #6 in the rates, the proposal was modified to exclude Well #6 costs in the water rates, but include additional funding for future infrastructure maintenance and staffing. This final proposal resulted in an overall 15% increase in water revenues. The final proposal was accepted by the PSC on March 21, 2016 (Step 4 of 8).

The PSC has scheduled a public hearing on the proposed rates on April 20th at 2:00 p.m. to obtain public input into the rate change (step 6 of 8). The PSC will forward final approval of the water rate increase following the hearing for a proposed June 1, 2016 implementation date.

DISCUSSION

A discussion of the major sections of the PSC docket follows.

Revenue Requirements/COSS

The original report submitted to the PSC included partial funding for Well #6, tower painting expenses and increased budgeting for routine maintenance costs. The PSC has taken the position, as they did in 2012, that Well #6 should be funded by impact fees, not water rates. This prompted many months of discussion, including meeting with PSC staff in Madison to outline the City's position on the use of impact fees, and how to avoid similar situations in the future. As a result, the final cost of service report excluded the funding for Well #6, with the clarification that costs related to Well #6 can be funded from revenues not related to rates, such as water tower leases. The PSC estimated revenue increase required is \$209,297, or an overall increase of 15% over the water utility's present revenues.

General Water Service

Of the estimated \$1,555,528 in annual revenue required for the water utility, an increase of approximately \$174,000 is related to general services (excluding fire protection charges), which includes ongoing operating costs. This increase is offset by a decrease in revenue required for public fire protection of approximately \$59,000.

Public Fire Protection

The public fire protection charges were added to the utility bill in 1991 based on assessed values of improved parcels (land excluded). The method of allocating public fire protection costs was amended in 2012, to move from assessed values to meter size.

At the time the water rates were reviewed in 2012, the revenue received for fire protection did not reflect actual costs. A decrease in public fire protection rates was made with the 2012 rate case, and an additional decrease is included in this rate case. This has the result of reducing the overall increase in the water rates, and more accurately collects the necessary revenue to offset actual expenses.

Irrigation Metering

The PSC has made philosophical changes in their approach to water rates in recent years. Water conservation has become a priority, and the Commission has increased their scrutiny of water usage, especially in the area of irrigation meters. Rates for irrigation customers, in particular, are set higher than regular household water usage to recover the costs associated with using water during times of peak demand and also to delay the costs of providing additional supply infrastructure. The rates for irrigation meter customers are approximately 50% higher per gallon than for general service customers.

Customer Base

The majority of utility customers are residential users (80%) and the average usage is approximately 4,000 gallons per month. For this group of users, the impact of the rate change will be an additional \$2.40 per month, which includes the fixed monthly charge, fire protection and volume usage.

As in the previous rate adjustment, more water usage either with or without an irrigation meter will significantly increase the monthly water charge. The PSC has indicated that higher water usage will cause additional infrastructure needs with associated additional costs, and they are prepared to use pricing to delay these purchases.

SUMMARY

With the above listed changes, the overall revenue increase is 15%, or \$209,297, which provides a rate of return of 6.5%. Although this increase is higher than originally submitted to the PSC last year, the increase will adequately fund the system improvements that are planned for 2016, and those that are expected to be included in the 2017-2018 budget.

Due to the increasing costs for volume usage, the proposed rates could have significantly different effects on a customer's water bill (see **schedule 3 of docket** for sample customer impact analysis or **SCHEDULE 18** for complete look at the proposed rate schedules).

Example – Average Residential Customer

Usage of 4,000 gallons of water per month without an irrigation meter, the impact of the rate change is estimated to be (average residential use is ~4,000 gallons per month):

Residential Water Customer	Current @ 4,000 gallons	New Rates @ 4,000 gallons	Increase (Decrease)
Monthly Fixed Charge	\$5.25	\$8.00	+2.75
Water Charges	\$5.60	\$5.56	(\$0.04)
Public Fire Protection	\$ 4.46	\$ 4.15	(\$0.31)
Total Water Only Bill	\$15.31	\$17.71	+\$2.40

For those residential users that may exceed 4,000 gallons per month, the following volume rates will apply in addition to the fixed costs and fire protection fees:

- First 4,000 gallons used monthly - \$1.39 per 1,000 gallons
- Next 4,000 gallons used monthly - \$1.80 per 1,000 gallons
- Over 8,000 gallons used monthly - \$2.56 per 1,000 gallons

Those customers with irrigation meters will see the following increases in their monthly water charges based on estimated usage (irrigation volume rate going from \$2.05 to \$2.59/1000gal.):

Irrigation Customer	Meter Size	Current	New Rates	Increase
5,000 gallons per mo.	3/4"	\$15.50	\$20.80	+\$5.30
10,000 gallons per mo.	3/4"	\$25.75	\$33.60	+\$7.85
25,000 gallons per mo.	1-1/2"	\$71.25	\$87.01	+\$15.76
100,000 gallons per mo.	2"	\$235.00	\$291.02	+\$56.02

All water customers will see a reduction in the public fire protection portion of their bill, which will somewhat offset the water service cost increase.

Additional and more detailed examples of the rate increase impacts on the different rate classes can be reviewed on **EXHIBIT A, B, C, and D.**

Number of Customers in each class (Approximate because these can fluctuate daily, but very close) 5,164 total water meters in our system.

- Residential – 4,068
- Multi-family – 69
- Commercial – 302
- Industrial – 17
- Public Authority - 70
- Irrigation - 638

FINANCIAL CONSIDERATIONS

Water revenue increase of approximately \$209,000 projected with the proposed rates. With the approval of the City Council and following the approval of the PSC, the rates are proposed to into effect on June 1, 2016. Customers will see a change in their monthly bills beginning with the July 5th utility billing.

CONCLUSION

Staff recommends adoption of the new water rates with the effective date of June 1, 2016, pending final approval by the PSC.



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Water



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What is a Cost of Service Study (COSS)?

Once the appropriate level of revenues for the test year is determined, the next task is to provide a fair allocation of these dollars to ratepayers. The typical means of accomplishing this is to conduct a cost-of-service study. The principal reason for performing a COSS is the fact that the water system provides service to a number of different classes of customers who have different water use patterns and demands and, thus, different conditions of service. An equitable rate structure must recognize these differences.

Peak Demands

For example, a single main delivers water to residential, commercial, industrial, and public authority customers. In addition, this same water main provides public fire protection service. If each customer had an identical pattern of use -- their demand for water occurred at the same time of day or same season of year -- then the cost of servicing each customer would be the same. However, this is not the case. Some customers use water uniformly throughout the day, week, month and year; while others consume most of their water during short intervals of time. Consider fire flows which are often of very short duration but may represent the controlling parameter to be satisfied in the design of a water system.

Because many customers are using water simultaneously, peak demands are exerted on the system. This requires the building of additional facilities and the sizing of facilities to satisfy the peak demands. Customers with poor demand factors, or highly variable requirements, should bear their relatively high demand costs and thus reduce the allocation of costs to customers who use water at relatively uniform consumption rates.

The COSS that is used by the PSCW is AWWA's "Base-Extra Capacity" methodology. This method is described in detail in "Water Rates" -- AWWA Manual No. M1, Fifth Edition, 1991. Under this method, the operating expenses are first allocated to the service cost functions of extra-capacity maximum-day and maximum-hour demand, base costs, customer costs, and fire protection. The service cost function totals are then fully distributed to the customer classes served by the utility. These classes typically include residential, commercial, industrial, public authority, and public fire protection customers.

Cost Functions

Extra-capacity costs are incurred in supplying water at demand rates above the base or average level, such as to meet the maximum daily and hourly system demands. Included are the capital costs of the plant designed to meet peak requirements plus the expenses associated with operating the plant.

Base costs consist of that portion of the production and delivery expense as well as capital-related costs that would be required if all water could be delivered at a uniform flow rate. Included are such costs as power and chemical costs and that portion of utility plant that contributes to the water system's capacity to supply an average flow rate.

Customer costs are costs that vary directly with the number of customers served. Part of these costs, including costs related to meters, are distributed on an equivalent meter-size basis; the remainder, which includes direct costs such as billing and accounting expenses, are distributed equally to all customers.

Some costs, by their nature are readily allocated to one of the cost functions. Power and chemical costs are directly proportional to the volume of water produced, thus they can be assigned 100 percent to the base cost function. Meter reading costs and billing can be directly assigned to customer costs. Hydrant costs are allocated exclusively to the fire protection function. Other costs are related to facilities or operations that serve more than one function. Such costs must be allocated between cost functions. An example would be the depreciation expense on an elevated storage tank. The tank serves both base and maximum hour demand functions. Without developing the detailed theory for making these split allocations, it is sufficient to understand that the basis for these distributions is the ratios of maximum hour and maximum day production to average day or base production.

Allocation of Cost Functions to Customer Classes

When all the costs have been assigned to the cost functions, the next step is distributing these dollars among the customer classes. Base function costs are readily distributed on the percentage that class sales represent of overall volume sales. Customer costs are apportioned using a similar class percentage approach. The various categories of demand costs are more difficult to allocate to the customer classes in that recorded data is generally not available as

to maximum hourly and maximum daily demands placed on the system by individual customers and by combinations of customers making up the various customer classes.

Because this demand information is not available, estimates are made for each class of the ratio of maximum hour demand to average hour demand and, similarly, maximum day demand to average day demand. Classes comprised of good load factor customers are assigned more favorable (lower) demand ratios. Conversely, where a class exhibits a lot of diversity in peak hour or day use to average hour or day use, higher demand ratios are assigned.

The residential class, for example, tends to be more demand oriented than the industrial class. In general, the residential class tends to use water more heavily in the evenings and on weekends than during a weekday. This non-uniform usage causes the utility to construct plant of a larger scale than would be needed if usage were uniform. As such, other factors aside, if demand related costs are going up significantly in a rate case, classes with higher demand ratios like the residential and public fire protection classes will typically receive a higher percentage increase in rates than good load factor classes like industrial.

In summary, the demand ratios that are developed for each class are used to make the final allocation of the individual cost function totals to the customer classes. The end result is that the test year revenue requirement is now equitably assigned to the customer classes served by the utility using the representative demand factors for each class. The COSS has provided a reasonable basis on which to design rates.



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How are rates set based on the revenue requirement and cost of service?

The final rate design step is determining rates to achieve the proper revenue requirement and provide a fair distribution of the costs between customers based on the cost of providing service.

Goals of Rate Design

Before we get into the actual mechanics of developing a set of rates, it is necessary to review the policy framework for rate design. There are several important criteria to keep in mind when designing rates. In his book *Principles of Public Utility Rates*, James Bonbright's summarizes the goals of rate design as follows.

Rates established by a utility regulatory commission should:

- Be Practical, Simple, and Easily Understandable
- Be Clear, Having Only One Interpretation
- Achieve Proper Revenue Requirement
- Provide Relatively Stable Revenues
- Avoid Unnecessary Rate Shock
- Be Based on the Cost of Providing Service
- Not Be Unduly Discriminatory
- Promote Justified Applications and Discourage Wasteful Use

Rates for Water for Public Fire Protection

Keeping these criteria in mind, let's go through the mechanics of developing a set of rates for a water utility. While there are many different services requiring distinct rates provided by a water utility, most of these services fall into one of two categories: general service or fire protection.

Fire protection can be further deconstructed into private and public fire protection. Private fire protection rates are typically based on the diameter of the unmetered connection to the utility main. The private service is provided to individual customers, usually commercial or industrial, who require fire protection in addition to that available in the public system.

Public fire protection is the water service the utility provides through fire hydrants and unmetered connections to sprinkler systems. The cost of this service includes the cost of hydrants as well as the extra capacity of mains, pumps, and storage to sustain high flow rates at the pressure and for the period of time needed to fight fires. Both public and private fire rates are comprised primarily of demand costs. Fire protection is considered a separate class of service for the purpose of cost allocation. Public fire protection rates may be an annual amount charged to the municipality served. At the option of the municipality, the water utility may instead charge public fire protection rates directly to water customers.

Rates for General Water Service

General service rates cover customers of all types and usage patterns including residential, commercial, industrial, and public authority. The rates for general service consist of two separate and independent charges: a fixed charge based on the size of the meter and a variable charge depending on the actual volume of water used. The combination of fixed and volumetric charges applies to all classes of customers. The different usage characteristics of each class are reflected in the cost allocation model and the resulting rate design.

Ideally, rates should be based on the cost of providing service, at least as a starting point. Often the rate design will be adjusted based on the other goals of rate design listed above or specific policy goals such as water conservation. In some cases moving to fully cost based rates is not practical in a single rate case. Rather, achieving fully cost based rates

may happen in several steps over a number of rate cases.

Mechanics of Rate Design

Let's look now at the mechanics of designing a set of general service rates. Existing rates tell how much you are charging customers now; the cost-of-service study tells you how much you should be getting from each customer class; and the billing analysis gives you the bridge to go from revenues by customer class at existing rates to revenues at new rates.

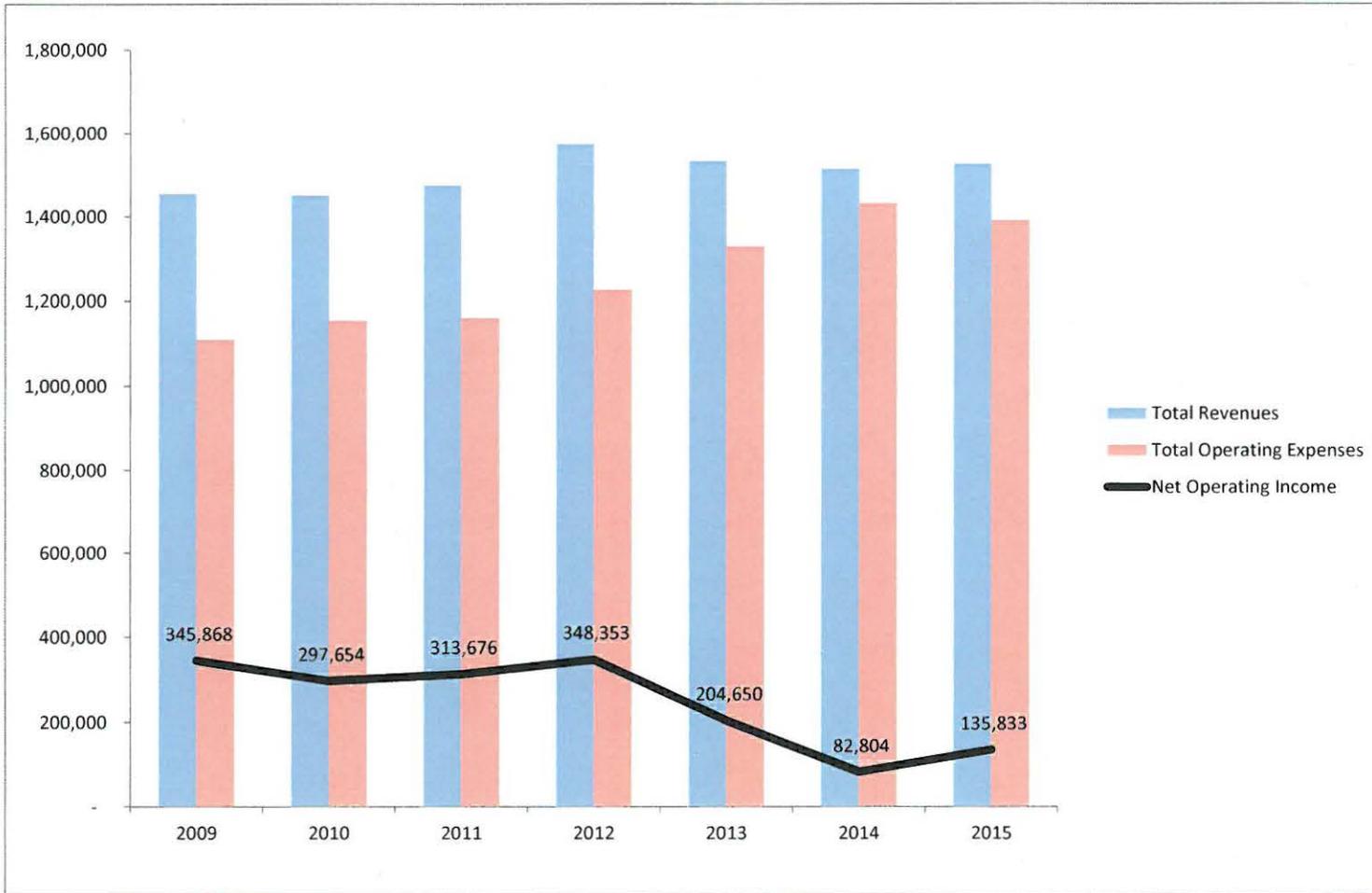
Simply defined, billing analysis is the annual consumption for each customer class broken down into the rate blocks of the utility's rate structure. Knowing both the number and size of the meters serving a class and the class volume sales within the rate blocks enables you to design rates to come very close to recovering the full cost of service from each customer class.

After Commission staff has designed rates, a staff exhibit is prepared and sent out to the utility for its review. A hearing, typically telephonic, is then held on the proposed rates. Based on the merits of the hearing record, the Commission prescribes final rates by issuing its rate order. Reflecting the Commission's rate decisions and the utility's elected date of implementation; tariff sheets containing the authorized rates and rules are prepared and sent to the utility thereby concluding the rate setting process.

Summary of Water Fund-PSC Reports

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Employees	5.9	5.1	4	4	4	5	5
Rate of Return	10.36	8.74	9.6	10.24	6.57	2.43	3.53
Sales Revenue	1,309,670	1,308,845	1,331,921	1,441,769	1,398,969	1,360,933	1,383,115
Other Operating Revenues	145,291	142,357	141,664	132,205	134,004	153,299	143,855
Total Revenues (A)	1,454,961	1,451,202	1,473,585	1,573,974	1,532,973	1,514,232	1,526,970
O & M Expenses:							
Pumping	151,470	167,701	144,102	138,029	176,210	156,461	137,311
Treatment	61,985	78,124	73,352	70,690	74,564	65,260	69,137
Transmission & Distribution	204,512	208,838	216,827	239,462	248,965	415,909	315,772
Customer Accounts & Sales	65,680	62,592	67,873	56,527	74,699	73,615	68,719
Administrative & General	240,817	230,230	248,306	253,551	260,405	272,017	340,368
Total O & M Expenses:	724,464	747,485	750,460	758,259	834,843	983,262	931,307
Other Operating: Depreciation/Taxes	384,629	406,063	409,449	467,362	493,480	448,166	459,830
Total Operating Expenses (B)	1,109,093	1,153,548	1,159,909	1,225,621	1,328,323	1,431,428	1,391,137
Net Operating Income (A - B)	345,868	297,654	313,676	348,353	204,650	82,804	135,833

7 year Historical Summary



New proposed WATER Rates - 2016

Residential Customers – Single Family

3 pieces to calculating your total monthly bill – Monthly fixed charge, Volume charge, and Fire Protection charge.

<u>Monthly Fixed Charge</u>	<u>Current rate</u>	<u>Proposed rate</u>
	\$5.25/M	\$8.00/M
<u>Volume Charge</u> - First 4,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.40/1,000 gal	\$1.39/1,000 gal
Next 4,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.40/1,000 gal	\$1.80/1,000 gal
Over 8,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.40/1,000 gal	\$2.56/ 1,000 gal
<u>Fire Protection</u>	<u>Current rate</u>	<u>Proposed rate</u>
	\$4.46/M	\$4.15/M

Estimate of impact on an average residential customer **monthly bill** using:

<i><u>This amount includes the fixed charge, volume charge, and Fire protection</u></i>	<u>Current rate</u>	<u>Proposed rate</u>
4,000 Gallons per month	\$15.31	\$17.71
6,000 Gallons per month	\$18.11	\$21.31
8,000 Gallons per month	\$20.91	\$24.91
9,000 Gallons per month	\$22.31	\$27.47

*** An average Residential customer in River Fall uses 4,000 gallons of water per month.

Irrigation

Monthly Fixed Charge –	<u>Current rate</u>	<u>Proposed rate</u>
Based on a 3/4 “or 5/8” water meter	\$5.25	\$8.00
Volume Charge -	<u>Current rate</u>	<u>Proposed rate</u>
	\$2.05/1,000 gal	\$2.56/1,000 gal

Estimate of impact on an irrigation meter **monthly bill** using:

<i><u>This amount includes the fixed charge, and volume charge and no Fire Protection</u></i>	<u>Current rate</u>	<u>Proposed rate</u>
20,000 Gallons per month	\$46.25	\$59.20

New proposed WATER Rates - 2016**Multi Family**

3 pieces to calculating your total monthly bill – Monthly fixed charge, Volume charge, and Fire Protection charge.

