Department of Public Works

W240 N3065 Pewaukee Road
Pewaukee, WI 53072

DPW Main Office:	691-0804	Fax: 691-5729
Water and Sewer Division:	691-0804	Fax: 691-5729
Street Division:	691-0771	Fax: 691-6079
Engineering Division:	691-0804	Fax: 691-5729

PUBLIC WORKS COMMITTEE
MEETING NOTICE AND AGENDA
Thursday, December 7, 2017
6:00 PM

Common Council Chambers ~ Pewaukee City Hall
W240 N3065 Pewaukee Rd., Pewaukee, WI 53072
VIDEO

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1. Public Comment - Please limit your comments to 2 minutes, if further time for discussion is needed please contact your local Alderperson prior to the meeting.
2. Communications
3. Discussion and Action Regarding the Minutes
   - 3.1. Discussion and Action Regarding the Minutes of September 29, 2016
4. Old Buisness
5. Storm Water Management Division
   - 5.1. Hill n Dale Storm Water Flooding
   - 5.2. Discussion and possible recommentation regarding the Emerald Acres Alternative Analysis Report
6. Water and Sewer Division
   - 6.1. Discussion on the appointment of Jane Mueller as the Water & Sewer Utility Manager.
   - 6.2. Discussion and possible recommendation regarding the Sewer User Rate and implementation of a multi tier charge.
   - 6.3. Discussion of the financial status of the Water Utility.
   - 6.4. Discussion and possible recommendation of the Pewaukee Common Council becoming the Water Utility General Authority of PSC reporting purposes.
   - 6.5. Discussion and possible recommendation to implement the collection of water pipe special assessments from properties that have had the water system available for at least five years. This may involve conducting several public hearings on the special assessments.
   - 6.6. Discussion and possible recommendation to implement policies to extend municipal water infrastructure to properties only if the special assessments become payable within an established, consistent timeframe (suggest five years)
   - 6.7. Discussion and possible recommendation to establish a formalized reporting of water and sewer financials to the Common Council, or a committee of appropriate expertise in the

evaluation of the fiscal impacts of proposed projects prior to authorization.

6.8. Discussion and possible recommendation to establish a review of development proposals and the impact on the water utility prior to the approval of development at the Common Council.

6.9. Discussion and possible recommendation to authorize the Water and Sewer Utility to hire a financial consultant to assist the utilities in determining best financial practices and policies in operation of rate based Water and Sewer Utilities.

6.10. Discussion and possible recommendation to authorize staff to obtain proposals from consultants to prepare separate Water and Sewer Facility Plan.

7. Status Reports

7.1. City Hall Water Tower Update

7.2. Well 1 Radium Mitigation - Status

8. Engineering Division

9. Highway Division

10. Public Comment - Please limit your comments to 2 minutes, if further time for discussion is needed please contact your local Alderperson prior to the meeting.

11. Adjournment

Jeff Weigel
Director of Public Works

December 7, 2017

NOTICE

It is possible that members of other governmental bodies of the municipality may be in attendance to gather information that may form a quorum. At the above stated meeting, no action will be taken by any governmental body other than the governmental body specifically referred to above in this notice.

Any person who has a qualifying disability under the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible format must contact the DPW Main Office, at (262) 691-0804 by 12:00 p.m. the Tuesday prior to the meeting so that arrangements may be made to accommodate your request.

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 3.1.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding the Minutes of September 29, 2016

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

September 29, 2016

In attendance: Mayor, Scott Klein; Alderman, Jerry Wamser, Commissioners David Swan, and Jeffrey Tormey. Also present were Director of Public Works, Jeffrey Weigel, Asst. City Engineer, Maggie Wagner, Stormwater Engineer Richard Wirtz, and Admin. Asst. Renee Reed.

1. Call to Order and Pledge of Allegiance [Mayor Klein]

2. Public Comment:
Please limit your comments to 2 minutes, if further time for discussion is needed please contact your local Alderperson prior to the meeting.

3. Discussion and Action Regarding the Minutes - July 28, 2016
Motion by Tormey, second by Swan to approve the minutes as presented. Motion passed.

4. Old Business
   4.1. Discussion and possible action on the request of a resident for the City to establish a plan for removing all radium from the drinking water (Ald. Kara)
   J. *Tormey stated that he received an email from a resident about possibly receiving water from Milwaukee. There was a short discussion.*
   Item was tabled until the resident requesting the action could be present.

5. Communications
   5.1. Communication to the City Finance Committee and Common Council regarding the fiscal impacts of the Water and Sewer Utility on the City General Fund Revenue (Weigel 9/19/16)
   There was no action only discussion

6. Storm Water Management Division
   6.1. Hill n Dale Strom Water Flooding
   J. Weigel reported that the easement had been obtained and that they are continuing to work on the plans.

7. Water and Sewer Division
   7.1. Status Reports
      7.1.1. City Hall Water Tower Update
      7.1.2. Well #1 Radium Mitigation
         a. Status of Pilot Study
         b. Discussion and possible recommendation on the selection of the Hydrous Manganese Oxide (HMO) as preferred removal process
      7.1.3. Discussion and possible recommendations regarding the preparation of and processing of sewer and water special assessment information.
         a. Response to special assessment payment inquiries
         b. Development of templates for water assessments that may include deferments.
         c. Development of templates for sanitary sewer assessments that may

include deferments.

8. Engineering Division
   - 8.1. See 7.1.3 a, b, and c
   - 8.2. Discussion and possible recommendation on the City accepting the dedication of the parcel of land in the northeast corner of CTH F & Lindsay Road for stormwater purposes.
     Motion by J. Wamser, second by J. Tormey to recommend to the Common Council that the City accept the dedication of the parcel of land in the northeast corner of CTH F & Lindsay Road for stormwater purposes.

9. Highway Division
   - 9.1. Status of 2017 Recycling Program
     There was discussion but no action.

   - 9.2. Discussion and possible recommendation on the request of Johns Disposal to restructure the garbage and collections contract and provide for City-wide spring special collections.
     Motion by J. Wamser, second by J. Tormey to recommend to the Common Council to keep the current contract. Motion passed.

10. Public Comment:
    Please limit your comments to 2 minutes, if further time for discussion is needed please contact Jeffrey Weigel, Director of Public Works prior to the meeting.

11. Adjournment

Respectfully Submitted,
Renee S. Reed
Admin. Asst.

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 5.1.

DATE: December 7, 2017

DEPARTMENT: PW - Stormwater

PROVIDED BY:

SUBJECT:

Hill n Dale Storm Water Flooding

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

wetland delineation

E 95136-2 300 3000

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 5.2.

DATE: December 7, 2017

DEPARTMENT: PW - Stormwater

PROVIDED BY: Jeffrey Weigel, Public Works Director

SUBJECT:

Discussion and possible recommentation regarding the Emerald Acres Alternative Analysis Report

BACKGROUND:

The flooding of the Emerald Acres area development (Green Road) has been an ongoing study for over five years. Complications have arisen due to issues with the railroad crossing and the discovery of pipes in-place downstream that were apparently constructed in areas where a DNR per would have been required. In 2017 our consultant conducted an analysis of the viable alternatives, a task necessary should the City seek DNR permitting and allowance of the previous pipe construction.

FINANCIAL IMPACT:

This project has grown in cost, currently budgeted at $1.85 M in the 2018 budget. The viable alternative vary from $2. M to $13 M.

RECOMMENDED MOTION:

Public Works Committee recommends to the Common Council that the City submit the Emerald Acres alternatives analysis with a permit seeking our original plan at $2,040,636.