<u>Monthly Fixed Charge</u>	<u>Current rate</u>	<u>Proposed rate</u>
3/4" Water Meter	\$5.25/M	\$8.00/M
1" Water Meter	\$11.50/M	\$13.25/M
1 1/2" Water Meter	\$20.00/M	\$23.00/M
2" Water Meter	\$30.00/M	\$35.00/M

<u>Volume Charge</u> - First 15,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.40/1,000 gal	\$1.25/1,000 gal
Next 135,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.10/1,000 gal	\$1.25/1,000 gal
Over 150,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$0.85/1,000 gal	\$1.25/ 1,000 gal

<u>Fire Protection</u>	<u>Current rate</u>	<u>Proposed rate</u>
3/4" Water Meter	\$4.33/M	\$3.07/M
1" Water Meter	\$10.83/M	\$7.68/M
1 ½" Water Meter	\$21.66/M	\$15.37/M
2" Water Meter	\$34.66/M	\$24.59/M

Estimate of impact on a Commercial customer **monthly bill** using:

<i><u>This amount includes the fixed charge, volume charge, and Fire protection</u></i>		<u>Current rate</u>	<u>Proposed rate</u>
3/4" Water Meter	10,000 Gallons per month	\$23.58	\$23.07
1" Water Meter	50,000 Gallons per month	\$81.83	\$83.43
1 ½" Water Meter	300,000 Gallons per month	\$338.66	\$413.37
2" Water Meter	500,000 Gallons per month	\$531.66	\$684.59

New proposed WATER Rates - 2016**Public Authority**

3 pieces to calculating your total monthly bill – Monthly fixed charge, Volume charge, and Fire Protection charge.

<u>Monthly Fixed Charge</u>	<u>Current rate</u>	<u>Proposed rate</u>
3/4" Water Meter	\$5.25/M	\$8.00/M
1" Water Meter	\$11.50/M	\$13.25/M
1 1/2" Water Meter	\$20.00/M	\$23.00/M
2" Water Meter	\$30.00/M	\$35.00/M
3" Water Meter	\$51.25/M	\$59.00/M
4" Water Meter	\$80.50/M	\$91.75/M

<u>Volume Charge</u> - First 15,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.40/1,000 gal	\$1.72/1,000 gal
Next 135,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.10/1,000 gal	\$1.40/1,000 gal
Over 150,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$0.85/1,000 gal	\$1.11/ 1,000 gal

<u>Fire Protection</u>	<u>Current rate</u>	<u>Proposed rate</u>
3/4" Water Meter	\$16.80/M	\$13.20/M
1" Water Meter	\$42.00/M	\$33.00/M
1 1/2" Water Meter	\$84.00/M	\$66.01/M
2" Water Meter	\$134.41/M	\$105.61/M
3" Water Meter	\$252.01/M	\$198.03/M
4' Water Meter	\$420.02/M	\$330.05/M

Estimate of impact on a Commercial customer **monthly bill** using:

<u>This amount includes the fixed charge, volume charge, and Fire protection</u>		<u>Current rate</u>	<u>Proposed rate</u>
3/4" Water Meter	50,000 Gallons per month	\$81.55	\$96.00
1" Water Meter	100,000 Gallons per month	\$168.00	\$191.05
3" Water Meter	500,000 Gallons per month	\$770.26	\$860.33
4" Water Meter	400,000 Gallons per month	\$882.52	\$914.10

New proposed WATER Rates - 2016**Commercial / Industrial**

3 pieces to calculating your total monthly bill – Monthly fixed charge, Volume charge, and Fire Protection charge.

<u>Monthly Fixed Charge</u>	<u>Current rate</u>	<u>Proposed rate</u>
3/4" Water Meter	\$5.25/M	\$8.00/M
1" Water Meter	\$11.50/M	\$13.25/M
1 1/2" Water Meter	\$20.00/M	\$23.00/M
2" Water Meter	\$30.00/M	\$35.00/M

<u>Volume Charge</u> - First 15,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.40/1,000 gal	\$1.72/1,000 gal
Next 135,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$1.10/1,000 gal	\$1.40/1,000 gal
Over 150,000 gallons	<u>Current rate</u>	<u>Proposed rate</u>
	\$0.85/1,000 gal	\$1.11/ 1,000 gal

	<u>INDUSTRIAL</u>		<u>COMMERCIAL</u>	
<u>Fire Protection</u>	<u>Current rate</u>	<u>Proposed rate</u>	<u>Current rate</u>	<u>Proposed rate</u>
3/4" Water Meter	\$14.18/M	\$9.15/M	\$4.33/M	\$3.76/M
1" Water Meter	\$35.45/M	\$22.87/M	\$10.83/M	\$9.40/M
1 1/2" Water Meter	\$70.90/M	\$45.74/M	\$21.66 /M	\$18.80/M
2" Water Meter	\$113.44/M	\$73.19/M	\$34.66/M	\$30.07/M

Estimate of impact on a Commercial customer **monthly bill** using:

<i>This amount includes the <u>fixed charge</u>, <u>volume charge</u>, and <u>Fire protection</u></i>		<u>Current rate</u>	<u>Proposed rate</u>
<u>INDUSTRIAL CUSTOMERS</u>			
1" Water Meter	50,000 Gallons per month	\$106.45	\$110.92
2" Water Meter	250,000 Gallons per month	\$397.94	\$433.99
<u>COMMERCIAL CUSTOMERS</u>			
1" Water Meter	30,000 Gallons per month	\$59.83	\$69.45
2" Water Meter	100,000 Gallons per month	\$179.16	\$209.87



MEMORANDUM

TO: Utility Advisory Board

FROM: Brent Buesking, Management Analyst Fellow

DATE: April 18, 2016

TITLE: Water Utility Emergency Response Plan

RECOMMENDATION

Approve the Water Utility Emergency Response Plan Update.

BACKGROUND

[Wisconsin Department of Natural Resources](#) requires that local governments adopt a comprehensive, written Water Utility Emergency Response Plan. The City of River Falls possesses such a plan and is updating the Water Utility Emergency Plan in order to promote future water emergency preparedness. These policies and procedures guide the River Falls Municipal Utilities and emergency responders in the event of an emergency.

DISCUSSION

The Water Utility Emergency Response Plan Update revises local contact numbers within the utility, radio frequencies, emergency water production procedures, intergovernmental agreements, and how to communicate with the public. The last time the emergency plan was updated was May 2013. Since then, RFMU has experienced staff changes along with local and state emergency contacts. For example, the City has new generator fuel vendors, a new contact at the Wisconsin Bureau of Drinking Water and Groundwater, and Police Chief Gordon Young is the City Emergency Director. The City also now employs Wastewater/Water Superintendent Ron Groth to oversee both departments. So, references to Water Works Superintendent were changed.

One of the biggest revisions is the addition of Well #6. The well's specifications were added to the plan. Well #6 plays an important role in emergency water production. If the eastern portion of the City experiences a power outage, then the backup generator at Well #6 will start automatically and supply water needs to Golf View Tower. This needs to be done to ensure an adequate amount of water is maintained in the Golf View Water Tower.

Memorandum to Utility Advisory Board

April 18, 2016

Page 2

FINANCIAL CONSIDERATIONS

None.

CONCLUSION

Staff recommends that the Utility Advisory Board approves the Water Utility Emergency Response Plan Update.

Water Utility Emergency Response Plan

River Falls Municipal Utilities

April 2016

River Falls Municipal Utilities
Emergency Response Plan
River Falls Water Utility

The River Falls Municipal Utilities Water Utility's Emergency Response Plan is as detailed on the following pages. This Emergency Response Plan is for the Water Utility (Utility) only and may be incorporated directly or by reference into the City and County Plans.

Under the Administrative Code the highest ranking elected official serves as the incident commander in an emergency unless that individual either by municipal code or by action relinquishes the authority to another individual. Usually in these cases the authority is passed to either the fire chief or the police chief as the situation dictates.

The first sections outline a general pattern, which the employees should follow in responding to emergencies. In most small emergencies they will go through these steps automatically; however, they should be kept in mind in order to effectively deal with major disasters.

Revised April 2016

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A. General

A-1 Identify Emergency

This step is obvious in most cases and is essentially becoming aware that an emergency exists. Equipment breakdowns, power failures, injuries, terrorism, vandalism, and natural disasters are usually rather dramatic and will capture the operator's attention immediately upon occurrence. In other cases, the operators may have prior warning of an impending emergency through weather reports in the case of natural disasters, trends in equipment performance in the case of breakdowns, etc.

Some emergency situations exist long before the operator is aware that an emergency exists. These cases usually produce larger disasters, which then become immediate and obvious. Unattended equipment may have minor breakdowns which go unnoticed; further operation may lead to complete destruction of the equipment with possible injury to the unaware bystander. Spills in well houses or chlorine leaks where no warning system exists may injure operators, other staff or the general public and may go unnoticed until the larger more obvious emergency exists in the system or assets.

A-2 Initial Investigation

Once the operator/employee is aware that an emergency situation exists or that a disaster is impending, an immediate initial investigation should be made. This step is undertaken to assess the severity of the situation and collect just enough information to make an initial action decision. This step is necessary when able to do so without placing oneself in harm's way to be able to accurately inform the Police and/or Fire Department of the situation that is developing.

Assessment of the emergency should include identifying obvious injured persons (if any), damage to buildings and equipment, noting possible impending damage which could occur if corrective action is not taken immediately and itemizing resources immediately required to correct the situation.

A-3 Initial Action

Once the extent of the emergency is known the operator/employee should make an immediate decision as to what initial steps should be taken to correct the emergency situation. This first action in the case of large-scale emergencies usually consists of notifying responsible authorities and/or calling for necessary assistance in order of priority based on the following hazard-action descriptions. The emergency information list is a critical asset to the operator during this phase of the emergency and is included later in this Plan.

After the necessary calls have been made the operator should not unduly endanger him or herself or others by attempting tasks for which the proper equipment is not available, with which he is unfamiliar or if he does not have assistance available. Injury

and chlorine cases are the best examples. If the employee is not familiar with first aid techniques, he or she should do little more for the injured party than keep him out of further danger if possible. Moving a patient unnecessarily or attempting first aid when not needed may cause further lasting injury to the injured party. Chlorine releases or leaks require very specific personal protective equipment and knowledge. Attempting repairs or shut down without this equipment and knowledge can cause serious harm to the employee and potentially escalate the emergency rapidly.

In all cases, if in doubt, wait until qualified help arrives before taking or assisting with any action.

A-4 Corrective Action

When assistance/authorities arrive the employee should immediately inform those called of the pertinent details of the situation. If the type of emergency is beyond the capabilities of the responders, the General Manager (GM) should be on the scene. The GM will consult with other authorities on the scene and determine other actions that may be necessary. Additional staff of the Utility or other resources from the resource list may be called at this time. It may be necessary at this time to inform other managers of the utility not previously notified.

Corrective action, if by Utility employees, should continue until the situation is either under control or completely rectified. Corrective action undertaken by others not related to the Utility should be monitored as directed by the General Manager or Water Works Superintendent until the situation is under control or completely rectified. If corrective action will take considerable time, the General Manager should consult with authorities or resources on the scene to outline a long-term effort to complete the tasks.

A-5 Follow Through

After the situation is corrected, the Utility Director should make every effort to determine why the emergency occurred, review corrective action taken and then take preventative measures to minimize the chance of reoccurrence.

In the case of equipment failure, if negligence was not a factor, revising maintenance procedures would be the most likely preventative step. For natural disasters, which cannot be prevented, the procedures followed in dealing with the resulting emergency situation should be reviewed to develop more effective action plans.

B. Emergency Operating Procedures

B-1 Emergency Communication Center

In an emergency situation as declared by the Mayor, in consultation with the Police and Fire Chiefs, the River Falls Public Safety Building located at 125 E. Elm Street will serve as the emergency operating center. If the Mayor is not available, the person to contact and who will declare the emergency is the City Council President. In the absence of both individuals this authority rests with the Police and Fire Chiefs.

In case regular telephone communication is not available, the Water Utility will utilize its paging and cell phone systems. Should the cell phone system be out of service, the County emergency and portable system will be utilized in coordination with the County Emergency Management office. The Police, Fire, and EMS Departments use the county frequency. The Public Works Department utilizes a separate frequency. ▼

B-2 Public Information

The importance and accuracy in informing the public in emergency situations is recognized. Those charged with the responsibility of being media spokespersons need to share factual information and should avoid sensationalism in any reporting. If information being requested is not available, refer the media representatives to another media spokesperson who is likely to have the requested information. Remember the rules of confidentiality of medical information under the HIPAA regulations. Under no circumstances should such information be released to the public.

B-3 River Falls Municipal Water Utility General Procedures

The River Falls Municipal Water Utility Emergency Response Plan focuses on planning for potential events or happenings that could disrupt its electric distribution network. Possible natural hazards include tornadoes, severe storms and high winds. Other disaster situations could include a biochemical attack, a hazardous chemical accident (diesel fuel), terrorism, civil disorder or hazards associated with actions of employees.

The Water Utility Emergency Response Plan is designed to complement the Police and Fire Departments Emergency Response Plans. Coordination of all Plans is the delegated responsibility of the Police Chief and in his absence the Fire Chief.

For emergencies that directly affect the Water Utility, the Utility Director needs to be contacted by the Police Officer on duty or Fire Department Person Incident Commander, whenever an emergency occurs that requires the involvement of Water Utility personnel. Outside of the normal work hours of the Utility, the first person to be contacted is the Utility Director of the Utility. In the event the Utility Director is unavailable, the Water/Wastewater Operations Superintendent should be contacted when the emergency involves the water distribution system.

Deleted: The MEU also had radios for emergency use. Contact with the MEUW office in Sun Prairie, Wisconsin or one of the two safety directors to request use of the radios.¶

B-4 DNR Coordination

Most emergencies will be of such a nature as to be considered a crime scene with the Police and/or Sheriff's Department assuming a command lead. Should the electric distribution system become disrupted, the DNR will be notified according to established protocols. The electric distribution or generation system is the target of terrorist or apparent terrorist attacks, Infragard, the FBI, ISAC and Homeland Security may be notified as necessary according to the lead established by the FBI.

C. Emergency Operating Conditions and Responses

C-1 Natural Disasters

The City of River Falls Fire Department, in conjunction with the Police Department, have the primary responsibility of providing the Water Utility with "storm watch" services and the Fire Chief in consultation with the Police Officer on duty will determine the need to alert the Utility Director in the case of tornadoes, severe storms and/or high winds.

See the contact list at the end of this document for contacting information and names.

C-2 Damage to Water Utility Facilities and Chemical Storage Building

Police or Fire Department personnel finding damage to any city well, reservoir, tower, administrative building, or storage facility are to immediately contact the Utility Director or the Wastewater/Water Superintendent. They will make the immediate decisions on the incident and its effect and/or residual effects. As soon as practical after the immediate threats are addressed, the Mayor, Utility Advisory Board, and President of the City Council are to be notified. The Utility representative will handle all notifications or methods thereof for other Utility personnel if needed.

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If damage is found by Utility employees they are to immediately call 9-1-1 and inform the dispatcher of the details of the incident including but not limited to, address of incident, type of incident, witnesses, anticipated residual effects, if any and other details as each incident may dictate. This is to be considered a crime scene and is under the authority of the Police Chief until such time as the Police Chief releases the asset back to the Utility.

C-3 Severe Storms, High Winds and Tornadoes

In the event of severe storm damage that results in downed trees and power lines or other incidents caused by the storm that compromise the assets of the Utility, the Utility Director is to be contacted by the Police Officer on duty or by the Fire Department Incident Commander. Damage assessment should be reported to River Falls Municipal Utility Electric Department and advice sought from them in terms of how to proceed and options available. Safety is the first consideration in the event that corrective action must be taken. The possibility of injury from electrical shocks, explosions or toxic gases is greatly increased when natural disasters cause damage to buildings, equipment or storage facilities. If necessary damaged equipment should be bypassed and qualified personnel should be contacted to address the repairs or replacement of parts. Manual operation of equipment may be necessary under emergency conditions, since automated controls may be compromised. All employees should be familiar with safety procedures and should be on the lookout for hazards created that are not initially identified after a natural disaster has occurred.

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If streets are blocked or otherwise not passable, the City of River Falls Public Works Department should be contacted according to their call list and mobilization Plan. It is their responsibility to open or barricade, as the case may be, city streets using equipment they have available.

C-4 Bio-Chemical-Nuclear Attack

The River Falls Water Utility is considered a low risk for such attacks. The assets of the Utility would more likely be compromised as a residual effect from an attack against some other facility within the confines of the Municipal borders. Neighbors of the well houses and storage facilities should be informed of the method to report suspicious activities at any facility to the Police Department. The Police Officer on duty also provides police surveillance of these facilities as they make their rounds in the City. Utility assets are secured with a combination of hardened doors, fences and locks. In the event of such an attack against any Utility asset, the FBI should be informed immediately along with the Police Department. Such an attack constitutes a terrorist act and falls under the umbrella of Homeland Security regulations and enforcement.

C-5 Explosions

It is unlikely that any explosion will occur at any of the assets of the Utility. However, should an explosion occur the employee(s) should assess the extent of the damage and notify the Utility Director. The Utility Director will make arrangements for asset repairs necessary to return the facility to full efficiency. This may require financial decisions that other employees are not able to make.

C-6 Hazardous Chemical Materials

Hazardous chemicals are located at the wells throughout the City. They have been inventoried and properly marked. They are stored in separate rooms at the well houses as well as chained to prevent falling. Hazardous chemical releases are to be reported to 9-1-1 immediately so that both the Fire and Police Departments can respond. Hazardous chemical releases or spills fall under the jurisdiction of the Fire Department for response and may also require the assistance of specialty teams from the manufacturers. The Fire Chief in consultation with the Utility Director, or Water Works Superintendent, will determine the need for outside assistance. It is the Fire Department's responsibility to determine the need for evacuation of nearby residences and businesses.

Chlorine is the most hazardous chemical used at the River Falls Water Utility. 150-pound cylinders are used for the treatment of potable water at each of the well houses. The cylinders are delivered to the well houses by the vendor. The cylinders are stored, transported and used in the upright position and are chained as required to prevent tipping and damage. All water supply and waste water employees are trained in the handling of chlorine cylinders. Should others become required to handle the chlorine cylinders, they will first receive training in the hazards associated with them. Separate chlorine rooms are well vented, and chlorine rooms at all wells have leak detection alarms that are tied

Deleted: Chlorine cabinets

to SCADA. Chlorine is not flammable or explosive and will not freeze at the lowest temperatures. Chlorine can be detected at very low levels and has a characteristic sharp odor. At moderately low levels chlorine can be penetrating and very irritating to mucous membranes. Heavy exposure can be fatal. When tanks are being changed one employee should be positioned outside the door for safety, while another changes the tank. If a leak should occur the employee should leave the room immediately. Only qualified and well equipped employees should attempt to repair the leak. If the leak cannot be repaired, the Utility Director and River Falls Fire Department should be called immediately.

For further information on chlorine see the section on chlorine safety in the back of this Plan.

Lab chemicals are kept in very small quantities. If spills should occur, are not likely to cause a problem. Material Safety Data Sheets (MSDS) are kept in a binder in the well house. The lab technicians wear safety glasses (or goggles), gloves and clothing that is resistant to penetration by chemical spills when working with hazardous chemicals.

C-7 Chlorine Release or Theft

Intentional chlorine release or theft is to be reported to 9-1-1 immediately. This constitutes a crime and needs to be treated as such. The Police Chief and/or the Fire Chief will determine in case of release, the action that needs to be taken including evacuation orders. The section on chlorine that is presented later in the Plan details actions and counteractions required with chlorine gas along with the calculations of evacuation distances.

In the event of an unintentional release it is still necessary to contact 9-1-1 immediately. This type of incident may involve only the release of minor amounts of the chemical but the immediate neighborhood may be at risk. As calculations in the chlorine section show (presented later in the Plan), radii between 0.2 miles to 1.4 mile may need to be evacuated. This is the responsibility of the Police and Fire Departments under all circumstances.

C-8 Chemical Delivery Truck

Any transportation related incident is the responsibility of the Police and Fire Departments. They will determine if the involvement of the Water Utility employees is warranted. If services are needed in relationship to the chemicals involved in the transportation related incident, they will be involved only to the degree that the Utility Director or Water Works Superintendent determines is necessary.

C-9 Terrorism and Civil Disorder

The primary Plans for the City of River Falls to deal with terrorism or civil disorder have been prepared by the Police and Fire Chiefs in conjunction with County Emergency Authorities and are considered protected information. The Police and Fire Chiefs are

responsible for leadership in the event the City or Utility is faced with a terrorist or civil disorder threat or event. They will instruct Utility employees to a course of action to follow.

Should an event be directed primarily against one of the assets of the Utility, the Utility Director will be the point of contact from the Utility to deal with the Police and Fire authorities.

C-10 Workplace Violence

In the event of a workplace violence incident, 9-1-1 should be called as soon as practical. All employees are to evacuate to an area of safety and remain there until released by the Utility Director or Water Works Superintendent. This is a criminal event and the Police Chief will be responsible for all actions and counteractions. Under no circumstances should an employee confront the situation. This includes intruders, employees or outsiders, with or without weapons.

C-11 Power Outage

The River Falls Water Utility is almost totally dependent upon electric power. Therefore one of the more likely emergency situations to occur will be that of an electrical power outage affecting either the grid or a substation. If the electrical pumps at the wells or booster station is not operating, the distribution system loses pressure and potable water for drinking and water for fire protection cannot be provided. Essentially all water treatment at the wells stops.

Initially during the outage it will be necessary to determine if the power failure is due to electric utility activities or failure of some asset electrical equipment. If the failure is the result of River Falls Municipal Utility Electric Department, contact the electric Utility at numbers listed in the contact list provided later in this Plan. If the failure is caused by electrical failure of a Utility asset, try to determine the cause or parts affected and contact the Utility electrician immediately. Inform both the Utility Director and Wastewater/Water Superintendent as to the nature of the problem and course of action being taken.