ATTACHMENTS:

Description

Draft Alternative Analysis

Draft November 2017

City of Pewaukee

Emerald Acres FloodMitigation Alternatives Analysis

Introduction

The significant rain events in 2008, 2009, 2010 and 2015 in the City of Pewaukee have demonstrated the level of development in the area of Emerald Lane and Green Road has outpaced the capacity of the existing storm water management systems to effectively convey the excess runoff. This lack of capacity leads to excessive ponding within Wagner Park, periodic overtopping of Green Road, standing water in Emerald Lane and basement flooding in the Emerald Acres Condominium development. Resident complaints in addition to observations by City Staff led to the initiation of a flood study to provide possible alternatives to mitigate the flooding problems within this area.

Background

The study area lies within the southern half of Section 11 and the northeast quarter of Section 14, Township 7 North, Range 19 East, in the City of Pewaukee, Waukesha County, Wisconsin. More generally, the study area is bounded by Capitol Drive to the north, Redford Boulevard to the east, Pewaukee Road to the west and the Canadian Pacific Railroad to the south. The study area is comprised predominately of single family and multi-family residential development along with recreational land uses. Storm water management systems servicing the area consist of curb and gutter streets and storm sewers in conjunction with various wet detention facilities. Storm water for the study area drains to a small un-named tributary of the Fox River which begins on the south side of Green Road, west of Emerald Lane, and flows south and west to a an irregular shaped concrete culvert crossing (approximately 4.5 feet high x 4.5 feet wide) under the Canadian Pacific Railway dual tracks. Flow is conveyed south through the culvert, then west in a ditch to an existing 54 inch concrete storm sewer which conveys the stream flows around the Gustave Larson property (west and south) to a manmade open channel which flows south through a culvert under Paul Road to a manmade detention pond on the Waukesha Gun Club Property, through the Gun Club property, across Watertown Road and Redford Boulevard, before ultimately discharging to the Fox River.

The drainage area to the culvert crossing Green Road, and discharging to the un-named tributary, is approximately 240 acres and the area tributary to the culvert crossing the Canadian Pacific Railway is roughly 263 acres.

The rainfall events of June 7 to 9, 2008, and June 18 to 20, 2009, brought observed rainfall amounts of approximately 7.9 inches and 6.2 inches, respectively, to the study area. These events caused considerable flooding to the study area with reports of flooded basements within the Emerald Acres Condominium development and the Five Fields subdivision. The existing 38 x 60 inch corrugated metal culvert beneath Green Road was submerged, resulting in overtopping of the roadway. The waterway in between the Canadian Pacific Railway and Green Road flooded beyond its banks and into Emerald Lane. Storm water inundating Wagner Park and the various storm water management ponds within the park and the Five Fields Subdivision backed up into homes.

The rainfall event of July 14 to 15, 2010, brought an observed rainfall total of approximately 4.7 inches to the study area which again led to flooding within Wagner Park and bank full conditions within the stream between Green Road and the Canadian Pacific Railway. This repeated itself again on April 9 and 10, 2015 after approximately of 2.7 inches of rainfall was observed over the study area.

In 2010 the City authorized its consultant, AECOM, to undertake a study of the drainage area to identify potential deficiencies in the storm water management system resulting in the flooding problems within the study area and to provide recommendations to resolve those deficiencies found. The study conducted by AECOM is attached as Appendix A. The study identified two primary sources for the flooding within the region: first, the culvert underneath the Canadian Pacific Railroad had insufficient capacity to pass the runoff from the 100 year storm event; and second the 54 inch storm sewer downstream of the railroad

crossing also had insufficient capacity. The reduced capacity at each location served to raise the water surface elevations within the upstream reaches by more 2 feet, thereby inundating portions of Emerald Lane, Wagner Park and portions of Five Fields. The study determined the potential water surface elevation within the stream adjacent to the Emerald Acres Development during the 100 year storm event would exceed the elevations of the basement window sills of three of the condominiums, resulting in structure flooding.

Alternatives Considered Under the AECOM Study

Storm Water Detention

Detaining storm water runoff can be an effective means of reducing the peak rate of runoff from an upstream area. By doing so, undersized downstream drainage facilities may be better able to adequately convey the flows. Detention is provided by creating areas where storm water runoff can be stored for long periods of time while downstream facilities are allowed to slowly convey the storm water runoff out of the system.

The study area already contains a number of existing private and public ponds. AECOM, as a part of its analysis looked at expanding detention within the existing Five Fields storm water ponds as well as the existing ponds in Wagner Park. The modelling of the considered options indicated there was not enough additional storage gained within the park or the existing subdivision to reduce peak discharges enough to lower the water levels in the downstream system. Additionally, the increased storm water volume stored within the park or the subdivision served to exacerbate flooding within those areas. Therefore, detention storage was ruled out as a viable alternative.

Floodproofing

Floodproofing is a means of reducing the potential for a structure to be damaged during a flood event. Typical flood proofing approaches include: elevating the structure above a specific (i.e. flood) elevation; relocating the structure outside of the flood prone area; constructing barriers such as flood walls or levies to protect the structure from flood waters; and structure modifications to either seal out flood waters (dry floodproofing) or to safely allow water in with minimal damage to structure or contents (wet floodproofing).

Floodproofing of the affected structures in Emerald Acres was ruled out as a viable alternative as the measures would not be comprehensive in nature. In other words, floodproofing measures would not address flooding of streets, yards and the City park as well as the resultant damages there from or emergency access issues due to flooded streets. Additionally, floodproofing is effective only to the flood event for which it was designed. Consequently, the structure could still be damaged should flood waters exceed the depth the floodproofing measure was designed.

Acquisition

Structures which incur significant or repetitive flood damages with no feasible or affordable means of relief, are good candidates for subsequent purchase and removal of the structure by the local municipality. Property acquisition is typically an alternative of last resort. Like floodproofing, this option would not alleviate the other flooding issues within the study area. Unlike floodproofing, this option is a viable solution for resolving flood damages to structures. Although not considered as an alternative solution under the AECOM study, this alternative was considered during the planning process. The study identified three structures between the stream and Emerald Lane which incurred flood damage during the 2008 storm event. The structures (W232 N3077, W232 N3043, and W232 N3021) are two unit condominiums with an average estimated fair market value of $241,750.00 per unit.

Conveyance

Storm water conveyance alternatives generally look to increase the size or available open area of a conduit or channel in order to move large volumes of runoff through or out of a given area. The AECOM study looked at the impacts of implementing individual conveyance system upgrades individually to determine their impacts of the overall system. They then combined the individual upgrades into a cohesive, comprehensive plan. System components that were looked at consisted of: increasing the size of the Green Road cross culvert; increasing the depth and width of the stream in between Green Road and the Canadian Pacific Railway; installation of additional culverts under the Canadian Pacific Railway; and construction of an additional storm sewer downstream of the railroad crossing.

Increasing the capacity of each of the system components by themselves would not significantly reduce the extent of the flooding within the study area. However, if taken as a whole, the water surface elevation attributable to the 100 year storm event would be reduced approximately 2 feet in the Emerald Acres area thereby precluding flooding of Emerald Lane and the condominiums adjacent to the un-named tributary. The only system component which was not recommended to be modified was the stream between Green Road and the Canadian Pacific Railway which was found to have adequate capacity.

The recommended alternative proposed by AECOM is shown in Figure 20 of the study in Appendix A. The recommended alternative called for: replacing the existing 36 x 60 inch corrugated metal arch pipe under Green Road with approximately 67 foot long, 3 x 6 foot concrete box culvert; installing an additional 72 inch diameter concrete culvert (approximately 60 feet) under the Canadian Pacific Railway; and installing approximately 1200 feet of new 48 x 76 inch storm sewer from the railroad right-of-way, south to Roundy Circle, along Roundy Circle and daylighting at an existing drainage ditch leading back to the un-named tributary.

The City decided to pursue this alternative in spring of 2012 and authorized its engineer to start the design of the project and acquire the necessary approvals from the Canadian Pacific Railway. Through the approval process with the railroad and discussions with affected business owners along Roundy Circle, the design of the recommended alternative was revised to include:

- 3 proposed 60 inch corrugated metal pipe culverts (approximately 90 feet each in length) under the Canadian Pacific Railway in addition to the existing culvert. (This replaces the previously proposed 72 inch diameter culvert.)
- Replacing the existing 36 x 60 inch corrugated metal arch pipe under Green Road with approximately 67 feet of 3 x 6 foot concrete box culvert, and
- Installing approximately 1100 feet of new 60 inch reinforced concrete storm sewer parallel to the existing 54 inch concrete storm sewer on the Gustave Larson property. (This replaces the previously proposed 1200 feet of 48 x 76 inch storm sewer.)

This revised conveyance alternative is shown on Figure 1.

The storm sewer component was revised over the study layout after conversations with representatives of the Gustave Larson property and their concerns regarding disruption of operations during installation of the storm sewer across their driveway. As an existing 100 foot drainage and utility easement already existed around the facility, it made sense to relocate the proposed storm sewer to this area. The number of culverts beneath the Canadian Pacific Railway increased due to limitations on the separation distance required between the bottom of the steel rails and the top of the casing pipe (there for two 60 inch culverts were required versus one 72 inch culvert). Additionally, the railroad wanted the City to take over the maintenance responsibilities/ownership for the existing, 100 year old culvert. Rather than take responsibility and liability for an aging structure with an unknown maintenance record, the City opted to install an additional new culvert (bringing the total number of new culverts to three).

A meeting was held in December 2014 between staff of the Wisconsin Department of Natural Resources, the City of Pewaukee and the City's consultant AECOM. At that time it was determined that the existing storm sewer on the Gustave Larson parcel was never permitted and likely would not have been allowed as it represented an enclosure of a navigable waterway. Therefore, it would be unlikely that installing an additional parallel storm sewer would be permitted. Consequently, the City investigated three additional conveyance options under this project.

The first option would be to remove the existing 54 inch concrete storm sewer and replace it with on open channel large enough to convey the anticipated flows for the 100 year storm event (see Figure 2). The new channel would generally be contained within the existing drainage easement, but would require some temporary grading easements. The second option, shown on Figure 3, would be to purchase the Gustave Larson property in total, remove the existing building and infrastructure, abandon the existing 54 inch concrete storm sewer and install a new channel (generally following the historic channel alignment) through the property to connect into the existing channel in the southwest comer of the property. The third option, shown on Figure 4, would be to be similar to Option 2, however the existing Gustave Larson facilities and the existing storm sewer would be left in place. The channel would be built to carry the flows from more frequent storms while allowing large events to flow through both the existing storm sewer and the new channel. This option would require the addition of a 60 inch driveway culvert as well as some parking replacement. A benefit to this option would be the ability to downsize one of the railroad crossing culverts from 60 inches to 54 inches.

Costs of Alternatives Considered by the City

An opinion of probable cost has been compiled for each of the alternative solutions investigated during the development of this project. As this project has been in development over a number of years, with construction cost estimates having been prepared by different project engineers at different times, we have made an effort to bring the estimates up to date and to keep costs for similar components consistent from alternative to alternative. This should provide a reasonable cost comparison of each alternative. It is important to note that a component of each of the conveyance type alternatives has already been installed as a part of the City's Green Road Project, in year xxxx. This component was the 3x5 foot concrete box culvert and large box inlet which conveys runoff from the north side of Green Road to the head waters of the navigable waterway on the south side of Green Road. The culvert was installed at that time as the City was intending to move forward with the primary conveyance alternative; to take advantage of costs savings by incorporating the work into a larger project; and to prevent having to re-open a newly reconstructed roadway. The construction cost for the concrete box culvert, headwalls, box inlet and inlet frame and grate was $73,000.

The acquisition of the three condominium buildings was considered during the development of the project. As described earlier, acquisition of flood prone structures is an effective tool in reducing costs due to repetitive flood damages. The estimated cost to acquire, remove and restore the land associated with the three buildings is estimated to be approximately $3,149,838.00 and is detailed in the Table 1 below and Figure 5. The area occupied by the existing buildings would be restored with a lawn type turf to match in to the surrounding landscape.

Table 1 - Acquire and Remove 3 Condominium Buildings

Description	Units	Cost per Unit	Cost
Acquisition and Relocation Costs for 6 Condominium Units/3 Buildings	6 condominium units	$415,640 per unit	$2,493,840
Demolition of Buildings	3 buildings	$41,125 per building	$123,375
Pavement Removal	1 LS	$1850	$1,850
Restoration (lawn turf)	1 LS	$5800	$5,800
Subtotal			**$2,624,865**
20% Contingencies			$524,973
Total Estimated Cost			**$3,149,838**

The primary or initial conveyance alternative described previously would consist of increasing the capacity of the crossing underneath the Canadian Pacific Railway and the installation of a 60 inch diameter parallel storm sewer within the existing 100 foot drainage easement around the Gustave Larson property. The estimated cost of this alternative is approximately $2,040,636.00 and is shown in Table 2 below.

The second conveyance alternative would be to increase the capacity of the crossing underneath the Canadian Pacific Railway and to remove and replace the existing 54 inch downstream storm sewer with an open channel. The open channel would follow the same alignment as the current storm sewer, be roughly 10 feet wide with a 0.5 foot, v-notch invert. Side slopes would be 3 feet horizontal to 1 foot vertical. The estimated cost of this alternative is approximately $2,195,304.00 and is detailed in Table 3.

The third conveyance alternative would consist of increasing the capacity of the crossing underneath the Canadian Pacific Railway, the abandonment of the existing 54 inch storm sewer, and the purchase and removal of the Gustave Larson facility for the purposes of reconstructing the channel in its relative historic alignment. The new channel would be roughly 8 feet wide with a 0.25 foot deep, v-notch invert. The channel side slopes would be 3 feet horizontal to 1 foot vertical. The remainder of the open property when completed would be restored with native type grasses which accounts for the higher restoration cost. The estimated cost of this alternative is approximately $13,107,072 .00 and is detailed in Table 4.

The fourth conveyance alternative would consist of many of the same elements as the third conveyance alternative, with the exception that the Gustave Larson business would remain and a small storm channel would be built to the south of the facility leaving the existing 54 inch diameter storm sewer to remain to provide increased large storm capacity. Land would have to be acquired from the existing business to construct the new channel. The new channel would be approximately 6 feet wide with a 0.25 foot deep, v-notch invert. The side slopes of the new channel would be 3 feet horizontal to 1 foot vertical. A benefit of this configuration is that one of the crossing culverts beneath the Canadian Pacific Railway will be able to be reduced from 60 inch to 54 inch. The estimated cost of this alternative is approximately $2,251, 128.00 and is detailed in Table 5.