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For outages of short duration, pressure may be maintained by the towers and other pumps in the distribution system. Those facilities with gensets hooked up will have power restored quickly as the system detects the loss of power and switches over to the genset. For long power outages the system will require the addition of portable generation at critical well houses and the booster station. Depending on the location of the outage, it may require switching at the booster station so that one zone can supply another more critical zone. The fuel supply for the generators will have to be maintained either from internal staff or external resources. River Falls Municipal Utility Electric Department should be contacted immediately during a power outage to determine the likely extent and duration. The Utility Director or Water/Wastewater Superintendent in consultation with River Falls Municipal Utility Electric Department staff will determine appropriate

response and resources for long term outages affecting more than a couple of well houses or reservoirs.

If the eastern portion of the City experiences a power outage, the backup generator at Well #6 will start automatically and supply water needs to Golf View Water Tower. This will ensure an adequate amount of water is maintained in the Golf View Water Tower. During a power outage, the Eastern High Pressure Zone Booster Station will automatically switch to emergency power using the electrical generator in the booster station. This natural gas generator will need to be monitored periodically to make sure it is operating properly. If the generator malfunctions or if the Golf View Tower empties, then the Eastern High Pressure Zone will experience a substantial decrease in water pressure.

Deleted: then system pressure and operations must be monitored until resumption of normal electric power. If the Golf View Zone and Eastern High Pressure Zone are without power, then a reliable portable generator needs to be positioned at the Golf View Booster Station

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During a system wide power outage, the back-up engines at Wells #5 and #4 will need to be started to ensure proper elevated water tank levels for the main zone and to provide available water that can be utilized in the Golf View and Eastern High Pressure Zones.

C-12 Hospital Area Dual Zone Operation

The Hospital area is currently supplied from the Golf View Pressure Zone. If the Golf View Zone fails, the Hospital area can be supplied from the main pressure zone. If there is a loss of pressure in the Golf View Zone, then a valve can be opened to allow water pressure from the main zone to supply this area. The valve connecting the Hospital area to the Golf View Zone should then be closed. Once the Golf View Zone has adequate pressure, it will be necessary to reposition the valve settings simultaneously to bring the hospital area back onto the Golf View Pressure Zone.

C-13 Drinking Water Advisories

Drinking water advisories are issued for reasons identified in federal or state regulations or by decisions made by the water system. The City of River Falls has an Emergency Drinking Water Kit that is sealed and located in a chemical-free, temperature-controlled environment. The City has a total of 27 reservoir samples located in Eau Claire, Wisconsin. The DNR contact is Corey Larson, (715) 839-1636.

The situation and characteristics of the contaminant(s) of concern determine whether the advisory is informational, boil water, do not drink, or do not use. RFMU will notify the DNR Bureau of Drinking Water and Groundwater of the contamination. Then, senior management will issue a drinking water advisory. The Utility Director should coordinate the dissemination of the advisory to the general public including individual citizens, local businesses, hospitals, community organizations. Elected and public officials will be notified so that they can assist in disseminating the advisory to the public. The City will notify the public of the affected area's boundaries using street names, place names, and common reference points. The advisory will be disseminated via the City's website, social media, and press releases to local media outlets (see media contact list). Once it has been determined that contamination of the water supply is negative, the City will notify that the drinking water advisory has been lifted.

D. Staffing Plan for Emergencies

D-1 Introduction

This manual is given to all managers at the Utility to help them respond safely and efficiently to Water Utility emergencies. While its emphasis is on staffing plans for typical emergencies, each manager will be expected to provide input in developing corrective measures and Plans for specific emergencies.

The manual was developed in response to legal requirements, public need for safety and health, and lessons we have learned from past emergencies.

The manual is organized in three sections:

- Warning Relay
- Job Duties for Emergencies
- Typical Emergencies

The purpose of the warning relay is to provide a system for notification within the Utility. The first step in any emergency will always be contacting human resources to help define and remedy emergency conditions. The section on job duties describes general expectations of managers and employees in their departments. The section on typical emergencies provides a framework on how to classify and respond to Water Utility emergencies.

This manual should be reviewed at least annually to insure that information in it is current. If revisions are necessary, the Utility Director should be notified.

D-2 Alerting Roster Warning Relay

Not included in this document for security reasons.

D-3 Emergency Planning Team Job Duties

Utility Director

Direct overall operation-from either Emergency Operating Center or staging area, receiving instructions and information from emergency government committee members. Direct operations to secure outside help from such people as current vendors. Also, direct communication operations.

▼ Wastewater/Water Superintendent

Assist in overall operations – direct operations as assigned by Director. He/she is responsible in the absence of the Utility Director. If the Water/Wastewater Superintendent is unavailable then the Lead Operator is responsible.

Deleted: Water Works

▼ Administrative Assistant

Provide information to Director as to current status of emergencies. Handle requests from other City Depts. and forward Utility requests to other City Depts. as directed by the Director.

Deleted: Admin. and Com. Coordinator

Lead Water Operator

Directs field services operations as directed by the Director. Provide emergency support services to other departments as directed. Responsible for direct communications regarding location of mains, services, etc. Assist with obtaining materials (if not in-stock) from local vendors for emergency repairs.

D-4 Department Job Duties

Administrative Services

Utility Director

Direct overall operation-from either Emergency Operating Center or staging area, receiving instructions and information from emergency government committee members. Direct operations to secure outside help from such people as current vendors. Also, direct communication operations.

Staff

Carry out all communication and other operations as directed by the Utility Director.

Primary Duties:

- Customer Records
- Financial Plan
- Continuing Property Records
- Inventory Management
- Investments
- Accounting
- Risk Management

Field Services

Lead Operator

Direct Field Service department operations and provide support services to other departments as directed by the Utility Director.

Staff/Operators

Assist in Field Service department operations as directed by the Water Works Superintendent and perform field locations in connection with emergencies.

Primary Duties:

- Hotline Locates
- Meter Maintenance
- Thaw Frozen Laterals
- Water Quality Investigation
- Cross Connection Control
- Water Audits
- Internal Leak Repairs
- Disconnect Water Services
- Main Break Repairs
- Hydrant Maintenance
- Distribution System Maintenance
- Snow Removal

Water Supply

Water/Wastewater Superintendent

Direct pumping operations, water quality testing, and provide support services to other operations departments as directed by the General Manager. Assist in operations of distribution system as directed by the Utility Director.

Staff

Assist in pumping operations as directed by the Water Works Superintendent or Project Coordinator. Assist with communications regarding location of mains, services, etc. Assist with obtaining materials (if not in stock) from local vendors for emergency repairs

Primary Duties:

- SCADA Maintenance
- Building Maintenance
- Source Management
- Water Quality Monitoring
- HAZ COM
- Water Main Disinfection
- Water Treatment Equipment Maintenance
- Pumping Equipment Maintenance
- Fleet Manager
- Maps & Records
- JT Coordination
- GIS
- SOWA
- Master Plan

D-5 Definition of Water System Emergency

Crisis Level 1 – Normal Trouble

Personnel of Utility can handle problems easily.

Examples: break in individual main or individual pumping station off line.

Level 2 -Alert (Minor Emergency)

Personnel of Utility can handle problem.

May require personnel to be put on alert, be rerouted to other than their normal working area, or work additional shifts.

Examples: break in several mains, more than one pumping station off line or water contamination alert.

Level 3: - Major Emergency

Problems are somewhat beyond capability of Utility and may require declaration of emergency to authorize shortcut procedures.

Requires most employees to work additional shifts and receive additional assistance, either mutual aid or contracts.

Examples: Power loss over major area, unsafe water supply in any pressure zone, break in large trunk line, or loss of water supply to pressure zone within service area.

Level 4: Disaster

Problems are clearly and immediately beyond capability of Utility.

Recovery time will exceed one week, cost will be great, large amounts of mutual aid or contracts will be required, extended shifts will be needed for at least one week, and request for declaration of emergency will be required.

Examples: earthquake of magnitude of 6.0 greater originating within or affecting the service area, loss of at least 50 percent of water supply capacity, or outbreak of waterborne diseases.

E. Off Site Plan for Well Houses

E-1 Facility Identification

Well #2
420 Oak Street
2-cylinders

Well #3
315 West Cedar Street
2-cylinders

Well #6
2550 Meadows Drive
2-cylinders

Well #4
901 Sycamore St.
2-cylinders

Well #5
1215 Division Street
3-cylinders

E-2 Facility Emergency Coordinators

Kevin Westhuis
Utility Director
715.425.0906 (W - general)
715.426.3442 (W-direct)
970.691.4040 (C)

Alternate
Ron Groth
Wastewater/Water Superintendent
715.426.3492 (work - direct)
715-614-2147 (cell)



Deleted: Steve Paurus¶
Interim Water Works Superintendent
715.426.3492 (work - direct) ¶
715.222.4394 (cell)¶
715.425.5039 (home)¶

E-3 Chemicals On-site- Extremely Dangerous

CAS #	CHEMICAL NAME/TRADE NAME	MAX. AMT.	VUL. ZONE
7782-50-5	Chlorine	450-Pounds Maximum (ci), wells	1.3 Mile Radius Maximum
OTHER CHEMICALS			
1696 1-50-5	Hydrofluorosilicic Acid	160 Gal.	NONE
	Calgon C-5	100GAL	NONE

E-2 Primary Emergency Numbers

River Falls Fire Department	9-1-1
River Falls Police Department	9-1-1
River Falls EMS	9-1-1
Pierce County Sheriff's Department	9-1-1

E-3 Support Available At/From Facility

Personal Protective Equipment: None

available at well house

E-4 General Information Assumptions

The vulnerability zones set forth in this Plan were determined using the information available from the Emergency Response Guidebook. The zones are based on a credible worst case scenario and identify the potential area for impact should an air-borne release of a single extremely hazardous substance (EHS) occur.

The vulnerability zones are NOT intended to be used as a guide for population protection in fire-related incidents. Fire incidents were considered in the development of this Plan and the Plan provides basic information about the facility for first responders to utilize. However, in an actual fire situation at this facility, the incident commander is strongly recommended to reference the fire department's own individual agency pre-emergency Plans and standard operating procedures as well as the County's Emergency Operations Plan as they relate to this facility when making decisions at an incident involving fire.

Further, fire departments that would respond to an incident at this facility are strongly encouraged to meet with facility representatives to determine ways to minimize an event

at the facility and to determine what additional information and factors should be taken into consideration in the event a fire should occur.

The actual response to an incident shall be determined by the field incident commander. The affected area may vary from the Planning vulnerability zone identified in the Plan. Depending on wind speed and direction, the amount of material released and other pertinent factors, the actual vulnerability zone may be smaller, and in some instances larger, than the credible worst case vulnerability zone identified herein.

The vulnerability zones determined in the Plan are for general Planning purposes.

E-7 Hazard Analysis

Facility Description

All pumping stations using chlorine gas sanitation systems in the City of River Falls.

Hazardous Materials Storage Information

Chlorine Up to three 150-pound cylinders on site at Well #2, #3, #4, and #5. Well #6 has two cylinders. Cylinders are on a scale in a separate chlorine/chemical room at Wells #2, #3, #4, #5. Only one cylinder feeds the system at a time.

Hydrofluorosilicic Acid Up to 160 gallons in a drum at each well house feeding the system.

Greatest Potential for Release

It has been determined that the greatest risk of a hazmat incident would occur during the rotation of chlorine cylinders. A potential release could occur as a fresh cylinder is connected to the chlorinator. A release of this type is not likely to be significant as all connections are checked for leaks as part of the cylinder rotation procedure. If a leak is detected during this procedure, the system will be shut down immediately.

Worst Case Scenario

A worst case scenario for chemical release at this facility would involve a total release of a 150-pound cylinder in a ten minute time period. This may occur during cylinder transport or transfer from the delivery vehicle to the building/cabinet. A cylinder may be dropped during this process, shearing off a valve, causing a release of gas. However, this scenario is not likely to occur since the cylinder valves are well protected and the cylinders are designed with such an occurrence in mind. This same scenario is true for an intentional release of the chlorine gas by purposely breaking off the valve. A more likely scenario is theft of the cylinders.

Vulnerability Zone: 1.4 miles

According to the worst case scenario model plume generic calculations for chlorine release, dangerous or deadly levels of chlorine contamination may reach distances between 0.1 and 0.25 miles down wind of the source within a matter of minutes following the initial release. In such an instance, immediate and effective public warning will be imperative. Population protection measures should be one of the first considerations of incident command when arriving at the scene of a catastrophic chlorine release at this facility. This may include diverting traffic from adjacent roads as well as advising neighboring residents to shelter-in-place.

INHALATION EFFECTS OF CHLORINE ON HUMANS

Chlorine Concentration In Air (PPM)	Symptoms
1.0	Permissible Exposure Limit -Short Term Exposure Limit (15 minutes Time Weighted Average).
>1.0	Detectable odor threshold.
3-5	Slight irritation of the nose and upper respiratory tract.
5-8	Irritation of the respiratory tract and eyes.
10	Immediately dangerous to Life and Health (IDLH). No permanent effects if the exposure is less than 30 minutes.
15-20	Immediate severe irritation of the respiratory tract, intense coughing and choking.
30	Shortness of breath, chest pain, possibly nausea and vomiting.
40-60	Development of chemical bronchitis and fluid in the lungs, which may occur several hours after exposure; chemical pneumonia may occur several days later.
Prolonged exposure over 50 ppm	Unconsciousness and death.

E-8 Population Protection

General

The on-scene commander will determine whether to shelter-in- place or evacuate.

The lead time for a hazmat incident could be from 0-30 minutes. As a result, this short time may not allow for a safe evacuation, especially when extremely toxic chemical

fumes are involved. An evacuation under these circumstances may expose the population to dangerous toxic chemicals and the decision may be made to shelter-in-place.

Shelter-in-Place

Recommended Instructions:

- 1) Close and lock all windows and doors to the outside (windows often seal better when locked).
- 2) Turn off all building ventilation systems.
- 3) Turn off all building heating systems.
- 4) Turn off all air conditioners and switch inlets to the closed position. Seal any gaps around window type air conditioners with tape and plastic sheeting, wax paper, or aluminum foil.
- 5) Turn off all exhaust fans in kitchens, bathrooms and other spaces.
- 6) Close all fireplace dampers.
- 7) Use tape and plastic food wrapping, wax paper, or aluminum foil to cover and seal bathroom exhaust fan grills, range vents, dryer vents, and other openings to the outside to the extent possible (including any obvious gaps around external windows and doors).
- 8) If an explosion is possible -close draperies, curtains, and shades over windows. Stay away from external windows to prevent potential injury from flying glass.
- 9) Go to an internal room in the building and close as many internal doors as possible. Do not go into the basement as many gases are heavier than air and will collect in low lying areas.
- 10) If the gas or vapor is soluble or even partly soluble in water – hold a wet cloth or handkerchief over your nose and mouth if the gases start to bother you. For a heavier degree of protection, go into the bathroom, close the door, and turn on the shower in a strong spray to "wash" the air. Seal the openings of the bathroom as best you can. Don't worry about running out of air to breathe. This is highly unlikely in normal homes and buildings.
- 11) Tune into the emergency broadcast system on your radio or television for further information and guidance.

Evacuation

Large scale evacuation in response to a hazardous materials incident should be considered when the following conditions are present:

- 1) There is a strong potential for toxic discharge, the discharge has not yet taken place, and there appears to be time available to relocate people.
- 2) The discharge has taken place, but people are a sufficient distance downwind to permit evacuation.

- 3) People not in the direct path of a cloud are threatened by shift in the wind direction.
- 4) The safety hazards of evacuation are outweighed by the benefits of the action.
- 5) Sheltering-in-place might not fully protect people from serious consequences.

Experience has shown that shelter space would need to be provided for only 30% of the population within the initial isolation and evacuation zones and the remaining 70% would seek shelter with family and friends outside of the risk zone. Based on these percentages, shelter space may be needed for approximately 1,000 individuals if evacuation is determined to be necessary.

Contact the American Red Cross at 608.233.9300 for assistance.

Shelters that should be considered include armories, schools and churches that are not threatened or potentially threatened.

F. GENERIC PLUME CALCULATIONS

F-1 Assumptions

Assumptions used for the vulnerability zone calculations are as follows:

- 1) Worst case weather conditions for northwestern Wisconsin:
 - a. Warm temperature (68° F in July)
 - b. Low wind speed (4 mph)
 - c. Night time conditions (midnight)
 - d. Medium relative humidity (50%)
 - e. Partly cloudy skies
 - f. Very stable air (stability class E)

This combination of weather conditions was chosen in order to create a scenario where the plume distance will be the largest possible. These conditions define a very stable weather pattern which will cause a very slow dispersion of the gas cloud. Less stable weather conditions are likely in more rapid gas cloud dispersion and a smaller vulnerability zone. As a rule, as air stability decreases, plume dispersion rates increase and vulnerability zones decrease. Some conditions that will tend to decrease air stability are:

- a. Increasing wind speed
- b. Time of day – greatest instability occurs mid -morning to late afternoon
- c. Decreasing cloud cover -sunny skies
- d. Decreasing temperatures

Actual incident weather conditions are likely to include one or more of these deviations from the worst case, resulting in a somewhat smaller actual zone of vulnerability.

- 2) Level of concern = 1/10 immediately dangerous to life and health (IDLH) (1 parts per million (ppm) chlorine)
- 3) Heavy gas model of plume calculation. The heavy gas model allows for a more accurate chlorine plume calculation than does the Gaussian model. The heavy gas model, however, uses initial maximum estimated release rate to calculate the plume distance. This causes a tendency to overestimate the actual distance. A check of the contaminant concentration at various points within the plume can then be used to find a more accurate measure of the vulnerability zone since these subsequent calculations account for the decreasing release rate as the container empties.
- 4) Source strength information. Based on actual capacity and dimensions of a 150 pound chlorine cylinder.

F-2 Text Summary Plume Analysis

Site Data Information:

Location: River Falls, Wisconsin
Building Air Exchanges Per Hour: 0.29 (Sheltered single storied) Time: July 5,
2003_0810 hours CDT (User specified)

Chemical Information

Chemical Name: Chlorine
Molecular Weight: 70.91 kg/kmol
TLV-TWA: 0.5 ppm
IDLH: 10 ppm
Boiling Point: -29.250° F
Footprint Level of Concern: 1 ppm
Vapor Pressure at Ambient Temperature:
greater than 1 atmosphere
Ambient Saturation Concentration:
1,000,000 ppm or 100.0%

Atmospheric Information: (Manual Input of Data)

Wind: 4 mph from WSW at 3 meters
No Inversion Height
Stability Class: D
Air Temperature: 70°F
Ground Roughness: Urban or forest
Cloud Cover: 10%
Relative Humidity: 50%

Source Strength Information:

Leak from hole in vertical cylindrical tank
Tank Diameter: 0.88 feet Tank Length: 4.6 feet
Tank Volume: 20.9 gallons Tank contains liquid
Internal Temperature: 700° F
Chemical Mass in Tank: 150 pounds
Tank is 61%-. full
Circular Opening Diameter: 0.095 inches
Opening is 0 feet from tank bottom
Release Duration: 10 minutes
Max Computed Release Rate: 15.3 pound s/minute
Max Average Sustained Release Rate: 15.2 pounds/minute (averaged over a minute
or more)
Total Amount Released: 150 pounds
Note: The chemical escaped as a mixture of gas and aerosol (two phase flow).

Footprint Information:

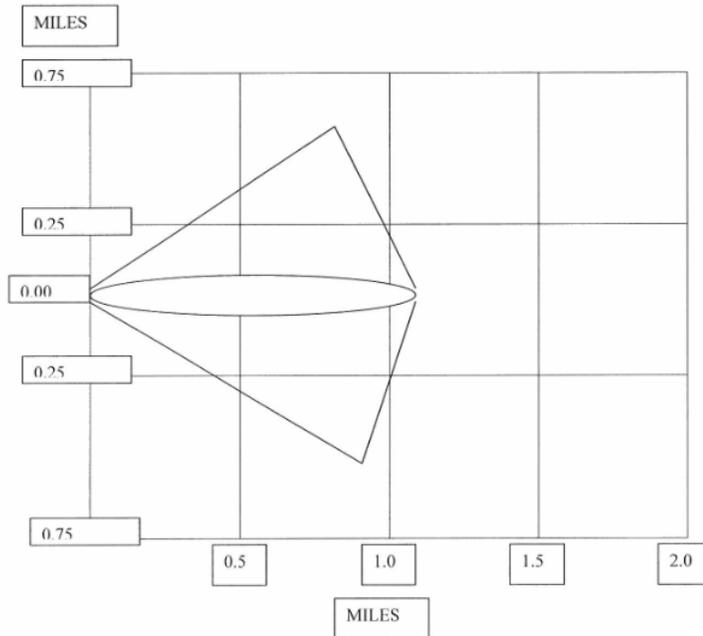
Model Run: Heavy Gas
User-specified LOC: 1 ppm
Max Threat Zone for Limit of Concentration (LOC): 1.1 miles

F-3 Footprint Window

F-3 Footprint Window

Time: July 5, 2003 0810 hours CDT (user specified)
Chemical Name: CHLORINE
Wind: 4 mph from WSW at 3 meters

Footprint Information
User specified: 1 ppm
Max Threat Zone for LOC: 1.1 miles



F-4 Concentration Window

Time: July 5, 2003 0810 hours CDT (user specified) Chemical name: CHLORINE
Building air exchange per hour: 0.29 (sheltered single story)

Time Dependent Information:

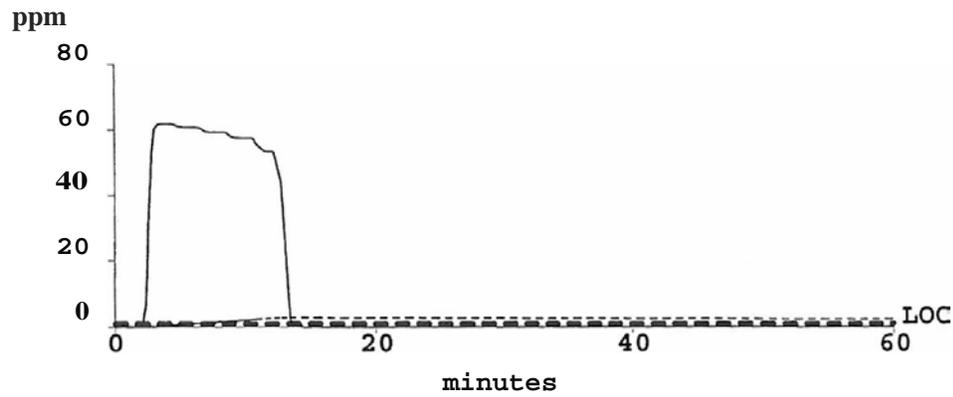
Downwind: 0.1 miles
Off Centerline: 0 miles

Max Concentration:

Outdoor: 61.9 ppm

Indoor: 2.85 ppm

Note: Indoor graph is shown with dotted line.