Table 2 Install New Railroad Culverts and 60 inch Parallel Storm Sewer

Description	Units	Cost per Unit	Cost
3 New 90 foot long, 60" Dia. CMP Culverts Bored Beneath Railroad	270 lineal feet	$3,502 per lineal foot	$945,540
Launch Setup/Crane Pad/Crane Rental	1 LS	$51500 per LS	$51,500
Reinforced Concrete Endwalls at Culvert Crossing	2 each	$41,200 per each	$82,400
Grading and Rip rap at the Culvert Crossing	1 LS	$46,350 per LS	$46,350
Railroad Flagging	1 LS	$75,190 per LS	$75,190
Clearing and Tree Trimming in Easement	1 LS	$30,900 per LS	$30,900
60" Dia. RCP Parallel Storm Sewer	1100 lineal feet	$309 per lineal foot	$339,900
60" End-sections and Storm Manholes	1 LS	$30,900 per LS	$30,900
Surface Restoration	1 LS	$25,750 per LS	$25,750
Mobilization	1 LS	$72,100 per LS	$72,100
Subtotal			**$1,700,530**
20% Contingencies			$340,106
Total Estimated Cost			**$2,040,636**

Table 3 Install New Railroad Culverts and Remove/Replace Existing 54 inch Storm Sewer with Open Channel

Description	Units	Cost per Unit	Cost
3 New 90 foot long, 60" Dia. CMP Culverts Bored Beneath Railroad	270 lineal feet	$3,502 per lineal foot	$945,540
Launch Setup/Crane Pad/Crane Rental	1 LS	$51500 per LS	$51,500
Reinforced Concrete Endwalls at Culvert Crossing	2 each	$41,200 per each	$82,400
Grading and Rip rap at the Culvert Crossing	1 LS	$46,350 per LS	$46,350
Railroad Flagging	1 LS	$75,190 per LS	$75,190
Clearing and Tree Trimming in Easement	1 LS	$30,900 per LS	$30,900
Excavation, Grading & Material Disposal	28,400 cubic yards	$15 per cubic yard	$426,000
Landscaping & Restoration (channel)	10,770 square yards	$8 per square yard	$86,160
Channel Bottom Stone	108 cubic yards	$60 per cubic yard	$6,480
Rip rap for channel	170 square yards	$40 per square yard	$6,800
Mobilization	1 LS	$72,100 per LS	$72,100
Subtotal			**$1,829,420**
20% Contingencies			$365,884
Total Estimated Cost			**$2,195,304**

Table 4 Install New Railroad Culverts and Acquire Gustave Larson Property, Abandon Existing Storm Sewer and Construct New Channel

Description	Units	Cost per Unit	Cost
3 New 90 foot long, 60" Dia. CMP Culverts Bored Beneath Railroad	270 lineal feet	$3,502 per lineal foot	$945,540
Launch Setup/Crane Pad/Crane Rental	1 LS	$51500 per LS	$51,500
Reinforced Concrete Endwalls at Culvert Crossing	2 each	$41,200 per each	$82,400
Grading and Rip rap at the Culvert Crossing	1 LS	$46,350 per LS	$46,350
Railroad Flagging	1 LS	$75,190 per LS	$75,190
Clearing and Tree Trimming in Easement	1 LS	$30,900 per LS	$30,900
Excavation, Grading & Material Disposal	12,000 cubic yards	$15 per cubic yard	$180,000
Landscaping & Restoration (channel)	7,970 square yards	$8 per square yard	$63,760
Channel Bottom Stone	117 cubic yards	$60 per cubic yard	$7,220
Rip rap for channel	170 square yards	$40 per square yard	$6,800
Building Acquisition	1 LS	$8,563,380 per LS	$8,563,380
Building, Concrete and Pavement Removal	1 LS	$308,890 per LS	$308,890
Restoration of Building and Pavement area with Native Seeding	1 LS	$486,730 per LS	$486,730
Abandon Existing Storm Sewer/Seal Ends	2 ea	$1,000 per each	$2,000
Mobilization	1 LS	$72,100 per LS	$72,100
Subtotal			**$10,922,560**
20% Contingencies			$2,184,512
Total Estimated Cost			**$13,107,072**

Table 5 Install New Railroad Culverts and Acquire New Easement for channel and Construct New Channel

Description	Units	Cost per Unit	Cost
2 New 90 foot long, 60" Dia. CMP Culverts Bored Beneath Railroad	180 lineal feet	$3,502 per lineal foot	$630,360
1 New 90 foot long 54" Dia. CMP Culvert Bored Beneath Railroad	90 lineal feet	$3,402 per lineal foot	$306,180
Launch Setup/Crane Pad/Crane Rental	1 LS	$51500 per LS	$51,500
Reinforced Concrete Endwalls at Culvert Crossing	2 each	$41,200 per each	$82,400
Grading and Rip rap at the Culvert Crossing	1 LS	$46,350 per LS	$46,350
Railroad Flagging	1 LS	$75,190 per LS	$75,190
Clearing and Tree Trimming in Easement	1 LS	$30,900 per LS	$30,900
Excavation, Grading & Material Disposal	10,700 cubic yards	$15 per cubic yard	$160,500
Landscaping & Restoration (channel)	7,690 square yards	$8 per square yard	$61,520
Channel Bottom Stone	91 cubic yards	$60 per cubic yard	$5,460
Rip rap for channel	280 square yards	$40 per square yard	$11,200
Easement Acquisition	1 LS	$266,100 per LS	$266,100
60" RCP Driveway Culvert with Endsections	80 lineal feet	$225 per lineal foot	$18,000
Driveway Restoration and Parking Lot Replacement	948 square yards	$35 per square yard	$33,180
Misc. Utility Relocations	1 LS	$25000 per LS	$25,000
Mobilization	1 LS	$72,100 per LS	$72,100
Subtotal			**$1,875,940**
20% Contingencies			$375, 188
Total Estimated Cost			**$2,251,128**

Discussion of Alternatives and Recommended Alternative

The primary objective of the engineering effort to date was to determine the cause and provide effective mitigation for the flooding occurring within the Wagner Park region north of Green Road and the Emerald Lane area south of Green Road. The root cause of the flooding, apart from significant rainfall, is the restriction provided primarily at the Canadian Pacific Railway, the 54 inch storm sewer downstream of the railway crossing and to a lesser extent the culvert 38 x 60 inch culvert that used to cross Green Road. A number of alternative approaches were considered to alleviate the issues. Although acquisition of the affected condominium units was contemplated at times during the development of the conveyance type alternatives, it was realized that this approach was generally more costly than the conveyance approaches and more importantly would not resolve the overall flooding occurring within that specific area.

As the project has developed, the primary conveyance alternative was refined to address the capacity deficiencies of the existing railroad crossing and the downstream conveyance of the flood flows. The estimated cost of this alternative, $2, 040,636.00, represents the lowest estimated cost of the conveyance alternatives considered. It would also have the least amount of disturbance, approximately 0.12 acres of wetland. The primary reason for considering the other approaches is that: the existing 54 inch storm sewer represents an unpermitted enclosure of a navigable water way and the installation of a parallel storm sewer would represent a continuing violation; and enclosures are not typically allowed at this time by the Department of Natural Resources as they impede navigation and fish passage and limit access to a natural resource.