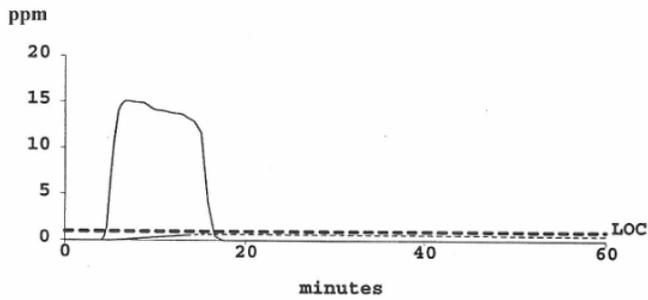
F-4A Concentration Window

Time: July 5, 2003 0810 hours CDT (user specified)
Chemical name: CHLORINE
Building air exchange per hour: 0.29 (sheltered single story)

Time Dependent Information:

Downwind: 0.25 miles
Off Centerline: 0 miles
Max Concentration:
Outdoor: 15.1 ppm
Indoor: 0.684 ppm

Note: Indoor graph is shown with dotted line.



F-5 Calculations using EPA RMP-Comp Program Calculations.

These calculations follow and are for reference only and confirm the plume analysis.

RMP*Comp Ver. 1.07

Results of Consequence Analysis

Chemical: Chlorine

CAS #: 7782-50-5

Category: Toxic Gas

Scenario: Worst-case

Quantity Released: 600 pounds

Release Duration: 10 min

Release Rate: 33.0 pounds per min

Mitigation Measures: Release in enclosed space, in direct contact with outside air

Topography: Urban surroundings (many obstacles in the immediate area)

Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2

Estimated Distance to Toxic Endpoint: 0.5 miles (0.8 kilometers)

-----Assumptions About This Scenario-----

Wind Speed: 1.5 meters/second (3.4 miles/hour)

Stability Class: F

Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver 1.07

Results of Consequence Analysis

Chemical: Chlorine

CAS #: 7782-50-5

Category: Toxic Gas

Scenario: Worst-case

Quantity Released: 600 pounds

Release Duration: 10 min

Release Rate: 60.0 pounds per min

Mitigation Measures: NONE

Topography: Urban surroundings (many obstacles in the immediate area)

Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2

Estimated Distance to Toxic Endpoint: 0.7 miles (1.1 kilometers)

-----Assumptions About This Scenario-----

Wind Speed: 1.5 meters/second (3.4 miles/hour)

Stability Class: F

Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver. 1.07
Results of Consequence Analysis

Chemical: Chlorine
CAS #: 7782-50-5
Category: Toxic Gas
Scenario: Worst-case
Quantity Released: 1800 pounds
Release Duration: 10 min
Release Rate: 180 pounds per min
Mitigation Measures: NONE
Topography: Urban surroundings (many obstacles in the immediate area)
Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2
Estimated Distance to Toxic Endpoint: 1.3 miles (2.1 kilometers)

-----Assumptions About This Scenario-----

Wind Speed: 1.5 meters/second (3.4 miles/hour)
Stability Class: F
Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver. 1.07
Results of Consequence Analysis

Chemical: Chlorine
CAS #: 7782-50-5
Category: Toxic Gas
Scenario: Worst-case
Quantity Released: 1800 pounds
Release Duration: 10 min
Release Rate: 99.0 pounds per min
Mitigation Measures: Release in enclosed space, in direct contact with outside air

Topography: Urban surroundings (many obstacles in the immediate area)
Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2
Estimated Distance to Toxic Endpoint: 0.9 miles (1.4 kilometers)

-----Assumptions About This Scenario-----

Wind Speed: 1.5 meters/second (3.4 miles/hour)
Stability Class: F
Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver. 1.07
Results of Consequence Analysis

Chemical: Chlorine
CAS #: 7782-50-5
Category: Toxic Gas
Scenario: Worst-case
Quantity Released: 150 pounds
Release Duration: 10 min
Release Rate: 8.25 pounds per min
Mitigation Measures: Release in enclosed space, in direct contact with outside air

Topography: Urban surroundings (many obstacles in the immediate area)
Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2
Estimated Distance to Toxic Endpoint: 0.3 miles (0.5 kilometers)

-----Assumptions About This Scenario-----
Wind Speed: 1.5 meters/second (3.4 miles/hour)
Stability Class: F
Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver. 1.07
Results of Consequence Analysis

Chemical: Chlorine
CAS #: 7782-50-5
Category: Toxic Gas
Scenario: Worst-case
Quantity Released: 150 pounds
Release Duration: 10 min
Release Rate: 15.0 pounds per min
Mitigation Measures: NONE
Topography: Urban surroundings (many obstacles in the immediate area)
Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2
Estimated Distance to Toxic Endpoint: 0.4 miles (0.6 kilometers)

-----Assumptions About This Scenario-----
Wind Speed: 1.5 meters/second (3.4 miles/hour)
Stability Class: F
Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver. 1.07
Results of Consequence Analysis

Chemical: Chlorine
CAS #: 7782-50-5
Category: Toxic Gas
Scenario: Worst-case
Quantity Released: 450 pounds
Release Duration: 10 min
Release Rate: 45.0 pounds per min
Mitigation Measures: NONE
Topography: Urban surroundings (many obstacles in the immediate area)
Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2
Estimated Distance to Toxic Endpoint: 0.6 miles (1.0 kilometers)

-----Assumptions About This Scenario-----
Wind Speed: 1.5 meters/second (3.4 miles/hour)
Stability Class: F
Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver. 1.07
Results of Consequence Analysis

Chemical: Chlorine
CAS #: 7782-50-5
Category: Toxic Gas
Scenario: Worst-case
Quantity Released: 450 pounds
Release Duration: 10 min
Release Rate: 24.8 pounds per min
Mitigation Measures: Release in enclosed space, in direct contact with
outside air

Topography: Urban surroundings (many obstacles in the immediate area)
Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2
Estimated Distance to Toxic Endpoint: 0.4 miles (0.6 kilometers)

-----Assumptions About This Scenario-----
Wind Speed: 1.5 meters/second (3.4 miles/hour)
Stability Class: F
Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver. 1.07
Results of Consequence Analysis

Chemical: Chlorine
CAS #: 7782-50-5
Category: Toxic Gas
Scenario: Alternative
Release Duration: 20 minutes
Storage Parameters: Hole or puncture area: .5 square inches
Tank Pressure: 20 atmosphere
Tank Temp: 68 F

Release Rate: 249 pounds per min
Mitigation Measures: NONE
Topography: Urban surroundings (many obstacles in the immediate area)
Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2
Estimated Distance to Toxic Endpoint: 0.3 miles (0.5 kilometers)

-----Assumptions About This Scenario-----
Wind Speed: 3 meters/second (6.7 miles/hour)
Stability Class: D
Air Temperature: 77 degrees F (25 degrees C)

RMP*Comp Ver. 1.07
Results of Consequence Analysis

Chemical: Chlorine
CAS #: 7782-50-5
Category: Toxic Gas
Scenario: Alternative
Release Duration: 20 minutes
Storage Parameters: Hole or puncture area: .5 square inches
Tank Pressure: 20 atmosphere
Tank Temp: 68 F

Release Rate: 249 pounds per min
Mitigation Measures: Release in enclosed space, in direct contact with
outside air

Topography: Urban surroundings (many obstacles in the immediate area)
Toxic Endpoint: 0.0087 mg/L; basis: ERPG-2
Estimated Distance to Toxic Endpoint: 0.2 miles (0.3 kilometers)

-----Assumptions About This Scenario-----
Wind Speed: 3 meters/second (6.7 miles/hour)
Stability Class: D
Air Temperature: 77 degrees F (25 degrees C)

G. Chlorine-Chemical Database Information Data Sheet

	<ul style="list-style-type: none">• Chlogas• CLX
Formula	Cl ₂ (Cl)
Structure	
Description	A greenish yellow gas with a pungent suffocating odor.
Uses	Manufacture of chlorinated lime used in bleaching all kinds of fabric , manufacture synthetic rubber & plastics, for purifying water, detinning & dezincing iron, disinfecting.

Registry Numbers and Inventories.	
CAS	7782-50-5
EC (EINECS/ELINCS)	231-959-5
EC Index Number	017-001-00-7
EC Class	Toxic; Irritant; Dangerous for the Environment
EC Risk Phrase	T; R 23 Xi; R 36/37/38 N; R 50
EC Safety Phrase	S: (1/2-)9-45-61
RTECS	F02100000
RTECS class	Tumorigen (C); Mutagen (M); Reproductive Effect (T); Human Data (P)
UN (DOT)	1017
Merck	12,2145
Listed on the Toxic Substances Control Act (TSCA).	
Listed on Canadian Domestic Substances List (DSL).	
Listed on Australian Inventory of Chemical Substances (AICS).	

Properties.	
Formula mass	70.90
Melting point, °C	-101
Boiling point, °C	-34.06
Vapor pressure, mmHg	5830
Vapor density (air=1)	2.5
Critical temperature	144 °C
Critical pressure	76.1 atmosphere
Density	1.424 g/cm ³ (20 °C)
Solubility in water	Reacts
Viscosity	0.11112 cp (3727 °C)
Surface tension	18.4 dynes/cm (@ 20°C in contact with vapor)
Heat of fusion	22.8 cal/g

Boiling point of vaporization	287.83 at -34 C 254.35 at 20 C
Odor threshold	0.31 ppm

Hazards and Protection.	
Storage	Keep in a cool, dry, dark location in a tightly sealed container or cylinder. Keep away from incompatible materials, ignition sources and untrained individuals. Secure and label area. Protect containers/cylinders from physical damage.
Handling	Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.
Protection	Wear appropriate protective gloves, clothing and goggles.
Respirators	Wear positive pressure self-contained breathing apparatus (SCBA).
Small spills/leaks	Keep material out of water sources and sewers. Attempt to stop leak if without undue personnel hazard. Do not apply water to point of leak in tank car or container. Apply water spray or mist to knock down vapors. Vapor knockdown water is corrosive or toxic and should be diked for containment. Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash or cement powder. Neutralize with dilute caustic soda (NaOH) or soda ash (Na ₂ CO ₃). Water spill: Add dilute caustic soda (NaOH). If dissolved, in region of 10 ppm or greater concentration, apply activated carbon at ten times the spilled amount. Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates.
Stability	Stable at normal temperatures and pressures.
Incompatibilities	Reacts explosively with or supports the burning of numerous common materials. Reacts as either a liquid or gas with alcohols, molten aluminum, silane, bromine pentafluoride, carbon disulfide, 1-chloro-2-propyne, dibutyl phthalate, diethyl ether, diethyl zinc (ignition), glycerol, methane over yellow mercury oxide, acetylene, ethylene over mercury, mercury(!) oxide, or silver(!) oxide, gasoline, naphtha-sodium hydroxide mixture, zinc chloride, hydrogen.
Other hazards	Highly corrosive in presence of moisture.

Fire.	
Fire fighting	Evacuate area endangered by gas. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and full protective clothing. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. If it is necessary to stop the flow of gas, use water spray to direct escaping gas away from those effecting shut-off. Will not burn, but most combustible materials will burn in chlorine as they do in oxygen; flammable gases will form explosive mixtures with chlorine. Dry chemical, carbon dioxide, water spray, fog or foam.
Fire potential	Nonflammable. Materials will burn in chlorine as in oxygen. Moderate hazard.
hazards	May ignite other combustible materials (wood, paper, oil, etc.). Mixture with fuels may cause explosion. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Hydrogen and chlorine mixtures (5-95%) are exploded by almost any form of energy (heat, sunlight, sparks, etc.). May combine with water or steam to produce toxic and corrosive fumes of hydrochloric acid. Emits highly toxic fumes when heated. Avoid plastics and rubber. Avoid heat and contact with hydrogen gas or powdered metals.
Combustion products	When heated, it emits highly toxic fumes.
NFPA	Health 4
	Flammability 0
	Reactivity 0
	Special Oxy

Health.	
Exposure limit(s)	NIOSH REL: C 0.5 ppm (1.45 mg/mj) 15-minute] OSHA PEL: C 1 ppm (3 mg/m ³) 10 ppm
Exposure effects	Rapid heart rate and rapid breathing are common. Severe exposure may cause cardiovascular collapse and respiratory arrest. Headache may develop. Agitation and anxiety may develop in patients with significant respiratory compromise. Chlorine (as hypochlorite) has been teratogenic in experimental animals. Mutations were detected using sperm morphology in mouse studies.
Ingestion	Vomiting may occur following initial exposure.

Inhalation	Feeling of burning and suffocation, coughing, choking, laryngeal edema hypoxia and, in high concentrations, syncope and almost immediate death may follow. Pulmonary edema is common after severe exposure.
S in	Dermal exposure may cause erythema, pain, irritation, and cutaneous burns.
First aid	
Ingestion	Seek medical assistance.
Inhalation	Move patient to fresh air. Monitor for respiratory distress. If cough or difficulty breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Administer oxygen and assist ventilation as required. Treat bronchospasm with beta2 agonist and corticosteroid aerosols.
S in	Remove contaminated clothing and wash exposed area thoroughly with soap and water. A physician should examine the area if irritation or pain persists.

Transport.		
UN number	1017	
Response guide	124	
hazard class	2.3	
USC C RIS Code	CLX	
USC Compatibility group	0: Unassigned.	

Risk phrases (R)

- R 23 Toxic by inhalation.
- R 36 Irritating to eyes.
- R 37 Irritating to respiratory system.
- R 38 Irritating to skin.
- R 50 Very toxic to aquatic organisms.

Combination of risk phrases (R)

- R 23/24 Toxic by inhalation and in contact with skin.
- R 23/25 Toxic by inhalation and if swallowed.
- R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- R 36/37 Irritating to eyes and respiratory system.
- R 36/38 Irritating to eyes and skin.
- R 36/37/38 Irritating to eyes, respiratory system and skin.
- R 37/38 Irritating to respiratory system and skin.
- R 39/23 Toxic: danger of very serious irreversible effects through inhalation.

- R 39/23/24 Toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
- R 39/23/25 Toxic: danger of very serious irreversible effects through inhalation and if swallowed.
- R 39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
- R 48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- R 48/23/24 Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
- R 48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
- R 48/23/24/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
- R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases (S)

- S 9 Keep container in a well-ventilated place.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 61 Avoid release to the environment. Refer to special instructions / Safety data sheets.

Combination of safety phrases (S)

- S 1/2 Keep locked up and out of reach of children.
- S 3/9/14 Keep in a cool, well-ventilated place away from ...3/9
- S 3/914.1 Keep in a cool, well-ventilated place away from reducing agents, heavy metal compounds, acids and alkalis.
- S 3/9/14.2 Keep in a cool, well-ventilated place away from oxidizing agents and acidic substances as well as heavy metal compounds.
- S 3/9/14.3 Keep in a cool, well-ventilated place away from iron.
- S 3/914.4 Keep in a cool, well-ventilated place away from water and alkalis.
- S 3/9/14.5 Keep in a cool, well-ventilated place away from acids.
- S 3/914.6 Keep in a cool, well-ventilated place away from alkalis.
- S 3/914.7 Keep in a cool, well-ventilated place away from metals.
- S 3/914.8 Keep in a cool, well-ventilated place away from oxidizing and acidic substances.
- S 3/914/49 Keep only in the original container in a cool, well-ventilated place away from ... (incompatible materials to be indicated by the manufacturer).
- S 3/9/14.1/49 Keep only in the original container in a cool, well-ventilated place away from reducing agents, heavy metal compounds, acids and alkalis.
- S 3/914.2/49 Keep only in the original container in a cool, well-ventilated place away from oxidizing and acidic substances as well as heavy metal compounds.
- S 3/9/14.3/49 Keep only in the original container in a cool, well-ventilated place away from iron.

- S 3/9/14.4/49 Keep only in the original container in a cool, well-ventilated place away from water and alkalis.
- S 3/9/14.5/49 Keep only in the original container in a cool, well-ventilated place away from acids.
- S 3/9/14.6/49 Keep only in the original container in a cool, well-ventilated place away from alkalis.
- S 3/9/14.7/49 Keep only in the original container in a cool, well-ventilated place away from metals.
- S 3/9/14.8/49 Keep only in the original container in a cool, well-ventilated place away from oxidizing and acidic substances.
- S 3/9/49 Keep only the original container in a cool, well-ventilated place.
- S 7/9 Keep container tightly closed and in a well-ventilated place.

NFPA Rating System

NFPA Rating System.

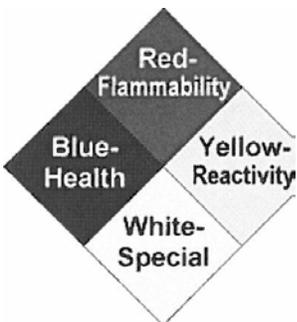
Health - Blue	
4 Danger	May be fatal on short exposure. Specialized protective equipment required.
3 Warning	Corrosive or toxic. Avoid skin contact or inhalation.
2 Warning	May be harmful if inhaled or absorbed.
1 Caution	May be irritating.
0	No unusual hazard.

Flammability - Red	
4 Danger	Flammable gas or extremely flammable liquid.
3 Warning	Flammable liquid flash point below 38° C.
2 Caution	Combustible liquid flash point between 38° and 93° C.
1	Combustible if heated.
0	Not combustible.

Reactivity - Yellow	
4 Danger	Explosive material at room temperature.
3 Danger	May be explosive if shocked, heated under confinement or mixed with water.
2 Warning	Unstable or may react violently if mixed with water.
1 Caution	May react if heated or mixed with water but not violently
0 Stable	Not reactive when mixed with water.

Special Notice - White

W	Water Reactive.
OXY	Oxidizing Agent.



I. U.S. Coast Guard Incompatibility Chart

U.S. Coast Guard Incompatibility Chart

X Incompatible groups	Reactive Groups																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Cargo Groups																						
Non-oxidizing mineral acids 1		X			X	X	X	X	X	X	X	X	X			X	X					
Sulfuric acid 2	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nitric acid 3	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Organic acids 4	X				X	X	X	X				X				X	X					
Caustics 5	X	X	X	X						X	X				X	X		X	X	X	X	X
Ammonia 6	X	X	X	X					X	X	X	X			X	X		X	X	X	X	X
Aliphatic amines 7	X	X	X	X						X	X	X	X	X	X	X	X	X	X	X	X	X
Alkanolamines 8	X	X	X	X						X	X	X	X	X	X	X	X	X	X	X	X	X
Aromatic amines 9	X	X	X							X	X								X			
Amides 10	X	X	X			X					X											X
Organic anhydrides 11	X	X	X	X	X	X	X	X														
Isocyanates 12	X	X	X	X	X	X	X	X	X											X		X
Vinyl acetate 13	X	X	X			X	X	X														
Acrylates 14	X	X				X	X															
Substituted allyls 15	X	X				X	X															
Alkene oxides 16	X	X	X	X	X	X	X	X														
Epichlorohydrin 17	X	X	X	X	X	X	X	X														
Ketones 18	X	X				X																
Aldehydes 19	X	X		X	X	X	X	X														
Alcohols, Glycols 20	X	X		X		X					X											
Phenols, Cresols 21	X	X		X		X				X												
Caprolactam solution 22	X			X		X					X											
Olefins 30	X	X																				
Paraffins 31																						
Aromatic hydrocarbons 32			X																			
Misc. Hydrocarbon mixtures 33			X																			
Esters 34	X	X																				
Vinyl halides 35			X																			X
Halogenated hydrocarbons 36																						

J. 124 Gases Toxic and/or Corrosive Oxidizing

J-1 Potential Hazards

Health

- **TOXIC; may be fatal if inhaled or absorbed through skin.**
- Fire will produce irritating, corrosive and/or toxic gases.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Runoff from fire control may cause pollution.

Fire or Explosion

- Substance does not burn but will support combustion.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Some will react violently with air, moist air and/or water.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

Public Safety

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the contact pages located in this Plan.**
- Isolate spill or leak area immediately for at least 100 to 200 meters (330 to 660 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

Protective Clothing

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing which is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations.

Fire

Small Fires: Water only; no dry chemical, CO2 or Halon.

- Contain fire and let burn. If fire must be fought, water spray or fog is recommended.
- Do not get water inside containers.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

Fire involving Tanks

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Spill or Leak

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.
- Ventilate the area.

First Aid

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Clothing frozen to the skin should be thawed before being removed.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

K. Contact Information

K-1 Responders List

OR ANI ATION	CONTACT NAME/TITLE	P ONE (DA)	P ONE (NI T)	E-MAIL
Fire Department	Scot Nelson/Fire Chief	(715)426.3534	(952) 797.3753	snelson@rfcity.org
Police Department	Gordon Young Police Chief	(715) 425.0909 ext. 3536	(715) 307.3852	gyoung@rfcity.org
Sheriff's Department	Various deputies on duty (Pierce County)	(715) 273.5052	911 Emergency	(715) 273-5051 Dispatch
	Various deputies on duty (St Croix County)	(715) 381.4320	911 Emergency	(715) 386-4701/5 Dispatch
FBI Field Office (for terrorism or sabotage)	Various On-Call personnel	(414) 276-4684	(414) 276-4684	Milwaukee@tbi.gov
		(612) 376.3200	(612) 376.3200	Minneapolis@fbi.gov
		(608) 833-4600	(608) 829.4180	Madison@fbi.gov sgaulson@fbi.gov
Emergency Medical Service	Jeff Rixmann/Service Director	(715) 425-0370	(715) 425.7708	rfems@rfaas.org jrixmann@rfaas.org
	River Falls Ambulance	(715) 425.0370	911	
City Emergency Director	Gordon Young/Police Chief	(715) 425-0909 ext. 3536	(715) 307.3852	gyoung@rfcity.org

National Spill Response Center	24 Hour Hotline	I (800) 424-8802		
State Spill Hotline	24 Hour Hotline	1 (800) 943-0003		
Local Hazmat Team (none)	Local responders no Level B	911	911	
	West Central Wisconsin Hazardous Response Team	(800) 943.0003 Level A	(800) 943.0003 Level A	
Local/Regional Laboratory	River Falls Water Utility	(715) 426.3428	(715) 425.0939	
	Davy Laboratories (Lacrosse)	(715) 608.3130		
	Commercial Testing Labs	(800) 962.5227		
	Northern Lake Service Inc.	(800) 278.1254	(715) 499.0919 cell	
	State Lab of Hygiene	(608) 262.1293		
Water System Operators	Ron Groth Wastewater/Water Super.	(715) 426.3428	(715) 614.2147 cell	
	Greg Koehler/ Lead Water Operator	(715) 426.3492	(715) 222-7091 cell	(715) 425.2820 (H)
	Jeff Crook/Certified Water Operator	(715) 425-0928	(715) 222.4394 cell	(715) 425.1458 (H)
	Don Hill/ Water Meter Mechanic	(715) 426.3468	(715) 222.4494 cell	(715) 273.4993 (H)
	Luke Harris, Water Operator	(715) 426.3468	(715) 821.3511 cell	
Jacob McNabb, Water Operator	(715) 426.3468	(715) 821.3513 cell		

K-2 Local Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	EMAIL
City Mayor	Dan Toland/Mayor	(715) 426-3404	(715) 222-4790 (C)	dtoland@rfcity.org
City Administrator	Scot Simpson	(715) 426-3402	(715) 410-4784 (C)	ssimpson@rfcity.org
City Engineer	Reid Wronski	(715)) 426-3409	(715) 426-5140	rwronski@rfcity.org
Public Works Supervisor	Terry Kusilek	(715) 426-3481	(715) 425-7180 (H) (715) 760-1547 (C)	tkusilek@rfcity.org
	Tom Schwalen	(715) 426-3450	(715) 821-0096 (C)	tschwalen@rfcity.org
City HR Director	Karen Bergstrom	(715) 426-3444	(612) 418-0892 (C)	kbergstrom@rfcity.org
Emergency Planning Committee	Jack Colvard/Director St. Croix County	(715) 386-4718/9	(715) 859-2267	
	Pierce County Emergency Management	(715) 273-6751	(715) 273-6751	
Hospitals	River Falls Area Hospital	(715) 425-6155	(715) 425-6155	
	River Falls Medical Clinic	(715) 425-6701	(715) 425-6701	
Pharmacy	Freeman Drug	(715) 425-2255	715) 425-2255	
	Shopko Pharmacy	(715) 425-6272	(715) 425-6272	
	Walgreens	(715) 426-4089	(715) 426-4089	
Nursing Homes	Kinnic Long Term Care	(715) 425-6000	(715) 425-6000	
	The Lutheran Home	(715) 425-5353	(715) 425-5353	

Nursing Homes	Our House Assisted Living Center	(715)426.0151	(715)426.9824	
	Well Haven Apartments	(715)425.8085	(715)425.9911	

Schools	Chippewa Valley Technical College	(715)425.3301		
	Good Shepherd Christian Academy	(715)425.0211		
	Greenwood Elementary School	(715)425.1810	(715)425.2386	
	Heartland Community Montessori	(715)426.0350		
	River Falls Public Schools Admin	(715)425.1800		
	River Falls Schools Bus Garage	(715)425.1808		
	River Falls Meyer Middle School	(715)425.1820	(715)425.0422	
	Rocky Branch Elementary School	(715)425.1819	(715)426.4847	
	Senior High School	(715)425.1830	(715)425.5727	
	St. Bridget School	(715)425.1870		
	UW-River Falls	(715)425.3911		
West Side Elementary School	(715)425.1815	(715)425.0130		

Neighboring Water Systems	Ellsworth	(715)273-4742		
	Hudson	(715)386-4762		
	Prescott	(715)262-5544		

Critical Industrial/Commercial Water Users	These change often. Business log is maintained and available at the Utility Office and Police Department.
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Deleted: , Power Plant

K-3 Service/Repair Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
Electrician	Tewinkel Electric	(715) 425.7336		
	Simon Electric	(715) 246.3873		
Electric Utility Company	River Falls Municipal Utilities Electric	(715) 425.0928	(715) 425.0939	
	Dave Krause/Dist. Engineer	(715) 577.1369	(715) 577.1369	
Gas Utility Company	St. Croix Valley Natural Gas	(715) 425.6177	(715) 425.6177	
Sewer Utility Company	River Falls Waste Water Utility	(715) 425.0922	(715) 425.6181	(715) 821.8181 cell
Telephone Utility Company	Ameritech	1-800-924-1000	1-800-924-1000	
	Repair Service	1-888-611-2344	1-888-611-2344	
Plumber	Johnson Quality Plumbing	(715) 760.1153		
	Nelson Plumbing	(715) 273.4446		
Pump Specialist	Keys Well Drilling	(800) 646-7871	(612) 801-2334 (C)	
	Traut Wells	(800) 728-5091	(320) 250-5127 (C)	
"Diggers Hotline"		(800) 242.8511	(800) 242.8511	
Soil Excavator/Backhoe Operator	Total Excavating	715.426.1777		
	Bettendorf Excavating	(715) 425.8643	(651) 492.8594 cell	
Equipment Rental (Power Generators)	Fabco Equipment	414-461-9100		
	Inland Diesel	414-781-7100		
	Jensen Equipment	715-547-5548		

Equipment Rental (Chlorinators)	Wisconsin Entek	1-800-236-4897	
	CTW Corp	715-253-6613	
	A.A. Anderson	715-784-3340	
Equipment Rental (Portable Fencing)	National Rent-A-Fence	(800) 352-5675	
Equipment Repairman			
Equipment Repairman (Chlorinator)	Hawkins Chemical	(612) 331-9100	
Radio/Telemetry Repair Service	Kamp/Synergy	(414) 438-4400	
	Connelly Industrial	(651) 433.5203	(651) 247.0299 cell
SCADA	Intellisys Inc.	(262) 966.3833	
Bottled Water Source	Oak Creek (Claire Bae)	(715) 302-5660	
Bulk Water Hauler	GoldenGuernsey	(715) 547- 1700	
Pump Supplier	Layne-Northwest	(715) 246-4646	
	Municipal Well & Pump	1-920-324-3400	
	Water Well Solutions Service Group Inc.	1-888-769-9009	
	CTW Corporation	(715) 253-6613	
Well Drillers	Keys Well Drilling Co,	(800) 646.7871	(612) 801.2334 cell
	Traut Wells	(800) 728.5091	(320) 250.5127 cell
	Water Well Solutions Service Group Inc.	1-888-769-9009	
	CTW Corporation	715-253-6613	
Pipe Supplier	Clow	1-800-6013	
	Griffen Pipe	1-800-755-5136	

Chemical Suppliers	NCL of Wis	1.800.648.7836			customersupport@nclabs.com	
	Hawkins Water Treatment Group, Inc.	(800) 328.5460	(651) 969.0358	pager	(612) 670.2717	alt.

K-3 Utility Advisory Board List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
President Secretary	Grant Hanson	715.425.2596 (H)	715.425.2596 (H)	
	Wayne Beebe	715.425.2015 (H)	715.425.2015 (H)	wbeebe@presenter.com
	Chris Gagne	715.222.3220 (C)	715.222.3220 (C)	cp.gagne1@gmail.com
	Adam Myszewski	651-245-1971 (C)	651-245-1971 (C)	adam@houckads.com
	Tim Thum	715.425.3828 (W)	715.425.1033 (H)	Timothy.g.thum@uwrf.edu
	Duane Pederson	715.425.9182 (H)	715.760.5036 (C)	DP.LP4288@comcast.net
Council Representative	Diane Odeen	715.426.5325 (H)		dodeen@frcity.org

K-5 State and Federal Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	EMAIL
American Red Cross	Dr. Tim Iehl/Pierce County	(715) 425.9091		
	Marcia Ivy/ St. Croix County	(715) 684.3338		
Centers for Disease Control		(770) 488-7100	(770) 488-7100	
Department of Environmental Protection (or state equivalent)	Corey Larson/Water Supply Engineer	(715) 839.1636		Corey.Larson@Wisconsin.gov
Department of Health	Pierce County	(715) 273.6755		
	St. Croix County	(715) 246.6991		
Emergency Management Agency	Pierce County Emergency Management Offices	(715) 386.4718	(715) 386.4719 (alt.)	(715) 859.2267 (home)
	Stephen J. T'Kach/Director (St. Croix County)	(715) 386.4751 (office)	(715) 716.0820 (cell)	stephen.t'kach@co.saint-croix.wi.us
Environmental Protection Agency	Nationwide Coverage	(800) 426.4791	(800) 426.4791	
Hazmat Hotline		911	911	
Homeland Security Operations	Nationwide Coverage	(202) 282.8101	(202) 282.8101	
Information Analysis Division Homeland Security	Nationwide Coverage	(202) 282.8168	(202) 282.8168	
Information Sharing and Analysis Center (ISAC)	Nationwide Coverage	(202) 331.0479	(202) 331.0479	
National Spill Response Center	Nationwide Coverage	(800) 424.8802	(800) 424.8802	
National Infrastructure Protection Center	Nationwide Coverage	(800) 585.9078	(800) 585.9078	
Safe Drinking Water Hotline	Nationwide Coverage	(800) 426.4791	(800) 426.4791	

Wisconsin Conservation Corps.		(715) 386-4718	(715) 246-2267
Wisconsin Emergency Management Agency	Statewide	(800) 943-0003	(800) 943-0003
Wisconsin Emergency Police Services	Northwest	(715) 635.8704	(715) 635.8704
Wisconsin National Guard	Jeff Walther	(715) 246-4365	(715) 246-4365
	Steve Peterson	(715) 246-5650	(715) 246-6017
	Bob Pierson	(715) 246-41665	(715) 246-6308
Wisconsin Rural Water Association	Statewide	(800) 457.0262	
Wisconsin Southern Railroad		(414) 438-8835	(800) 255-9126
Wisconsin State Patrol	Eau Claire	(715) 635.2141	(715) 635.2141

K-6 Media Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE NIGHT	EMAIL
Designated Spokesperson	Kevin Westhuis, Utility Director	(715) 426.3442	(970) 691.4040	kwesthuis@rfcity.org
Newspaper-Local	River Falls Journal	(715) 425-1561	(715) 425.5666 (fax)	rfeditor@rivertowns.net
Newspaper-Regional/State	Minneapolis Star Tribune	(612) 673.4000	(612) 673.4414	
	St. Paul Pioneer Press	(651) 222.1111		
Radio	WEVR	(715) 381.1111		
	WIXK	(715) 246.2254		
	WRFW	(715) 425.3887	(715) 425.3689	
	WCCO Minneapolis	(800) 327.8255	(612) 370.0159 (fax)	
Television	City Cable	(715) 425.5400		
	KMSP Minneapolis	(952) 944.9999	(952) 942.0286 (fax)	mnnews@kmsp.com
	WCCO Minneapolis	(612) 339.4444	(612) 330.2767	wcconewstips@wcco.cbs.com
		(612) 330.2509 (night)	(612) 330.2627 (fax)	
	KSTP St. Paul	(651) 646.5555	(651) 642.4409	gennewstips@kstp.com
KARE Minneapolis	(763) 797.7215	(763) 546.8606 (fax)	news@kare11.com	

L. EMERGENCY EQUIPMENT IDENTIFICATION

LIST EMERGENCY EQUIPMENT AND WATER PRODUCTION PROCEDURES

According to federal regulations, Emergency Response Plans for systems serving a population greater than 3,300 must include "Plans, procedures, and identification of equipment that can be implemented or utilized in the event of a terrorist or other intentional attack on the public water system." The regulations also require these systems to include "actions, procedures, and identification of equipment which can obviate or significantly lessen the impact of terrorist attacks or other intentional actions on the public health and the safety of drinking water provided to communities and individuals." Also, the Wisconsin Administrative Code requires you to have "arrangements made for emergency production of water and include these in your emergency Plan." Based on your equipment, you should establish steps to take when power is interrupted for any length of time. You may also want to include actions to take when power is restored.

EMERGENCY EQUIPMENT LISTING

Name of Utility	River Falls Water Utility
Contact Person (Name)	Kevin Westhuis
Work Phone	715.426.3442
Emergency After Hours	970.691.4040
Alternate Contact (Name)	Ron Groth
Work Phone	715.426.3428
Cell Phone	715.614.2147
Home Phone	
Emergency After Hours	

Vehicles Available

Type	Asset #	Make	Department	Location
Prius 4 Door	204	Toyota	Motor Pool	City Hall
2002 Ranger XLT	219	Ford	Mapping	City Hall
2003 F450	208	Ford	Electric	Garage
1999 F150 4x2	210	Ford	Electric	Garage
1998 F150 4x2	211	Ford	Electric	Garage
2001 FL80	213	Freightliner	Electric	Garage
2010 M2 Business Class	214	Freightliner	Electric	Garage
2005 F750 4x2	215	Ford	Electric	Garage
2000 XL F250 4x4	216	Ford	Electric	Garage
1995 F1 50 4x2 Reg Cab	227	Ford	Electric	Garage
2008 F350	228	Ford	Electric	Garage
1997 F1 50 4x2 Reg Cab	229	Ford	Electric	Garage
2000 F1 50 4x2 Regular	217	Ford	Water	Garage
1997 F1 50 4x2	218	Ford	Water	Garage
2007 Grand Caravan	221	Dodge	Water	Garage
2002 F150 4x2	222	Ford	Water	Garage
1993 F250 w/ Welder	224	Ford	Water	Garage
1995 F1 50 4x2	226	Ford	Water	Garage
2004 F250 4x4 SD	225	Ford	Water	
Plow M2	0108	Freightliner	Streets	Garage
2007 Plow M2 106	0207	Freightliner	Streets	Garage
2001 FL 80	0301	Freightliner	Streets	Garage
1995 Plow L8000	0495	Ford	Streets	Garage
1999 1999-2554 4x2	0599	International	Streets	Garage
1996 Flatbed F800	0696	Ford	Streets	Garage
2005 Pickup w/Plow Sierra 2500 HD 4x4	7	GMC	Streets	Garage
1993 F350	8	F350	Streets	Garage

2012 Ram 2500 SLT Reg Cab 4x4	0912	Dodge	Streets	Garage
1993 F150 Pickup	9	Ford	Streets	Garage
1998 F150	1098	Ford	Streets	Garage
1999 F350 Super	13	Ford	Streets	Garage
1991 IHC 9400	15	International	Streets	Garage
2005 Silverado 3500	16	Chevrolet	Streets	Garage
1997 F150 5x2	1797	Ford	Streets	Garage
1995 F250	10195	Ford	Parks	Parks Dept.
2002 Silverado 2500 HD	10302	Chevrolet	Parks	Parks Dept.
2008 F350	104	Ford	Parks	Garage
1995 Ambulance Road Rescue E350	6501	Ford	Ambulance	Amb. Station
2009 Road Rescue Express 3500	6502	Chevrolet		
2006 Ambulance Road Rescue	6503	Ford	Ambulance	Amb. Station
2002 Ambulance E450	6504	Ford	Ambulance	Amb. Station
2005 Durango	MED 6	Dodge	Ambulance	Amb. Station
2006 Durango	MED 7	Dodge	Ambulance	Amb. Station
2002 F350 4x4	1-317	Ford	Fire	Fire Station
2006 Crown Victoria	SL	Ford	Fire	Fire Station
1930 Hose Truck Model A (parade)	300	Ford	Fire	Cold Storage
1939 Ford Pumper (parade)	310	Ford	Fire	Cold Storage
2000 FL! 12	4-304	Freightliner	Fire	Fire Station
1984 L80000	6-306	Ford	Fire	Fire Station
1989 L9000	7-314	Ford	Fire	Fire Station
1976 C750 Pump	8-316	Ford	Fire	Fire Station
2004 Ladder Truck	Ladder # 1	Pierce	Fire	Fire Station
1985 Pickup F250 Wildfire	1-312	Ford	Fire	Parks Dept.
2003 Ranger	1-320	Polaris	Fire	Public Safety
1997 FL80 Tank 4 Door	1-319	Freightliner	Fire	Garage
1995 FL80	2-315	Freightliner	Fire	Fire Station
1996 Dakota Club Cab 4x4	601	Dodge	Motor Pool	City Hall

2002 Taurus SES	603	Ford	Motor Pool	City Hall
1999 Windstar LX	604	Ford	Motor Pool	City Hall
1999 Taurus SES	606	Ford	Motor Pool	City Hall
2008 Econoline Van	607	Ford	Motor Pool	Garage
2005 Ford Taurus	609	Ford	Motor Pool	City Hall
1993 C1500	650	Chevrolet	Motor Pool	Garage
2011 Crown Victoria	1	Ford	Police	Police Station
Crown Victoria	2	Ford	Police	Police Station
2011 Crown Victoria	3	Ford	Police	Police Station
Crown Victoria	0410	Ford	Police	Police Station
2008 Crown Victoria	508	Ford	Police	Police Station
2005 Crown Victoria	6	Ford	Police	Police Station
2007 Malibu Maxx	0707	Chevrolet	Police	Police Station
2008 Crown Victoria	0808	Ford	Police	Police Station
2002 Taurus SE	0902	Ford	Police	Police Station
2007 Malibu Maxx	1007	Chevrolet	Police	Police Station
2008 Uplander Entervan - Taxi	7	Chevrolet	Taxi	
2008 Uplander Entervan - Taxi	8	Chevrolet	Taxi	
2010 Caravan Entervan	6	Dodge	Taxi	

Equipment Available

Type	Asset #	Make	Department	Location
2 Trash/Water Pump			Water	Garage
Jet Cleaner	232		Water	Garage
Portable Generator		Onan	Water	
1998 Tractor/Backhoe 41 OE	230	John Deere	Water	Garage
1974 Jet Cleaner		Obrien	Water	
2006 Gen Set DI00-4		Caterpillar	Water	Garage
Welder Big Blue 440D		Miller	Water	Garage
Walk Behind Blower			Water	
Sewer Rodder HS38	233		Sewer	Garage
Gator	250	John Deere	Sewer	WWTF
Generator	251	Detroit	Sewer	WWTF
Trencher		Ditch Witch	Electric	
Chain Saw		Stihl	Electric	
Trencher 660	234	Case	Electric	Cold Storage
1980 Compressor	241	Ingersoll Rand	Electric	Garage
Gator			Electric	
Generator		Olympian	Police	Public Safety
Chain Saw 451		Jonsreds	Parks	
Tractor	105	John Deere	Parks	Parks
Rotary Broom 60"		John Deere	Parks	Parks
Rotary Broom MLT		MB Companies	Parks	Parks
3 Chain Saws		Stihl	Parks	Parks
Boat Super Snapper	190	Sylavan	Fire	
Chain Saw		Jonesred	Fire	
Standby Generator		Onan	Fire	
Generator		Honda	Streets	Garage
Street Sweeper NP	1110	Elgin Pelican	Streets	Garage

Grader 140 VHP	1207	Caterpillar	Streets	Garage
Loader	1499	John Deere	Streets	Garage
Snow Blower	25	Sno-Go	Streets	Garage
Forklift	31	Clark	Streets	Garage
Air Compressor	42	Sullair	Streets	Garage
Skid Loader	47	New Holland	Streets	Garage
2006 Woodsman?	48	Woodsman	Streets	Garage
Vac-Tron	65	Vac-Tron	Streets	Garage
4 Chainsaw		Stihl	Streets	Garage
Stihl MS 191T		Stihl	Streets	Garage
Genset		Northstar	Ambulance	Amb Station

Trailers Available

Type	Asset #	Make	Department	Location
EMS TI RT 85x20WT2		Haulmark	Ambulance	Amb Station
1988 Wire Wheel 1530			Electric	
Pole Trailer	246			
Single Reel				
1998 Line Puller 1530	207	Sauber		
Towmaster T 16T	106	Towmaster		
Gator		Gator	Sewer	
1989 End Dump	34	East	Street	Garage
Barricade	T1	Dressen	Street	Cold Storage
Red i-Haul	T2	Redi-Haul	Street	Garage
Cement	T3	Felling	Street	Garage
2006 B&B Trailer w/tilt	T1	B&B Trailers	Parks	Parks
2006 B&B Trailer w/tilt	T2	B&B Trailers	Parks	Parks
Homemade Tilt	T3	Homemade	Parks	Parks
2008 P&J Trailer	T4	P&J	Parks	Garage

M-1 Emergency Water Production Procedures

Facility - Well #2

Location - 420 South Oak Street

Type of Emergency Backup - Generator _____ Motor/Gear Drive _____ Other _____

Backup fuel source - Diesel _____ Gasoline _____ Natural Gas _____ LP _____ Other _____

Amount of backup fuel stored onsite - _____

Amount of time backup can operate with fuel stored onsite - _____ hours

Contact(s) for backup fuel - Name _____

Address _____

Phone _____

Steps to produce water with backup power:

1. No back-up power _____
2. _____
3. _____
4. _____

Facility- Well #3

Location- 315 West Cedar Street.