Consequently the three alternate conveyance approaches were developed to resolve the flooding issue at hand and to potentially provide an approach that would be permitted under the current WDNR rules. Of the three alternative approaches, the removal and replacement of the existing 54 inch storm with an open channel has the lowest estimated probable cost of $2,195,304.00, and would disturb approximately 0.19 acres of wetland. The channel alternative requiring the acquisition and removal of the Gustave Larson building and abandonment of the existing 54 inch storm sewer would represent the most expensive alternative at an estimated probable cost of $13,107,072 and impact 0.36 acres of wetlands.

The remaining conveyance alternative includes using the existing 54 inch storm sewer during high flows with the establishment of a low flow type channel while leaving the Gustave Larson facility intact had an estimated probable cost of $2,251,128.00 and impact 0.36 acres of wetlands. This alternative, however, is likely not viable as it continues to perpetuate the unpermitted stream enclosure by leaving the existing storm sewer in place.

Each of the conveyance alternatives were designed based upon the 100 year recurrence interval storm event and evaluated against estimated water surface elevations utilizing XP Solutions XPSWMM software program. Table 6 briefly summarizes the results of the analysis. Results for each of the proposed conveyance alternatives investigated show relatively similar results with no single alternative standing out as being significantly better.

Table 6 Summary of Water Surface Elevations for the 100 year storm Event at Selected Locations for Each of the Conveyance Alternatives Analyzed

Location	Existing Condition (NGVD29)	Primary Alternative (NGVD 29)	Alternative 1 (NGVD 29)	Alternative 2 (NGVD 29)	Alternative 3 (NGVD 29)
Upstream of CP Railway	861.9	860.1 (drop 1.8 ft)	860.1 (drop 1.8 ft)	860.1 (drop 1.8 ft)	860.0 (drop 1.9 ft)
Downstream of CP Railway	859.7	859.4 (drop 0.3 ft)	859.5 (drop 0.2 ft)	859.4 (drop 0.3 ft)	859.3 (drop 0.4 ft)
Inlet of Storm Sewer	859.6	858.7 (drop 0.9ft)	858.5 (drop 1.1 ft)	NA	858.7 (drop 0.9 ft)
Outfall of Storm Sewer	854.6	855.1 (rise 0.5 ft)	855.0 (rise 0.4 ft)	855.1 (rise 0.5 ft)	855.1 (rise 0.5 ft)
Upstream of Paul Road	853.7	853.8 (rise 0.1 ft)	853.8 (rise 0.1 ft)	853.9 (rise 0.2 ft)	853.8 (rise 0.1 ft)
Downstream of Paul Road	850.3	850.4 (rise 0.1 ft)	850.4 (rise 0.1 ft)	850.5 (rise 0.2 ft)	850.4 (rise 0.1 ft)

Given the alternative approaches and alternatives investigated to date to resolve the flooding issues in the Wagner Park region, the City would still wish to pursue the primary alternative. The primary alternative is estimated to be the least expensive of the conveyance approaches (at approximately $2,040,636.00) as well as to have the least amount of wetland impacts (approximately 0.12 acres). Additionally, given the location and configuration of the un-named tributary between Watertown Road and the Canadian Pacific Railway, it is the City's belief the stream represents limited natural resource and recreational uses. North of Watertown Road the stream runs through the Waukesha Gun Club and an online detention facility. Waukesha Gun Club is a long standing skeet and trap facility; for safety reasons there is no public access to the stream at the gun club and the lead shot used at the facility would likely represent an impairment to any contact uses with the waterway. Between the detention facility and Paul Road, the stream contains a concrete bed or invert. A concrete invert or stream bed limits instream habitat and raises stream velocities within the channel making it difficult for fish to swim upstream. From Paul Road to the downstream end of the existing 54 inch storm sewer/enclosure is approximately 880 feet of a somewhat "natural" stream section. Storm water runoff between Watertown Road and the Canadian Pacific Railroad is attributed from predominately manufacturing land uses developed prior to current water quality requirements (pre- 2004). Runoff from these land uses would likewise be an impairment to the stream.

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.1.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY:

SUBJECT:

Discussion on the appointment of Jane Mueller as the Water & Sewer Utility Manager.

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.2.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY:

SUBJECT:

Discussion and possible recommendation regarding the Sewer User Rate and implementation of a multi tier charge.

BACKGROUND:

We recommend implementing a 2 tier system recognizing the significant cost differential to those customers in the Waukesha sewer service area. We recommend phasing in the cost difference with an increase of $30 - $40.00 over the City's "Main" rate with the intention that the rate will continue to rise over three years until the rate the City of Pewaukee charges matches the rate that the City of Waukesha will charge out.

At this time we also recommend charging one common rate for the City of Pewaukee main service area and Lake Pewaukee Sanitary District as the current rate is very similar, recognizing that the Sewer Service Agreement should be reevaluated and possibly renegotiated on an annual basis.

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Multiple sewer rates memo

Spreadsheet

City of Pewaukee
WATER AND SEWER UTILTY
W240 N3065 Pewaukee Road
Pewaukee, WI 53072
(262) 691-0804 Fax (262) 691-5729

To: Public Works Committee

From: Jane E. Mueller, Utility Manager

Date: September 26, 2017

Re: Consideration of implementation of multiple sewer service rates for the City of Pewaukee.

The City of Pewaukee provides sanitary sewer service to approximately 4,640 utility customers throughout much of the City. In 1999 as the Town of Pewaukee gained City status, the Utility/City entered into an agreement with Lake Pewaukee Sanitary District to provide for continued operation and maintenance of the LPSD sewer system within the City of Pewaukee. The agreement includes provisions that the City of Pewaukee Water & Sewer Utility will bill/collect fees from those customers located within the LPSD sewer service area. This agreement is up for renewal by December 31, 2017.

LPSD sends a quarterly bill to the City Utility office on a quarterly basis. The current rate for Lake Pewaukee Sanitary District is $108.00 per residential equivalent unit. The current number of residential equivalent units within LPSD is 1068.5, with a total of 1064 active units for 976 customer bills. (Businesses and multifamily buildings can have multiple REU's assigned depending on the building use.) The Utility receives $1.00 credit per REU for administrative, postage and stationary. In prior contract years the City Utility was making a small profit from the difference between the two differing rates as the City charged one common rate for all sewer customers. That profit gap has lessened as LPSD's rates have increased annually and the City rates have remained stagnant since 2013, at which time the rate was increased by 3.18% (to fund upgrades for the Brookfield treatment plant.) Casual discussions with LPSD staff indicate that they anticipate a 2% rate increase to $110.16 per REU per quarter for 2018. We anticipate a loss next year of approximately $3,000.00.

The Utility staff would like to see the "Agreement" re-opened so that the City could negotiate an increase in the credit that is issued to the City. The billing clerks have determined that this credit is insufficient to recoup the amount of time spent in the administration of these utility accounts. In addition to the time spent during quarterly billing, approximately 8 hours additional time is spent on LPSD accounts in between billing cycles.

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City of Waukesha Sewer Rates

The City of Pewaukee maintains and operates a sanitary sewer collection system in the southwest section of the City. The sanitary sewage flows to the City of Waukesha Wastewater Treatment plant/system. The City of Pewaukee receives sewer bills for each resident that is served by the City of Waukesha. We currently receive and process approximately 175 individual bills from the City of Waukesha. The current average quarterly sewer rate from the City of Waukesha is $174.17. This leaves a loss to the Utility of approximately $11,229.75 per quarter in 2017. (2017 loss to the City of Pewaukee Utility- $44,919.00) This gap will widen in 2018 if the anticipated rate increase of 9.25% passes the City of Waukesha Common Council. We are also aware of significant infrastructure improvements that will need to be constructed in the next several years to meet the requirements to implement Waukesha's quest to receive Lake Michigan water. The anticipated quarterly rate will rise to $190.20 in 2018 creating a loss of $56,196.51.