Type of Emergency Backup- Generator _____ Motor/Gear Drive _____ Other _____ PTO _____

Backup fuel source- Diesel _____ Gasoline _____ Natural Gas _____ LP _____ Other _____

Amount of backup fuel stored onsite- _____

Amount of time backup can operate with fuel stored onsite- _____ hours

Contact(s) for backup fuel- Name _____

Address _____

Phone _____

Steps to produce water with backup power:

1. Production only possible if power unit with power take off shaft could be located and utilized.
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Facility- Well #4

Location- 901 Sycamore Street

Type of Emergency Backup- Generator _____ Motor/Gear Drive X Other _____

Backup fuel source- Diesel _____ Gasoline X Natural Gas _____ LP _____ Other _____

Amount of backup fuel stored onsite- 10 gallons

Amount of time backup can operate with fuel stored onsite - 2 hours

Contact(s) for backup fuel- Kwik Trip, Inc.
1238 North Main St.
715.425.1386

Steps to produce water with backup power:

1. Disconnect Electrical Power
2. Pre-lube pump
3. Engage drive coupling.
4. Start right angle drive cooling water.
5. Start engine.
6. Engage hand clutch.
7. Adjust Speed

Facility- Well #5

Location- 1215 West Division Street

Type of Emergency Backup- Generator _____ Motor/Gear Drive X Other _____

Backup fuel source- Diesel X Gasoline _____ Natural Gas _____ LP _____ Other _____

Amount of backup fuel stored onsite- 200 gallons

Amount of time backup can operate with fuel stored onsite- 20 hours

Contact(s) for backup fuel- Bulk delivery: Bowen's Garage
405 South Main Street
715.425.5440

Transport by Utility: Freedom Yalu Center
807 North Main Street
715.425.2470

Deleted: Filkins Brothers

After hours: (715) 760.2573

Bulk tanks at RFMU Power Plant. Need to coordinate with Power Plant operations. 715.426.3442

Steps to produce water with backup power:

1. Disconnect Electrical Power
2. Pre-lube pump
3. Engage drive coupling.
4. Start right angle drive cooling water.
5. Start engine.
6. Engage hand clutch.
7. Adjust Speed

Facility - Well #6

Location - 2550 Meadows Drive

Type of Emergency Backup- Generator _____ Motor/Gear Drive _____ Other _____

Backup fuel source- Diesel Gasoline Natural Gas _____ LP _____ Other _____

Amount of backup fuel stored onsite - 660 gallons

Amount of time backup can operate with fuel stored onsite - 19.1 hours

Contact(s) for backup fuel- Bulk delivery:	Bowen's Garage 405 South Main Street 715.425.5440	Transport by Utility:	Freedom Yalu Center 807 North Main Street 715.425.2470
After hours:	715.760.2573		

Steps to produce water with backup power:

1. Well 6 has a stand by automatic generation that starts automatically with power loss.
2. _____
3. _____
4. _____



RESOLUTION NO. 2016-08

RESOLUTION APPROVING THE WATER UTILITY EMERGENCY PLAN UPDATE

WHEREAS, the Wisconsin Department of Natural Resources requires that local governments adopt a comprehensive, written Water Utility Emergency Response Plan; and

WHEREAS, the City of River Falls possesses such a plan; and

WHEREAS, it has become desirable to update the Water Utility Emergency Response Plan in order to promote future water emergency preparedness; and

WHEREAS, the policies include the City's water emergency policies and procedures that are an integral part of assuring the community that the City's emergency operations are well-prepared and well-managed;

NOW, THEREFORE, BE IT RESOLVED that the Utility Advisory Board of the City of River Falls hereby approves the Water Utility Emergency Response Plan Update and adopts the water emergency policies and procedures include in the plan.

Dated this 18th day of April, 2016.

Grant Hanson, Board President

ATTEST:

Lu Ann Hecht, City Clerk



April 13, 2016

To: Utility Advisory Board

From: Tracy Biederman, Accountant

Re: **March 2016** Financial Statements

Attached are the interim financial statements for the electric, water and sewer funds for the period ending March 2016.

Electric fund: Total revenue for the electric fund is \$3,335,161. Year to date total expenses are \$3,248,532; generating a net income of \$86,630. Charges for services have decreased by \$282,100 with the reduction in kWh sales by 673,300 kWh year over year.

- Cumulative reductions occurred in purchased power and transmission expenditures.
 - Transmission decreased due to the Overhead line clearing that occurred in 2015 with no billed activity in 2016.
 - Depreciation has increased due to the 2015 purchases of AMI meters, line truck, and meter tech truck.
- The increase in Hydraulic Power generation is due to the final payment of the 2015 sediment survey services performed by Inter-Fluve Inc..
- Period ending cash and unrestricted investments balance is a positive \$7.39 million.

The utility's other financing sources have been reduced due to the Power Plant Buyout from WPPI was completed in 2015. The monthly Net Book Value amortization of the assets retired will be recognized until November 2016.

Water fund: Total revenue for the water fund is \$398,891. Year to date total expenses are \$411,320.

- Total Water consumption increased 1.5% from last year for the three months ending in industrial and multi-family categories; an increase of 1.109 million gallons.
- Year-to-date expenditures for the period ending are very consistent to the prior years'.
- Period ending cash and unrestricted investments balance is a positive \$1.239 million.

The current period experienced a positive gain of \$4,529 with a three-month cumulative total at a negative loss of \$12,428.

Sewer fund: Total revenue for the sewer fund is \$828,003. Year to date total expenses are \$540,285.

- BioSolids has recognized a decline in expenditures year-over-year.
- Revenues for services have increased due to the increase in water consumption.
- Period ending cash and unrestricted investments balance is a positive \$2.369 million.

The Utility has an overall net gain of \$287,718; an increase from prior year of \$63,240.

Please contact me if you have any questions regarding the monthly financial reports.



Financial Statement March 2016

	Current Year				
	Budget	Month	-T-D	Budgeted	Prior -T-D
610 - Electric					
Revenue					
Charges for Services	\$14,189,533	\$859,844	\$3,240,662	23%	\$3,522,766
Interest	\$15,000	\$6,346	\$11,881	79%	\$8,288
Miscellaneous	\$622,488	\$29,471	\$81,153	13%	\$76,898
Other Financing	\$30,000	\$50,365	\$1,466	5%	\$56,806
Deferred Resources	\$0	\$0	\$0	0%	\$0
Total Revenue	14,857,021	946,025	3,335,161	22	3,664,759
Expense					
Hydraulic Power Generation	\$32,569	\$1,817	\$26,380	81%	\$9,372
Purchased Power	\$10,866,597	\$729,589	\$2,358,295	22%	\$2,531,520
Transmission	\$25,997	\$963	\$2,860	11%	\$41,067
Distribution	\$1,106,753	\$82,779	\$218,183	20%	\$212,571
Customer Accounts	\$621,039	\$41,730	\$115,371	19%	\$106,704
Administrative & General	\$394,911	\$23,659	\$80,685	20%	\$86,791
Other Operating Expenses	\$764,700	\$66,728	\$201,849	26%	\$192,407
Power Plant NBV Amort	\$277,008	\$75,548	\$75,548	27%	\$0
Transfers to Other Funds	\$767,447	\$56,454	\$169,362	22%	\$158,824
Total Expense	14,857,021	1,079,266	3,248,532	22	3,339,256
Net Total 610 - Electric	0	(133,241)	86,630		325,503



Financial Statement March 2016

	Current Year				
	Budget	Month	-T-D	Budgeted	Prior -T-D
620 - Water					
Revenue					
Charges for Services	\$1,313,137	\$103,314	\$318,865	24%	\$314,110
Interest	\$3,474	\$496	\$1,694	49%	\$473
Miscellaneous	\$459,145	\$5,826	\$33,813	7%	\$28,519
Other Financing	\$85,080	\$33,390	\$44,520	52%	\$4,452
Total Revenue	1,860,836	143,027	398,891	21	347,554
Expense					
Transmission	\$437,754	\$28,121	\$76,686	18%	\$84,338
Pumping	\$139,492	\$7,831	\$28,444	20%	\$32,850
Water Treatment	\$75,901	\$4,421	\$12,231	16%	\$18,292
Customer Accounts	\$117,111	\$7,279	\$17,441	15%	\$17,282
Administrative & General	\$187,321	\$12,490	\$41,181	22%	\$34,817
Other Operating Expenses	\$365,844	\$36,901	\$110,971	30%	\$110,329
Debt Service	\$66,119	\$5,514	\$16,542	25%	\$17,898
Transfers to Other Funds	\$471,294	\$35,941	\$107,824	23%	\$100,360
Total Expense	1,860,836	138,498	411,320	22	416,167
Net Total 620 - Water	0	4,529	(12,428)		(68,613)



Financial Statement March 2016

	Current Year				
	Budget	Month	-T-D	Budgeted	Prior -T-D
630 - Waste Water					
Revenue					
Charges for Services	\$3,079,754	\$243,467	\$771,859	25%	\$755,993
Interest	\$4,500	\$4,289	\$6,523	145%	\$2,911
Miscellaneous	\$36,614	\$10,396	\$18,361	50%	\$12,404
Other Financing	\$59,480	\$23,445	\$31,260	53%	\$3,126
Total Revenue	3,180,348	281,597	828,003	26	774,434
E xpense					
Operation	\$529,477	\$29,488	\$89,512	17%	\$91,274
Maintenance	\$558,637	\$37,220	\$63,341	11%	\$61,299
Bio Solids	\$394,000	\$35,908	\$85,772	21%	\$99,660
Customer Accounts	\$285,187	\$7,502	\$18,138	6%	\$16,950
Administrative & General	\$360,773	\$24,054	\$72,830	20%	\$64,522
Other Operating Expenses	\$493,000	\$43,438	\$130,212	26%	\$129,887
Debt Service	\$99,737	\$11,664	\$34,993	35%	\$40,879
Transfers to Other Funds	\$459,537	\$15,162	\$45,487	10%	\$45,487
Total E xpense	3,180,348	204,436	540,285	17	549,956
Net Total 630 - Waste Water	0	77,161	287,718		224,478



Balance Sheet March 2016

FUND	Description	Period Net Change	Account Balance
610 Electric			
Assets	Total Assets	(187,007.27)	20,767,673.02
	Cash and Investments	120,025.45	7,507,909.78
	Accounts Receivable	(358,103.57)	1,056,147.83
	Prepaid & Inventory	86,358.79	614,005.95
	Constr in Progress	31,439.98	176,016.35
	Capital Assets	0.00	24,377,307.32
	A/D Capital Assets	(66,727.92)	(12,963,714.21)
Liabilities	Total Liabilities	53,766.60	(903,242.70)
	Accounts Payable	76,432.40	(917,649.10)
	Non-Current Liab	1,701.00	(80,720.28)
	Debt Outstanding	815.83	(106,333.36)
	Deferred Resources	(25,182.63)	201,460.04
Fund Balance	Total Fund Balance	133,240.67	(19,864,430.32)
	Fund Balance	133,240.67	(19,864,430.32)
	Total Liabilities + Fund Balance	187,007.27	(20,767,673.02)



Balance Sheet March 2016

FUND	Description	Period Net Change	Account Balance
620 Water			
Assets	Total Assets	13,413.54	15,620,234.79
	Cash and Investments	52,381.24	1,491,473.41
	Accounts Receivable	(10,489.58)	119,720.01
	Prepaid & Inventory	8,358.64	57,157.87
	Non-Current Assets	63.82	337,428.21
	Construction in Progress	0.00	94,354.41
	Capital Assets	0.00	18,892,461.55
	A/D Capital Assets	(36,900.58)	(5,372,360.67)
Liabilities	Total Liabilities	(8,884.79)	(1,998,202.96)
	Accounts Payable	(3,370.69)	(38,827.57)
	Non-Current Liability	14.86	(33,993.48)
	Debt Outstanding	(5,528.96)	(1,925,381.91)
Fund Balance	Total Fund Balance	(4,528.75)	(13,622,031.83)
	Fund Balance	(4,528.75)	(13,622,031.83)
	Total Liabilities + Fund Balance	(13,413.54)	(15,620,234.79)



Balance Sheet March 2016

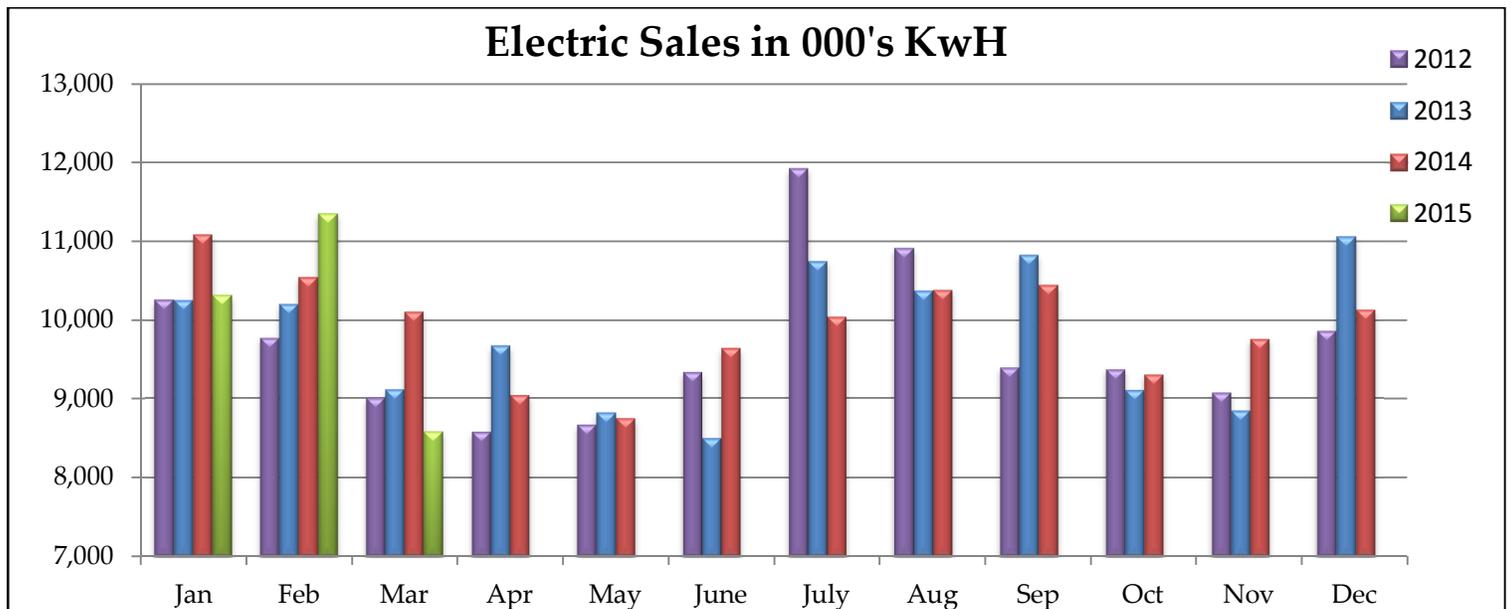
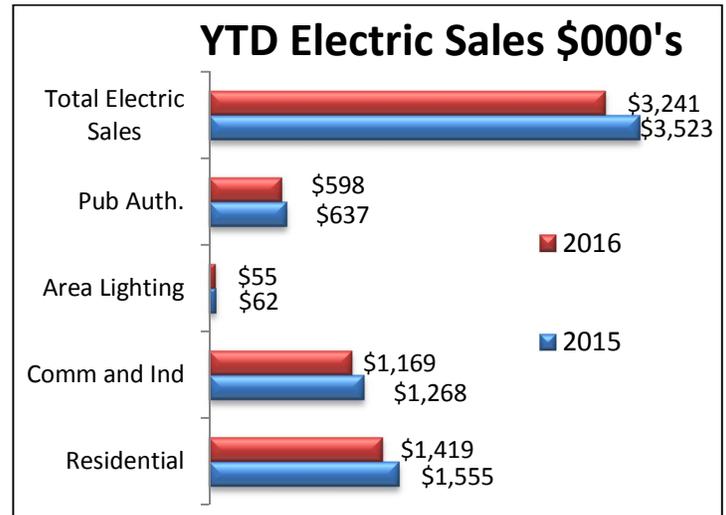
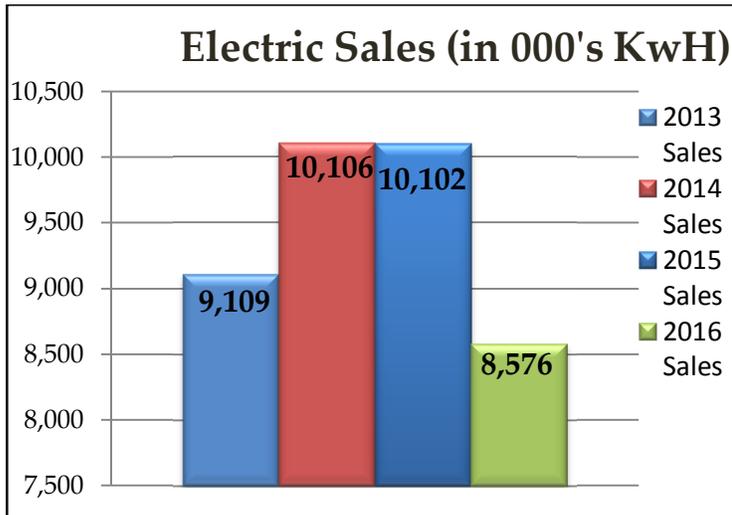
FUND	Description	Period Net Change	Account Balance
630 Waste Water			
Assets	Total Assets	85,897.50	23,238,965.55
	Cash and Investments	163,065.63	3,497,045.24
	Accounts Receivable	(31,253.53)	320,545.88
	Prepaid & Inventory	(2,619.58)	34,221.34
	Non-Current Assets	142.67	410,920.59
	Construction in Progress	0.00	361,632.85
	Capital Assets	0.00	27,811,941.54
	A/D Capital Assets	(43,437.69)	(9,197,341.89)
Liabilities	Total Liabilities	(8,737.30)	(5,664,140.77)
	Accounts Payable	2,927.19	(74,679.69)
	Non-Current Liability	1,491.68	(126,722.15)
	Debt Outstanding	(11,142.56)	(5,631,218.87)
	Deferred Resources	(2,013.61)	168,479.94
Fund Balance	Total Fund Balance	(77,160.20)	(17,574,824.78)
	Fund Balance	(77,160.20)	(17,574,824.78)
	Total Liabilities + Fund Balance	(85,897.50)	(23,238,965.55)

River Falls Municipal Utility

⚡ Electric Dashboard ⚡

For March 2016

Electric Sales

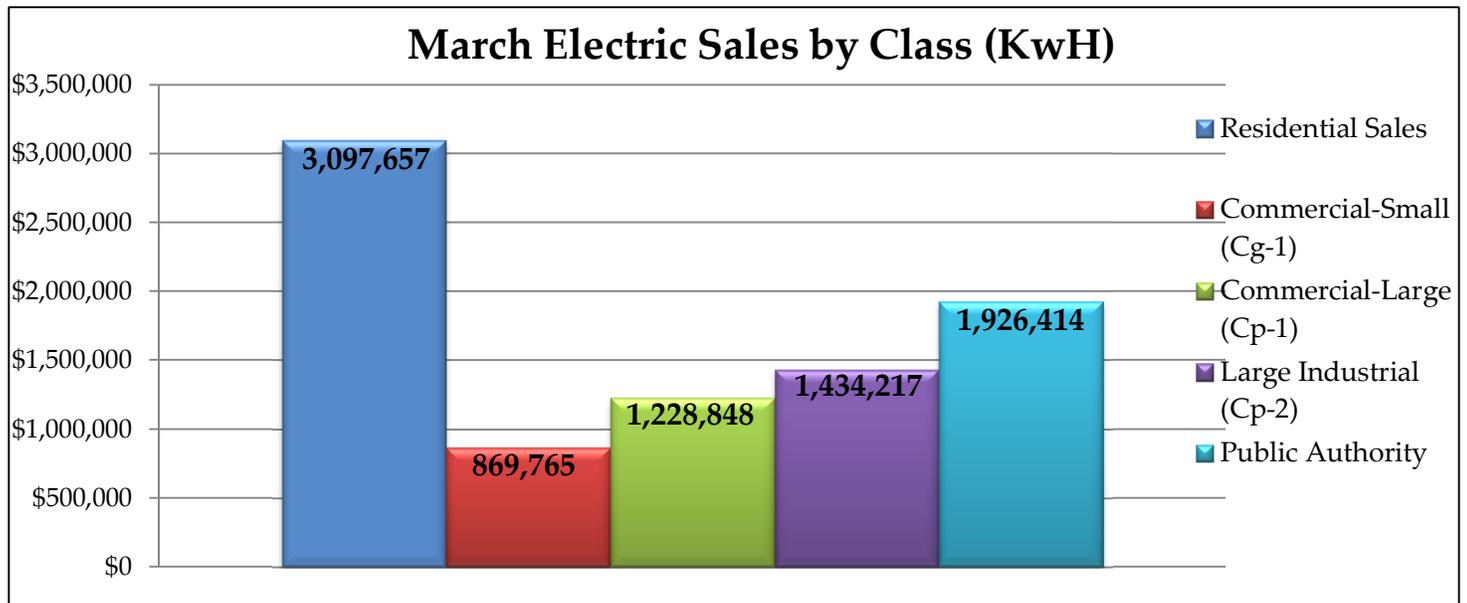


The Power of Community

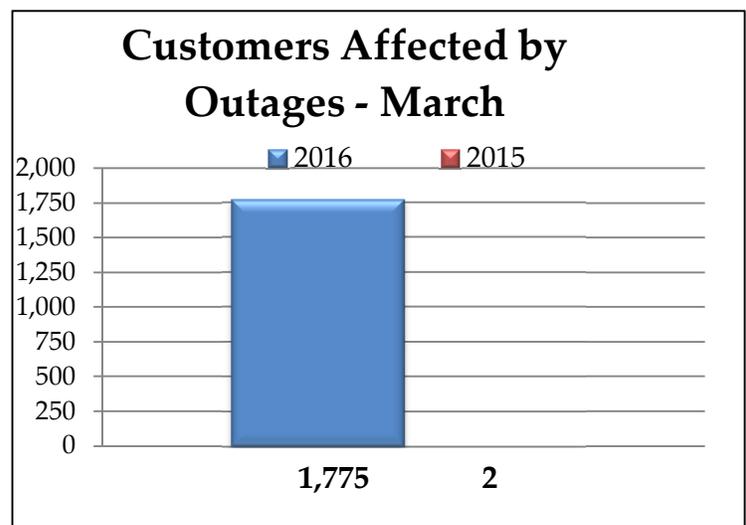
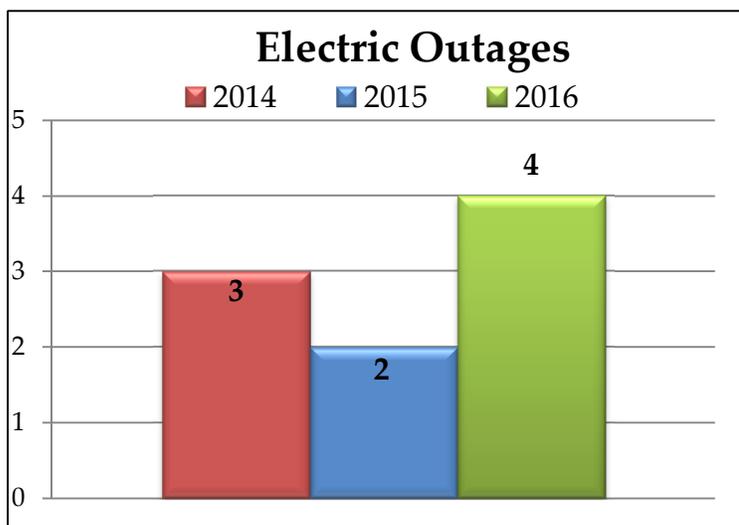
River Falls Municipal Utility

Electric Dashboard

For March 2016



Electric Outages



For more information please contact: Kevin Westhuis
(715) 426-3442 or kwesthuis@rfcity.org



River Falls Municipal Utility

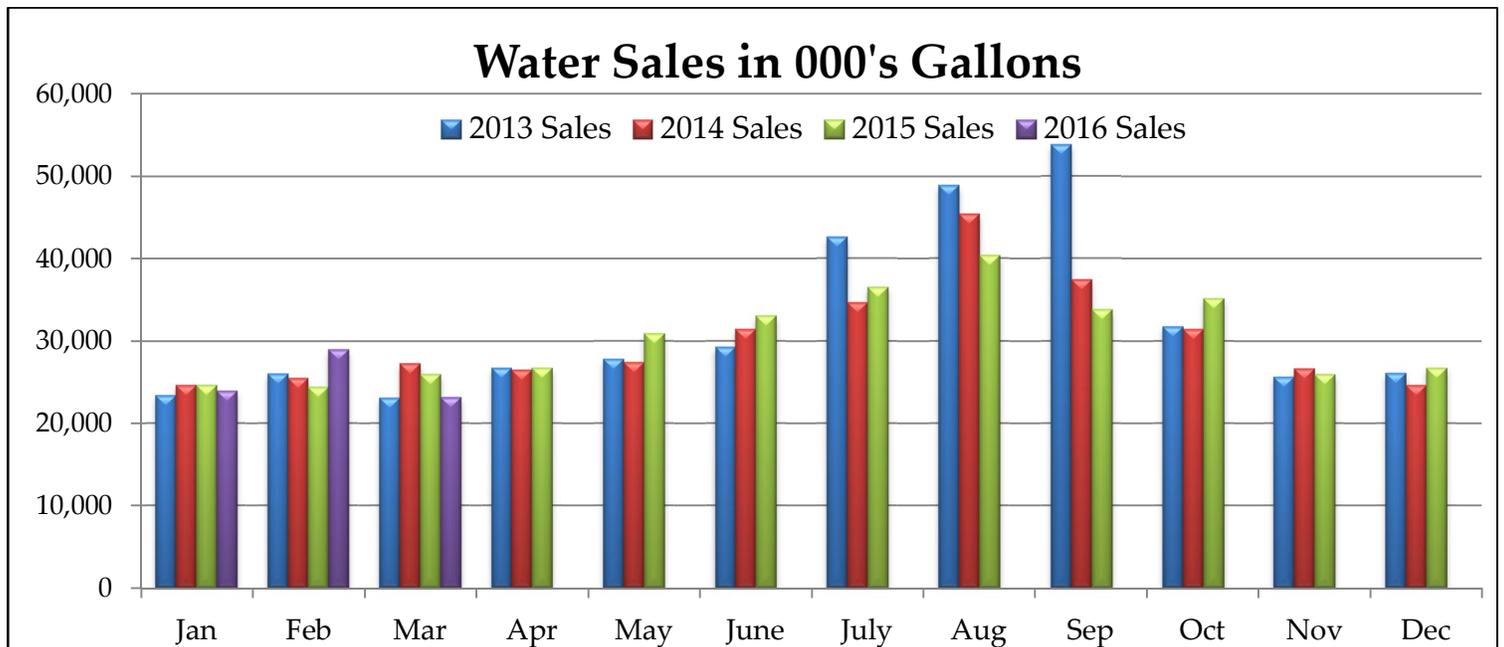
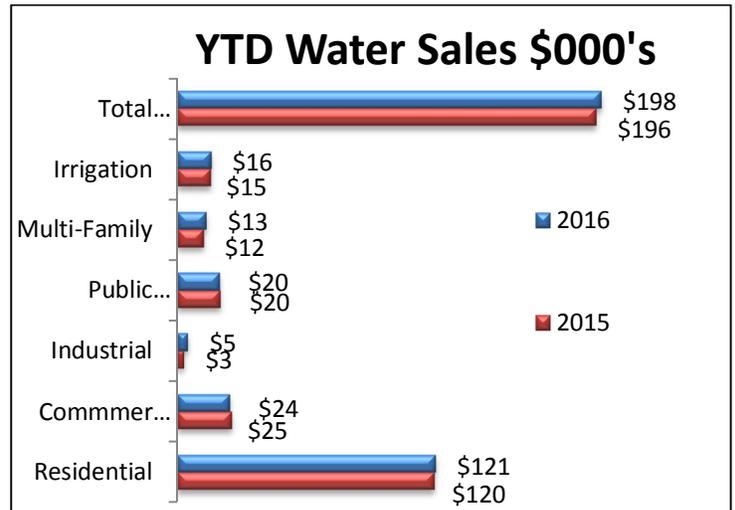
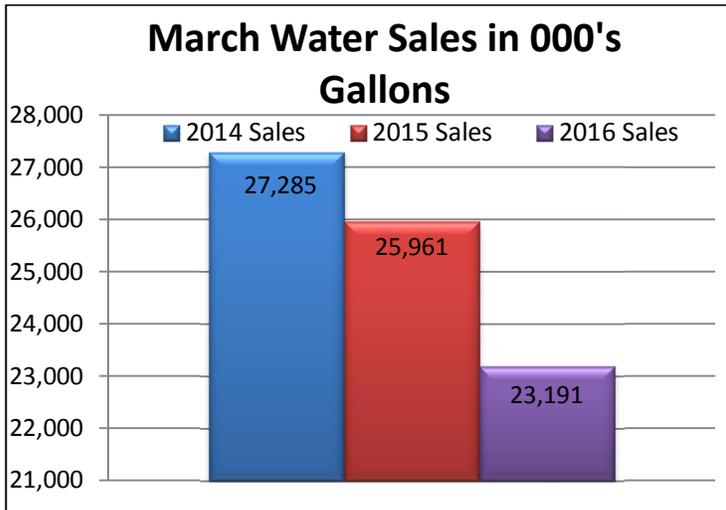


Water Dashboard



For March 2016

Water Sales



Providing a safe and reliable supply of high quality water to the River Falls community we serve.

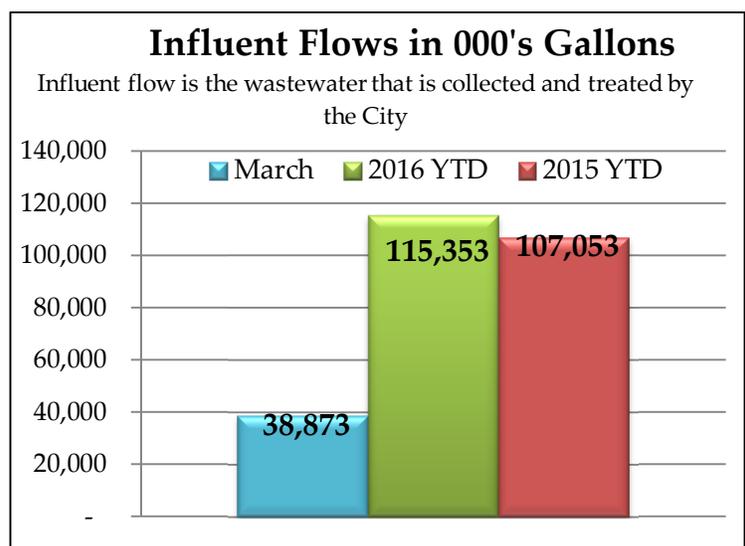
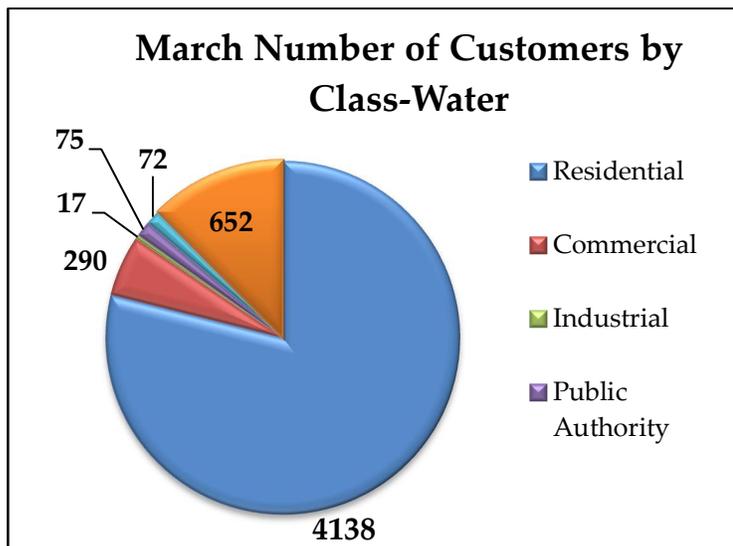
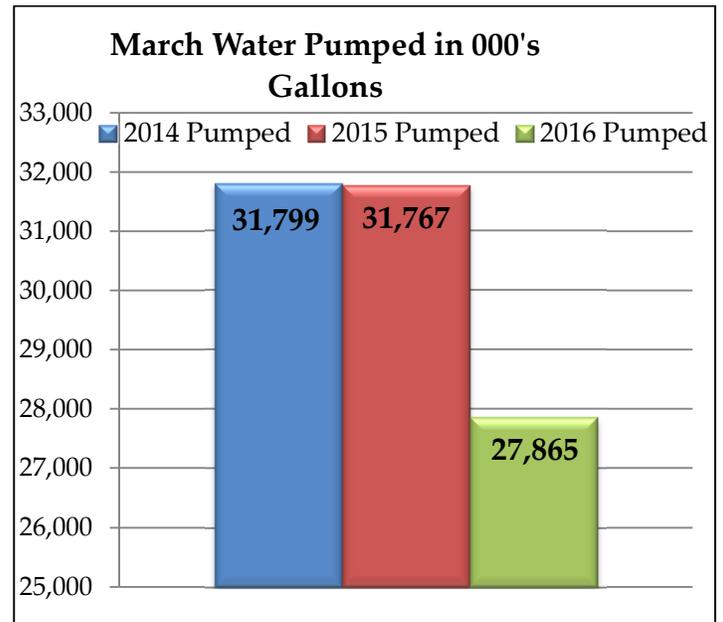
River Falls Municipal Utility



Water Dashboard



For March 2016



Used as a comparison between water pumped versus water treated.

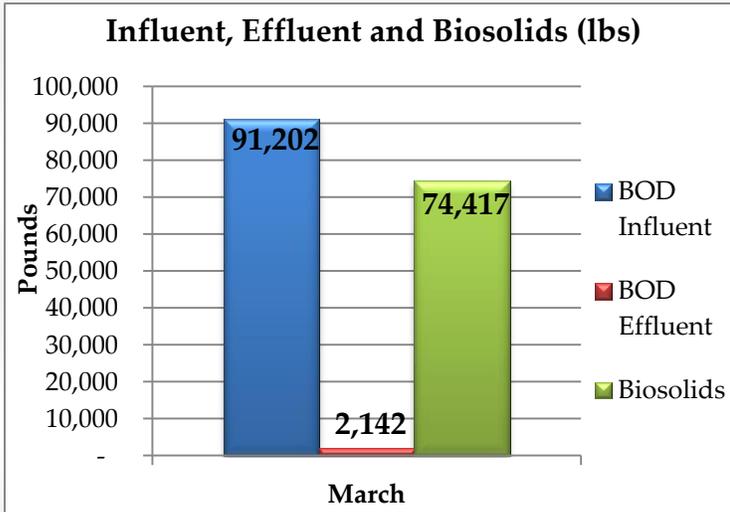


For more information please contact: Kevin Westhuis
 (715) 426-3442 or kwesthuis@rfcity.org

River Falls Municipal Utilities Waste Water Treatment Plant

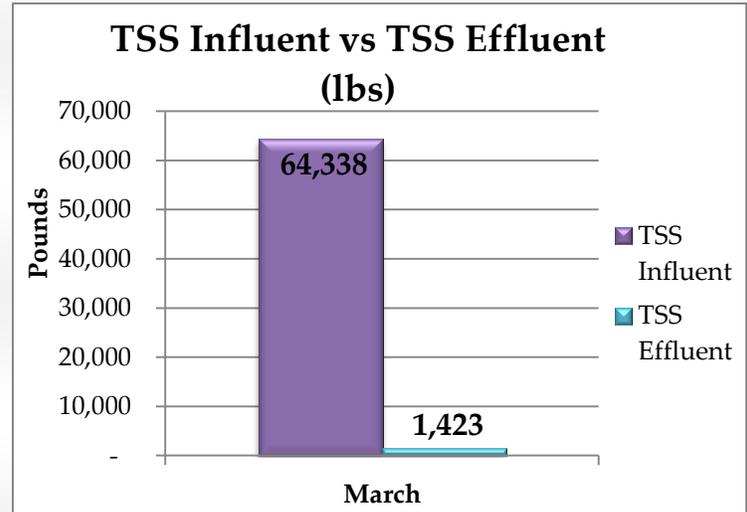
For March 2016

Influent, Effluent and Biosolids (lbs.)



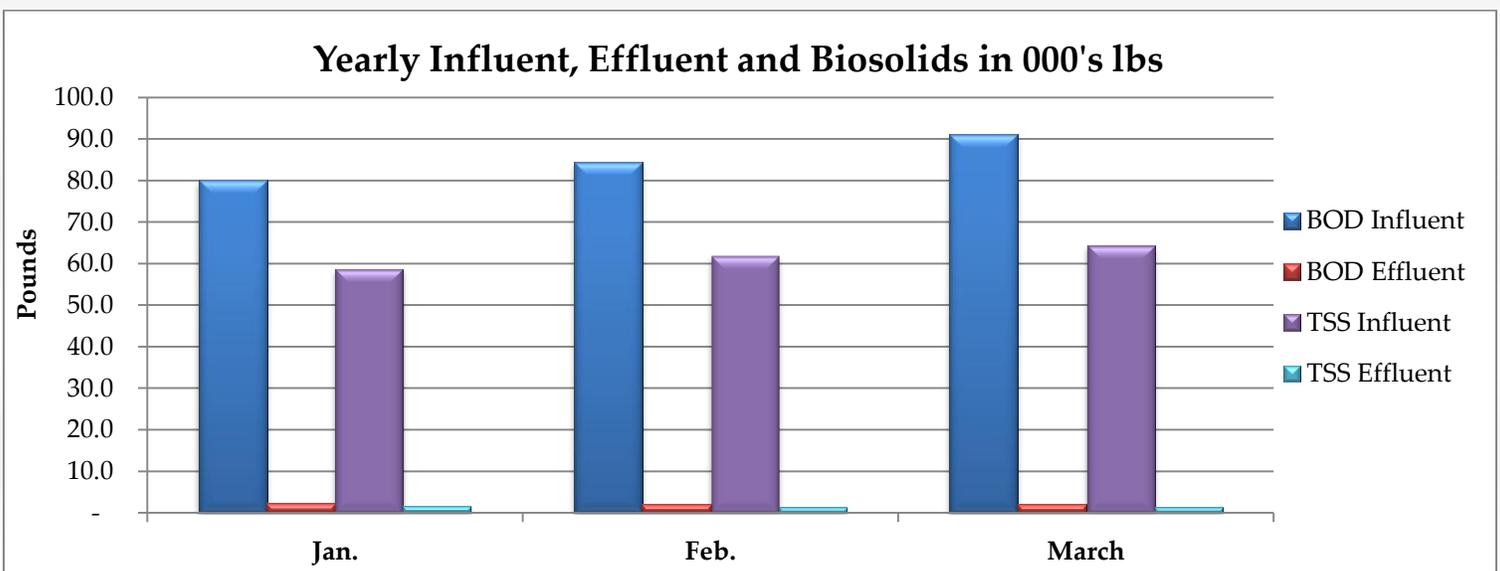
The Biochemical Oxygen Demand (BOD) Influent and BOD Effluent pounds represent pounds of oxygen needed for treatment.

TSS Influent vs TSS Effluent (lbs)



The TSS Influent and TSS Effluent represent the pounds of Total Suspended Solids entering the Waste Water Treatment Plant versus going out into the Kinnickinnic River.