In the past, the City of Pewaukee Water & Sewer Utility could absorb the cost differential a little easier. However, as the cost of doing business is getting more expensive along with large infrastructure maintenance projects we cannot sustain the stagnant rates any longer.

Action/Recommendation:
1) The City of Pewaukee Water & Sewer Utility recommend completing an overall review of the current sewer rates.

2) Consider implementing a multi-tier sewer rate structure:
   A. City of Pewaukee – (Main service area?)
   B. LPSD service area
   C. City of Waukesha service area.

We recommend implementing a 2 tier system recognizing the significant cost differential to those customers in the Waukesha sewer service area. We recommend phasing in the cost difference with an increase of $30 - $40.00 over the City's "Main" rate with the intention that the rate will continue to rise over three years until the rate the City of Pewaukee charges matches the rate that the City of Waukesha will charge out.

At this time we also recommend charging one common rate for the City of Pewaukee main service area and Lake Pewaukee Sanitary District as the current rate is very similar, recognizing that the Sewer Service Agreement should be reevaluated and possibly renegotiated on an annual basis.

6-20-2017 1064 statements							
	2017 Lake Pewaukee		2018 anticipated rate		***2017 City of Pewaukee***		
Billing Charges:	charges per rec	$108.00	$110.16	charge per rec	$100.30	$106,719.20	at 1064 REU's
				admin fee	$9.70	$9,467.20	976 acct's
					$110.00	$116,186.40	
Customers		$114,912.00	$117,210.24			$1,274.40	difference
976						$209.90	shortage on admin credit
Residential Equivalent Unit						$1,064.50	difference
1064							
				2018 shortfall		($1,023.84)	
City costs: print, mail and process invoices from LPSD for customers							
UMS Billing Software maintenance				0.29		$283.04	
Cost per statement:		Statement		0.07			
		#9 return env		0.04			
		#10 Windo Env		0.05			
		postage		0.46			
				0.91		$888.16	
Misc. & paper for bill register						$30.00	
Folding machine		$0.32	per piece			$312.32	
Staff		$0.05				$48.80	
						$1,562.32	per quarter costs
Credit per rec	($1.00)	$1,064.50				-1064.50	credit
						$497.82	City of Pewaukee shortage
Additionall, 8.5 hours staff time							
spent on administration of LPSD							
Accounts per quarter		$29.63	Aver. Wage/hr			$251.86	
						$749.68	shortfall per qtr 2017
Forcasted inflation	2% increase	*ask Rita*				$2,998.70	annual loss
	2018 Lake Pewaukee			**City**	Balances		
Billing Charges:	charge per rec	$110.16	charge per rec	$100.30			
			admin fee	$9.70			
customers		$107,516.16		$107,360.00			
976							

Estimated customer count 2018 Waukesha sewer service area		2017 sewer rate- City of Pewaukee	2017 Average sewer rate- Waukesha	9.25% requested rate increase	2018 Rate			
		$110.00	$174.17	$16.11	$190.28			
175	customers				$33,299.13	per quarter Waukesha Rate		
City of Pewaukee - 2017 rate								
per Quarter collected		$19,250.00						
City of Waukesha - 2017 rate								
per Quarter charged to Pewaukee			$30,479.75					
2017 Loss to the City of Pewaukee per quarter								
					$11,229.75			
					$44,919.00	2017 annual loss		
Anticipated loss to the City of Pewaukee 2018 per quarter								
					$14,049.13			
					$56,196.51	Anticipated 2018 annual loss		

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.3.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY: Jeffrey Weigel, Public Works Director

SUBJECT:

Discussion of the financial status of the Water Utility.

BACKGROUND:

The Utility has been working on a cash basis since inception, and more recently projects have been constructed using funds on hand. Research has shown that our funds on hand were primarily Sewer funds (funds had been co-mingled since inception). It is time to recognize the need to function as a rate based utility, to be cognizant of requiring the payment of special assessments and how unlimited delays to these payment adversely affections the fiscal status of the water utility, and the consider the specific impacts to the Water and Sewer Utilities when development is considered remote from the existing infrastructure.

FINANCIAL IMPACT:

The fiscal impacts are significant. To continue as has been done for so many years will only worsen the Water Utility fiscal status. To recognize the need to change, to utilize expertise specific and attendant to operating a rate based utility is essential and in the long run in the best interest of the Utility and its fiscal sustainability.

RECOMMENDED MOTION:

This is a summary of the motions contained in separate agenda items.

1. Agenda Item 6.3.a.
   The Public Works Committee recommends to the Common Council that the Pewaukee Common Council becomes the designated authority for the Water Utility for PSC reporting. As the Town Sanitary District, the Sanitary District Commission had full authority over the operations of the Water and Sewer District.
2. Agenda Item 6.3.b.
   Public Works Committee recommends that the Common Council enacts a policy change to implement the collection of water pipe infrastructure special assessment payments upon a date-certain after the water has been installed and determined to be available. We suggest that special assessment payments begin upon connection or at five years after the date of availability with payments allowed over a 10-year period, all similar to the pipe special assessment payment timeframe for sanitary sewer.
3. Agenda Item 6.3.c.
   Public Works Committee recommends that the Common Council enacts a policy change that would only consider the expansion or extension of municipal water into an area if those properties in the area were required to begin payment of the special assessments within a specific timeframe, such as the 5 years discussed in (2) above.
4. Agenda Item 6.3.d.
   Public Works Committee recommends that the Common Council develops a formal reporting process to the

Common Council specific to the Water Utility regarding ongoing fiscal issues, the evaluation and authorization of specific capital expenditures (i.e. projects) prior to authorization.

5. Agenda Item 6.3.e.
   Public Works Committee recommends that the Common Council establishes a process beginning in the initial stages of staff development review where the fiscal impacts of a development on the Water Utility are identified and considered prior to authorizing actions on the development by the Common Council.

6. Agenda Item 6.3.f.
   Public Works Committee recommends that both the Water Utility and Sewer Utility utilizes an expert to consult on the financial issues in the utilities, including the development of best financial practices; and continues with the consultant on the final version of the Water RCA study.
7. Agenda Item 6.3.g.
   Public Works Committee recommends that the Water Utility updates its facilities plan, and that the Sewer Utility develops a facilities plan, both with the aid of consultants. These facilities plans will provide an important elements in the financial analysis.

ATTACHMENTS:

Description

Summary memo to the _PWC

Attachment 1 Feb 2017 Briefing to City Administrator and Planner

Attachment 2 Cash Basis vs Rate Basis

Attachment 3 Water Tower PSC Order

Attachment 4 2015 RCA Analysis report

Attachement 5 RCA Spreadsheet

Attachment 6 Pipe assessment spreadsheet

CITY OF PEWAUKEE
The City in the Country

Department of Public Works

W240 N3065 Pewaukee Road
Pewaukee, WI 53072

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Street Division 691-0771 Fax: 691-6079
Engineering Division 691-0804 Fax: 691-5729

TO: Public Works Committee

FR: Jeffrey Weigel, Public Works Director

DT: November 29, 2017

RE: Financial Status of the Water Utility

Requested Actions:

1) Agenda Item 6.3.a.
The Public Works Committee recommends to the Common Council that the Pewaukee Common Council becomes the designated authority for the Water Utility for PSC reporting. As the Town Sanitary District, the Sanitary District Commission had full authority over the operations of the Water and Sewer District.
2) Agenda Item 6.3.b.
Public Works Committee recommends that the Common Council enacts a policy change to implement the collection of water pipe infrastructure special assessment payments upon a date-certain after the water has been installed and determined to be available. We suggest that special assessment payments begin upon connection or at five years after the date of availability with payments allowed over a 10-year period, all similar to the pipe special assessment payment timeframe for sanitary sewer.
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4) Agenda Item 6.3.d.
Public Works Committee recommends that the Common Council develops a formal reporting process to the Common Council specific to the Water Utility regarding ongoing fiscal issues, the evaluation and authorization of specific capital expenditures (i.e. projects) prior to authorization.
5) Agenda Item 6.3.e.
Public Works Committee recommends that the Common Council establishes a process beginning in the initial stages of staff development review where the fiscal impacts of a development on the Water Utility are identified and considered prior to authorizing actions on the development by the Common Council.