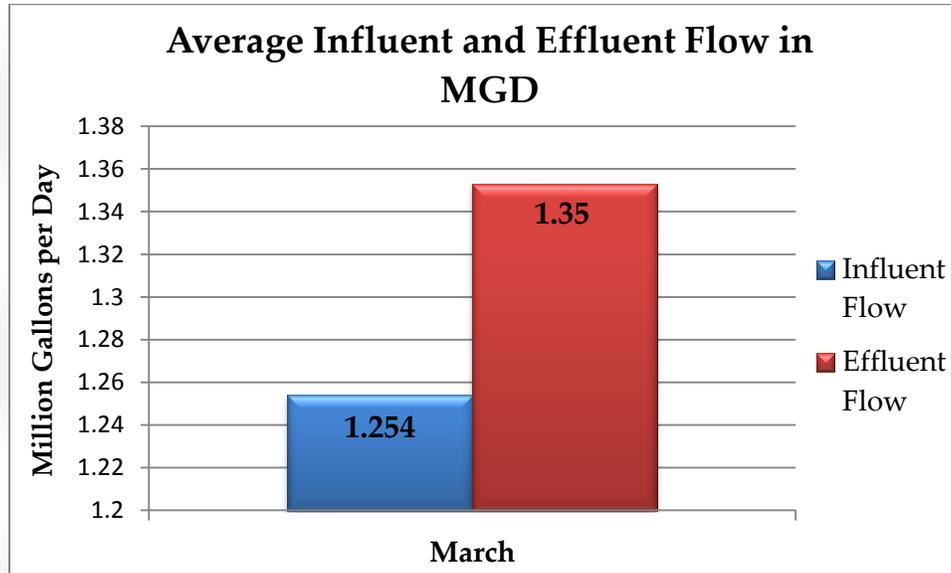
Yearly BOD and TSS Influent and Effluent (in 000's lbs.)



This graph represents the average monthly pounds of both BOD and TSS coming into the plant and being discharged at the plant's outfall into the Kinnickinnic River for the year 2016.

River Falls Municipal Utilities Waste Water Treatment Plant

Average Influent and Effluent Flow in MGD



This graph represents the average daily flow into the treatment plant as well as the average daily flow discharged into the Kinnickinnic River. The design flow for the Treatment plant is 1.8 million gallons per day (MGD).

WWTP Facts

Vocabulary:

BOD: Biochemical Oxygen Demand represents pounds of oxygen needed for treatment.

EFFLUENT: Water and waste flowing out of the Waste Water Treatment Plant.

INFILTRATION: to pass into or through (a substance) by filtering or permeating. Infiltration numbers are self-induced and not leak related.

INFLUENT: Water and waste flowing into the Waste Water Treatment Plant.

TSS: Total Suspended Solids are solid materials, including organic and inorganic, that are suspended in the water and have to be removed.

Did You Know....

- Excess bacteria removed from the Treatment Plant is called Bio-Solids which can be land spread or treated more to become a fertilizer or soil conditioner.

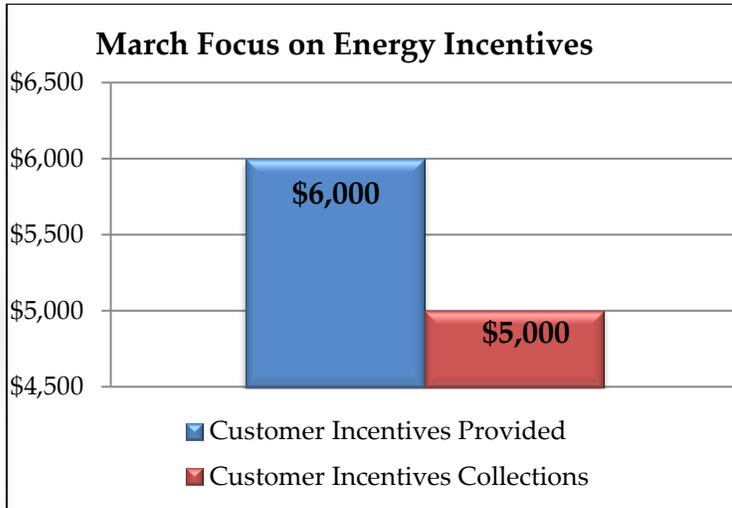


For more information please contact: Bill Swenson
(715) 426-3531 or wswenson@rfcity.org

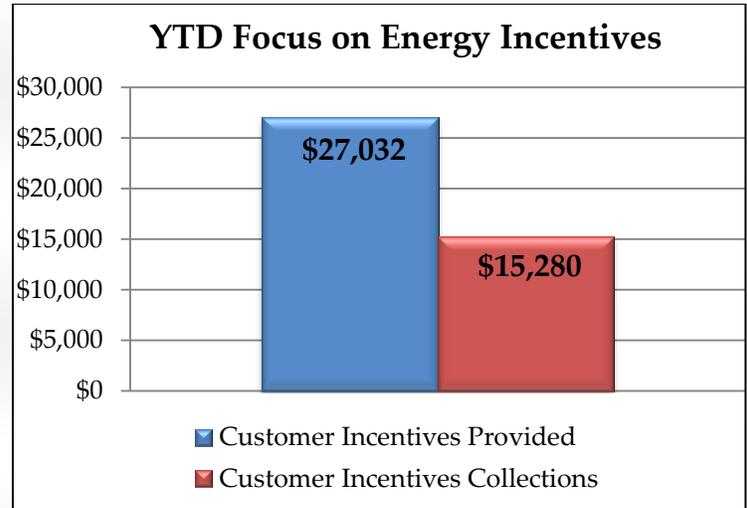
POWERful Choices! Dashboard

For March 2016

Focus on Energy Program

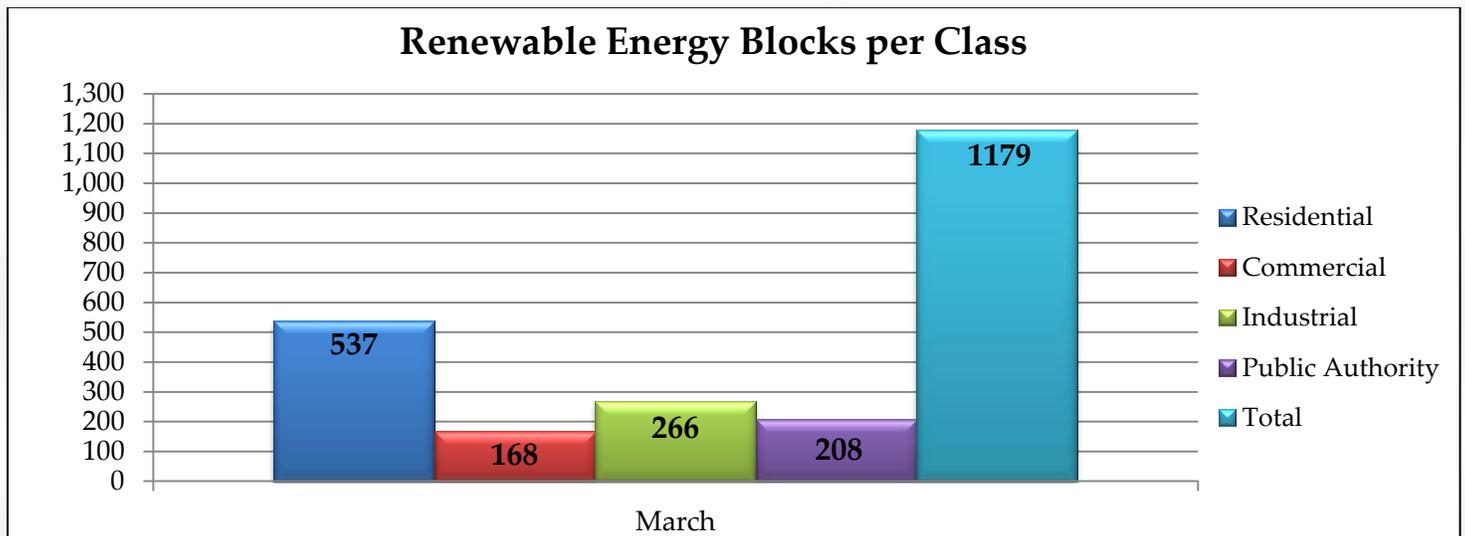


The total customer incentives provided for January compared to the customer incentives collections from Focus on Energy.



The year-to date customer incentives provided compared to the customer incentives collections from Focus on Energy.

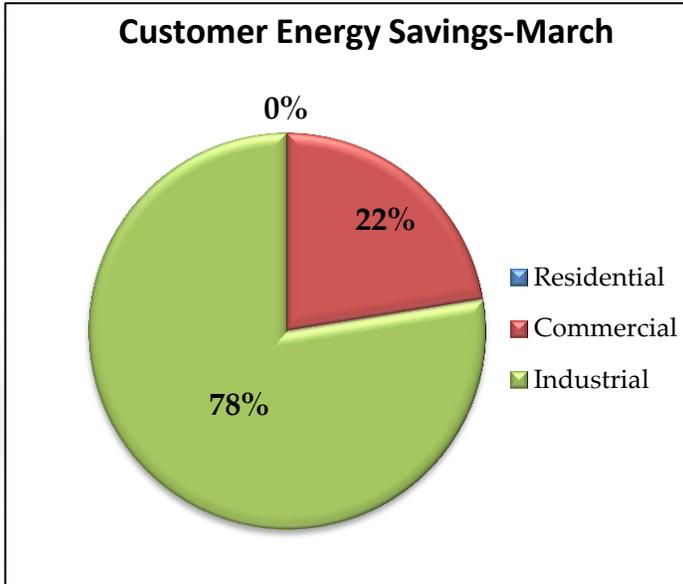
Renewable Energy Blocks



River Falls currently ranks 10th in the nation for customer participation and 2nd in Wisconsin. The 2016 goal is for River Falls to become first in the state. Renewable energy blocks are sold at \$3 for 300kWh of renewable energy. The goal is to reach 10 percent customer participation by December 2016.

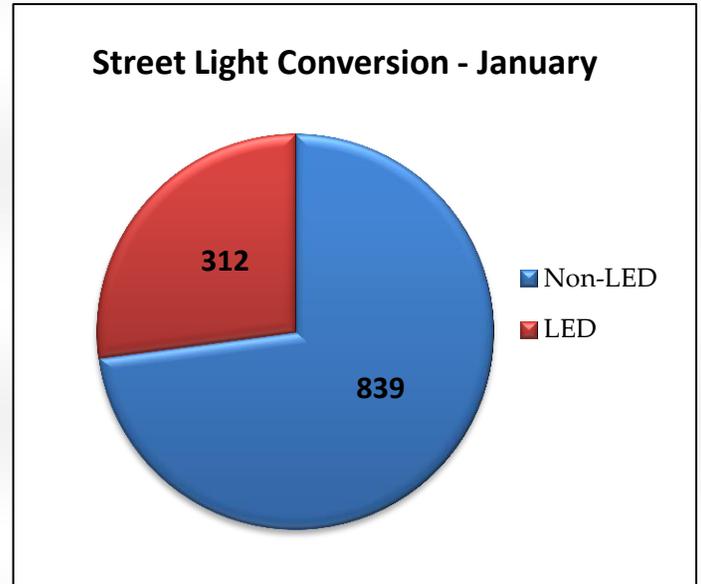
POWERful Choices! Dashboard

Energy Savings



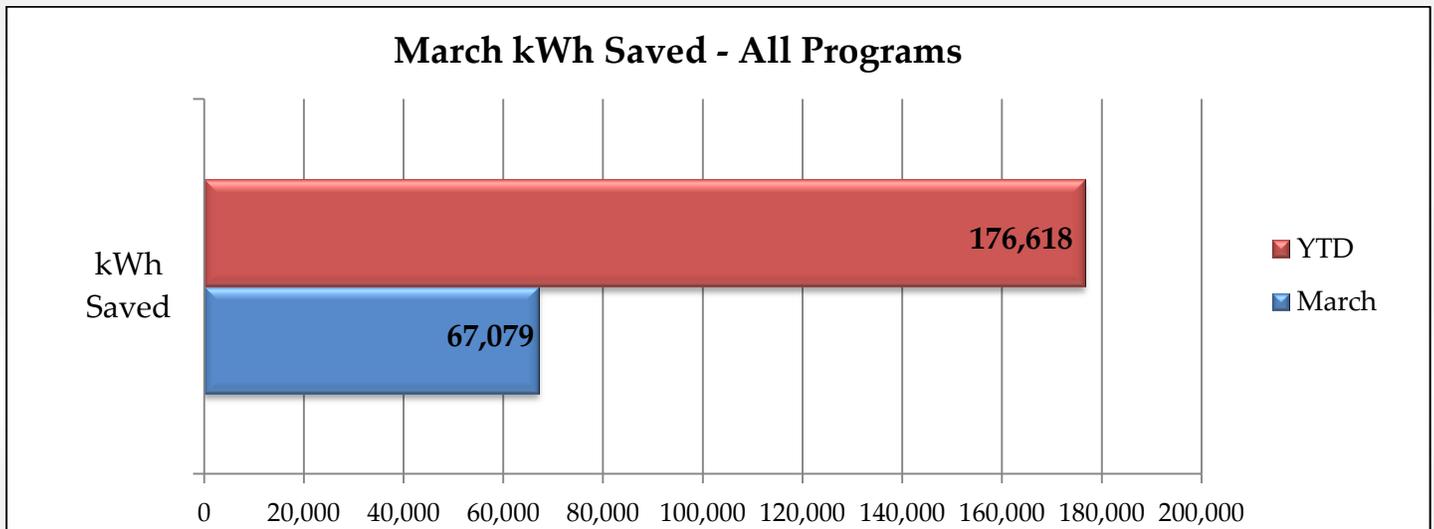
Monthly cumulative percentage of kilowatt hours saved per customer sector.

Street Light Conversion Program



This change is another example of our City leading by example in energy efficiency and environmental stewardship. The goal is to have 70 percent of the street lights converted to LED by 2018.

kWh Saved



Energy savings resulting from programs such as upgrades to lighting, motors, HVAC, variable frequency drives, and refrigeration. All customer sectors are included.

POWERful Choices! Dashboard



River Falls currently ranks 10th in the nation for customer participation and 2nd in Wisconsin. The 2016 goal is for River Falls to become first in the state. The current level of customer participation in Renewable Energy Blocks is 8.17 percent. The goal is to reach 10 percent customer participation.



River Falls Municipal Utilities Monthly Report

March 2016



ELECTRIC

- Maintenance repairs performed. This is maintenance work found through our required system inspections.
- Substation monthly inspections completed.
- The winter lateral fee for new underground services has been removed.
- Replacing street lights with LED fixtures. Repaired the ones we could replace with bulbs and photo eyes.
- Meter readings continue monthly with meter reads.
- Both Hydros's where taken down to rake/clean the intake and put back on line.
- Underground inspections are finished for this year.
- Started the 600 amp primary switch inspections and should be completed by March 31st.
- The seasonal lighting on Main Street has been taken down.
- Removed the Hunt Arena transformer for the Falcon Center Project.
- Hearing tests coming up.
- Finished burying all of the winter lateral services.
- Started work on the street light faults from over the winter.
- Tree trimmers have completed their trimming and will come back and finish up with any grinding of tree stumps.



RIVER FALLS WASTE WATER TREATMENT FACILITY

- Sludge storage ditch mixer # 3 failure on March 2nd. Unit needed rebuilding.
- Sludge ditch mixer #4 and mixer #4 electric motor failure both needed rebuilding. Both repaired and back on line on March 11.
- Received 15000 gallons of grease trap contents from UWRF (they were charged \$1755.00 for this service).
- Final assembly of main lift pump # 1 was completed on March 15th.
- Meeting with MSA and Myron construction representatives for a pre-construction meeting. Project on track for a mid-April start.
- Main lift pump # 1 initial startup and test run completed.
- Main lift pump #1 back online. This completes the upgrade of the main lift station and should provide the city with many years of service! Tom S. came down to plant and did a complete building evaluation of roofs, lighting, heating, doors and windows etc. to determine future costs of repair and maintenance needs at the plant.
- Remodeling in the lab. The dishwasher needs to be replaced due a leaking problem. Switching a couple of cabinets around in order to gain more usable counter space.
- Hosted a college tour with sustainability class on March 30th.



WATER/SEWER

- Work was done on right angle drive engine on well #4. It was tested and put back on line. This engine is for emergency running well #4.
- All first quarter sampling is done and all looks good and in compliance.
- Setting up routes for valve turning machine (spin doctor). We need to exercise about 600/year for the next 3 years to be in compliance with the DNR.
- Presented updates from water department to contractors at the yearly contractors meeting.
- Setting up intern program for summer help in the Water Department. Students in the water/wastewater programs need internships/on job time. This benefits both student and our need for summer help.
- Readjusting hydrant flushing schedule to work around Sycamore Tower painting project. Will be done after the tower is painted.
- Yearly maintenance of changing oil and greasing of the electric motors on all the wells is done and documented.
- Chemical use at the wells is down from previous years as we refine and reduce our additions. This also includes deliveries of bulk chemicals to no more than 60 days. This helps to keep chemicals from breaking down from age.
- General Engineering, the contracted company to perform cross connection inspections on C.I.P's will be starting in early April. This is the 3rd year of a 5 year contract.
- Incorporated new process of protecting our water service line curb stops during construction of residential homes; this is working out very well.
- All Cross Connection inspections at UW-River Falls have been completed for the 2016 compliance year by certified plumbers at the college. They have worked very well with us and should be given thanks to all included.

ENGINEERING TECH WORK

- Ten new home water/sanitary lateral inspections
- One water/sanitary lateral abandonment for home raising
- Presentation to UAB for 2016 Sanitary Lining project bid
- 2016 San lining docs ready and in duplicate for signature & mailed to Insituform
- Worked with Ron and Greg on updated water model
- Attended Utility mapping conference in Mankato
- Two plan reviews (Incubator building, & Cell tower in Whitetail Corp)
- Made sanitary cleaning map book
- Started work with Greg & Ron on updating of Utility Engineering Standards (ongoing project)
- Finalize the 2015 Sanitary Lining project with final PO. (Project closed)
- Attend Hearing Conservation training.
- Worked with group (Dave, Wayne, Greg, Angie, Crystal etc.) to put on the “Contractors Meeting” at West Wind – held on March 10th.
- Run electrical outage trace for Wayne & Kevin (weekend outage - 3/12)
- Continue to work on Infrastructure age
- Gave another ArcReader training session (LuAnn, Russ & Jennifer-PD)



CONSERVATION AND EFFICIENCY

- American Public Power Association
 - River Falls Municipal Utilities (RFMU) earned the 2016 Award of Continued Excellence (ACE) from the American Public Power Association's (APPA) Demonstration of Energy & Efficiency Developments (DEED) program.
 - A single award is given each year for all of the APPA members
 - RFMU won the award for the programs developed and implemented by POWERful Choices!
 - Mike Noreen and Keri Schreiner attended the APPA conference in Minneapolis on April 4th to accept the award
- Community Solar
 - Continuing to sell shares to the community
 - Currently 130 panels under contract
 - Created and presented a research poster on the Community Solar project at the St. Croix Summit
- Green Block Program
 - The City of River Falls customer participation rate continues to inch up, each new block puts us at a new record for customer participation
- Business Customers
 - Revised business incentive program was developed to match all Focus on Energy incentives that have electrical savings.
 - This was done to simplify and streamline the application process
 - A new, improved application was developed
 - We will not match natural gas incentive measures.
- Schools
 - Worked with maintenance staff on AMI software and map out a summer plan for energy efficiency measures at the high school
 - Student intern Hunter Henk continues to do an outstanding job with the Blue bike program. He will be job shadowing other departments in the coming weeks
 - Was a guest lecturer at the UW-River Falls and Chippewa Valley Technical College
 - Judged at the Westside School Science Fair
- Non profits
 - Met with UCC and St. Bridget's Church to further help become more sustainable.
 - LED light exchange at the United Church of Christ and St. Bridget's church, yet is available to any church in River Falls
 - This program is a result of the *Laudato Si'* encyclical
- Low Income program
 - The number of people requesting bill pay assistance is down from previous months and years
 - Currently working with Habitat for Humanity and St. Croix Energy Solutions to develop a weatherization program in River Falls in the summer of 2016

-
- Blue Bike program
 - The program to deliver a free bike share program to River Falls in 2016 is making good progress.
 - The Blue Bike program is a partnership between the City, UW-River Falls, Pierce County Health, Crank Worx bike shop, We Bike River Falls, the RFSD, and motivated citizens.
 - Blue Bike program launch:
 - April 22 at 5:30 at Veterans Park
 - Approximately 30 Blue Bikes will be available to ride a route from one station to the other.
 - The 4 stop route will include educational stops, snacks, and a water bottle
 - Utility Box Beautification project
 - Community Arts Base is currently taking application for the 4 utility boxes under consideration
 - The 4 sites include utility boxes in front of: The baseball stadium, safe house, Our neighbors place and the UW-River Falls campus
 - Committees
 - Forward Foundation
 - POWERful Choices!
 - Blue Bike Program
 - Green Teams
 - Healthy Foundations
 - UW-River Falls Sustainability Working Group



For February 1, 2016 – February 29, 2016

Move in applications = 108
New Access My Account = 73
Disconnected Services = 0
Reconnected Services = 0

As of **3-24-16** we had a total of 6680 Active utility Accounts.

Explanation

Move in applications - Customers that came into the office to sign up for service or submitted an online application. This information also would include new construction, customers new to River Falls, and customers moving within town. Anytime we need the meters read to end one account and begin a new account.

Access My Account – This is customers logging into the utilities E-Care for the first time. E-Care is an online utility dashboard where the customers can access their individual utility account to view information and make payments.

Disconnected – These are the number of services (electric or water) disconnected for non-payment and or properties in foreclosure with outstanding balances.

Reconnected – These are the number of services (electric or water) reconnected. Customers have paid, landlords have taken over, or new owner on foreclosed properties.