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6) Agenda Item 6.3.f.
Public Works Committee recommends that both the Water Utility and Sewer Utility utilizes an expert to consult on the financial issues in the utilities, including the development of best financial practices; and continues with the consultant on the final version of the Water RCA study.
7) Agenda Item 6.3.g.
Public Works Committee recommends that the Water Utility updates its facilities plan, and that the Sewer Utility develops a facilities plan, both with the aid of consultants. These facilities plans will provide an important elements in the financial analysis.

Rationale:
Over the past two years, we have learned and better understood some of fiscal issues relating to the Water Utility, some which have been in place since the inception of Utility as the Town of Pewaukee Sanitary District No. 3 in the 1970's, and some which have become more apparent over the past decade. Briefly,

Wisconsin Public Service Commission (PSC) staff have questioned whether our Water Reserve Capacity Assessments (RCA's) are sufficient to recapture costs

DNR staff have questioned the low level of cash reserves in the Water Utility

The Water Utility annual budget presents an annual loss each year

The auditors have researched the Water Utility and Sewer Utility cash reserves and found that the Water Utility has utilized about $5 M of the Sewer Utility cash reserves.

Earlier this year we prepared a summary briefing as staff began the research on the many components relating to the Water Utility finances—see the attached Feb. 10, 2017 memo to City Administrator/Planner Scott Klein. It is time, in my opinion, that the City take a close look at the fiscal status of the Water Utility and make changes in the way Water Utility capital projects are approved and financed, changes in the way the Water Utility undertakes capital projects, and changes to how the Utility collects reimbursements for capital expenditures, an in particular special assessments.

Historical Perspective.
Since its inception in the 1970's, the practice of the Town of Pewaukee Sanitary District No. 3 and its successor City of Pewaukee Water and Sewer Utility have essentially comingled funds in the bank account and operated day-to-day under a Cash Basis and not a Utility Basis, similar to how the Town of Pewaukee and City of Pewaukee continue to operate. At its simplest level, under a Cash Basis the

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Utility makes sure it has enough cash in the bank to pay the routine bills and capital projects, borrowing only when deemed necessary. Recently, the financial auditors researched the Utility records back to inception, and found that the funds were used to finance water infrastructure construction that were collected for both the Water Utility and Sewer Utility, and that about $5 M in Sewer Utility funds were expended for Water Utility construction. Said another way, the Sewer Utility has subsidized the Water infrastructure expenditures by about $5 M.

Cash Basis vs. Utility Basis.
Attached is a summary from a portion of a memo to the City Rochester, MN (2/26/14) from Ms. Susan Perkins, Director of Corporate Services that may be useful in better understanding cash based and rate based utilities. Our Water Utility and Sewer Utility are rate based, and the PSC regulates rates in the Water Utility; the Pewaukee Common Council regulates the rates in the Sewer Utility. Note that rate based utilities need to build cash reserves for future asset replacements.

Water Utility Revenue Sources.
The Water Utility revenue sources are only two: 1) water rates billed quarterly and are regulated by the PSC; and 2) special assessments composed of Reserve Capacity Assessments (RCA's) often referred to as "hook up fees: and special assessments related to pipes and infrastructure installed to provide water services to a specific property. All special assessments are regulated by the Pewaukee Common Council. In recent years, the PSC staff have become concerned about the funding in Pewaukee, and in particular whether the RCA's have been calculated to sufficiently recover the infrastructure costs, especially mindful that what the City does not collect through special assessments cannot, generally, be repaid through rates.

Rates.
A simplistic view of rate based utilities may be illustrated with the electric company. When the electric company needs to raise revenues to build a new power generation facility, it submits a rate application to the regulatory agency, PSC in Wisconsin, and if approved, starts collecting higher fees (rates) from its customers to pay for that new generation facility, a small amount on each monthly bill. Debt is often incurred for the construction and over time that debt is paid, and depreciated as an expense on the financial reports.

The Water Utility functions in many ways like the electric utility. When major projects come forward, permits must be obtained from both the Department of Natural Resources (DNR) and the Wisconsin Public Service Commission (PSC), and in the PSC permitting process, the applicant (City) must identify the intended funding source: rates or other (special assessments). An example of a recent application would be for the new City Hall Water Tower, where PSC issued its Certificate of Authority and Order (see enclosure) where the tower was approved at a total cost of $2,771,500 with 61% paid through rates and the remaining 39% paid through RCA's.

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Many of the capital improvements filed with PSC in the past may have assigned all of the cost to the RCA's, where in retrospect rates should have been included as a partial funding source.

Special Assessments-RCA's.
Commonly referred to as hookup fees, the RCA's are paid at the time of connection to the water system and are intended to pay for the cost of water towers, wells and storage tanks. In 2015 the City presented a report on the status of the RCA's to PSC, at PSC's request and a copy of that report is attached. As of this date, PSC has questions on that summary report; however, this report is useful for tracking the RCA's collected and reconciling any differences between the estimated costs of infrastructure construction and the actual cost annually, an important evaluation that was not undertaken on a regular schedule.

One way to think of the RCA's is to think about the new City Hall Water Tower. We planned that about $1 M of the new tower would be paid by RCA's or future water connections. At the 2017 rate of $4,517 per RCA about 239 homes would have to connect to pay this RCA dedicated cost. Note that there are many other improvements planned for RCA in addition to the water tower.

The first attached spreadsheet is intended to illustrate the status of residential lots that are available for home construction today (Feb. 2017) and predicted to be available within the next ten years.

There are 142 vacant single family lots that could generate $641,414 in RCA's (2017 rate)
There are 79 vacant condo lots that generate $356,843 in RCA's (2017 rate)
There are 2090 existing and potential home sites in the areas of current water service
821 existing homes shaded in yellow that could generate $3, 7 M in RCA's (2017 rate)
1,269 potential homes (not shaded) that could generate $5.7 M in RCA's (2017 rate)

Another source of RCA's where water has been installed, primarily in existing neighborhoods, but homes have neither connected to the water system nor paid the RCA's. Examples of these neighborhoods are the Hill n Dale Subdivision, the Seaview Estates Subdivision and the Takoma Hills Subdivision. There are approximately 200 homes that have water available, some for more than 20 years, yet no connections and no RCA payments.

It is important to look at these potential RCA's in these areas as it is likely that development will occur in the future, say 10-25 years in these areas with only local water main extensions, and this information will be useful as we begin evaluating any changes to the recovery of RCA's.

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Pipe Special Assessments.
Pipe special assessments are those costs assessed against the property for providing the water in the neighborhood—the main line pipe in the street, the valves and the laterals (from the main line to the property line). Those costs can vary from around $5,000 per home to as much as $18,000 per home.

Beginning in 2004 the City began extending water main ahead of road construction projects for Pewaukee Road (Green Road to Swan Road), Swan Road (Pewaukee Road to Lindsay Road), and Lakefield Drive; and for connections to developing areas such as College Avenue/Bluemound Road, Lindsay Road, and the Lindsay Road/Duplainville Road/Weyer Road all resulting in large stretches of water with very few existing homes to connect. For projects such as these, we develop special assessments for the existing homes and calculate assessments for parcels that we anticipate to develop at some future date called "deferred assessments". For example, think of a farm house on a 50 acre parcel. If we were to extend the water past this parcel, we would typically calculate a 1-unit water assessment for that existing home (say $10,000) and defer 70 additional units (70 x $10,000=$70,000) for the case that the farm subdivides into 70 single family lots. For financial reporting deferred assessments are not booked as anticipated revenues as the number of deferred assessments and date of payment are unknown.

The second attached spreadsheet illustrates that about $4.4 M in sewer pipe assessments ($5.998 M less $1.591 M of non-assessable pipe) have been installed on these projects, all with no requirement for payment short of connection or development. Significant cost would be recovered over time, but that time is unknown but presumed to occur in the next 17 years if the area develops by 2035.

The "Pewaukee Way".
The City of Pewaukee and its predecessor Town of Pewaukee are very proud of doing business its own way, often differing from many of our peers. This Pewaukee Way was structured to protect the long standing residents from having to pay for sewer and water services, relying on developers to promulgate those services. We are now seeing some of the drawbacks in the short term, along with the long term consequences of developing lands and extending public utilities in this manner, including:

> The City of Pewaukee does not require residents to connect to the water services, leaving us today with thousands of feet of water main paid for by the Water Utility for some day when the lands develop or when the existing homes choose to connect and begin the repayment of this infrastructure. This is not true for the Pewaukee Sewer Utility which has mandatory connection timeframes, and it is probably not a coincidence that the sewer utility with its mandatory connection requirements is in better financial condition than the water utility.
>
> The City of Pewaukee encourages the use of special assessments for nearly every public infrastructure extension. There are over one hundred special assessment districts levying costs

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for roadway construction, sewer construction, water construction, water well construction, water storage tank construction, and even speed humps. The terms of special assessment payments or reimbursements vary by project: some have to connect in fifteen years, and some never. Some have compounding interest and some no interest. The result is a complex, often confusing array of opportunities for errors in tracking, collecting and responding to the many public inquiries on the assessments.

The City of Pewaukee has approved developments located far from the availability of sewer and water facilities, requiring developers to expend significant funds to extend the sewer/water facilities. Those facilities may or may not be fully funded by the developers. Those developments also cause the Water Utility to plan for and construct additional service pipes as design principles require water to be reinforced, or "looped" whereas sewer rarely needs this secondary support. Other communities either delay these remotely located developments until the services are closer or use other tools, such as Tax Incremental Finance districts (TIF's) to fund these very expensive infrastructure expansions.

The City needs to recognize that a change of this paradigm of fiscal management, from a cash based mindset to a rate based mindset, and to change how municipal water is expanded in the community and how the costs are recovered for those expansions.

Our initial recommendations are as follows:

1) Agenda Item 6.3.a.The Pewaukee Common Council becomes the designated authority for the Water Utility for PSC reporting. As the Town Sanitary District, the Sanitary District Commission had full authority over the operations of the Water and Sewer District. After our incorporation into the City of Pewaukee, the Sanitary District ceased to exist, and the Pewaukee Common Council created the Public Works Committee, originally referred to as the Public Works Commission, to take on the statutory responsibilities of the Board of Public Works. Over time the Committee has deferred financial decisions to the Common Council as the Common Council has budgetary authority. Each year the Water Utility must file an annual report with the Public Service Commission of Wisconsin and identify in that report the Governing Authority. It is more correct, in my opinion, that with the next report that we identify the Utility Governing Authority as the Pewaukee Common Council, and for purposes of financial reporting, formally identify that the Utility reports directly to the Common Council. The Public Works Committee would remain a committee that makes recommendations to the Common Council.

CITY OF PEWAUKEE
The City in the Country

Department of Public Works
W240 N3065 Pewaukee Road
Pewaukee, WI 53072

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2) Agenda Item 6.3.b.Enact a policy change and implement the collection of water pipe infrastructure special assessment payments upon a date-certain after the water has been installed and determined to be available. We suggest that special assessment payments begin upon connection or at five years after the date of availability with payments allowed over a 10-year period, all similar to the pipe special assessment payment timeframe for sanitary sewer. This would mean that areas such as Takoma Hills, Hill n Dale, Seaview Estates and others would now have to begin the payment of the pipe special assessments at some specific date. Public Hearings would be necessary prior to making a change for any special assessment district where other connection/payment terms were established.
3) Agenda Item 6.3.c.Enact a policy change that would only consider the expansion or extension of municipal water into an area if those properties in the area were required to begin payment of the special assessments within a specific timeframe, such as the 5 years discussed in (3) above. Two examples: 1) The proposed Oak Street/Peninsula Drive road project (see attached draft letter to the residents; and 2) the Lakefield Drive road paving project where water was extended as a part of the road project but no one is required to connect to the water.
4) Agenda Item 6.3.d. Develop a formal reporting process to the Common Council specific to the Water Utility regarding ongoing fiscal issues, the evaluation and authorization of specific capital expenditures (i.e. projects) prior to authorization. Alternatively, a special committee with expertise could be designated to act for the Common Council on these issues.
5) Agenda Item 6.3.e. Establish a process beginning in the initial stages of staff development review where the fiscal impacts of a development on the Water Utility are identified and considered prior to authorizing actions on the development by the Common Council. This may not apply to many development proposals, but it is important that the City now recognizes that developments have their challenges and costs.
6) Agenda Item 6.3.f. Both the Water Utility and Sewer Utility need an expert to consult on the financial issues in the utilities, including the development of best financial practices. In addition, the City needs to continue with the consultant on the final version of the Water RCA study. We request authorization to continue with the RCA Study consultant, and to seek a financial consultant to work with us on the various financial issues.
7) Agenda Item 6.3.g. The Water Utility needs to update its facilities plan, and the Sewer Utility needs to develop a facilities plan, both with the aid of consultants. These facilities plans will provide an important elements in the financial analysis.

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TO: Scott Klein, City Administrator/Planner

FR: Jeffrey Weigel, Public Works Director

DT: February 10, 2017

RE: Status of Water Utility Fiscal, Assessment and Regulatory Issues

There are several complex and time intensive issues currently being addressed by City/Utility staff and consultants, and this communication is intended to summarize the status of same. Those issues are fundamentally linked in formulating the solutions. Simply stated, we are currently working on these projects as a high priority;

2015 PSC Reporting Compliance
2016 PSC Report
Revising the PSC required Water RCA study report
Complete the 2017 Water Rate Case Application to PSC
Updating the 1996 Sewer Utility Ordinance
Preparing modifications to the special assessment policy moving forward
Preparing recommendations to the special assessment policy looking backward (i.e. already levied)
Analyzing the fiscal implications of current special assessment policy actions
Analyzing the fiscal implications of changing existing special assessment policy actions
Finalizing special assessments of completed projects
Preparing a Sewer RCA rate justification study
Prepare and update to the Water Utility System Facility Plan
Prepare a Sewer Utility System Facility Plan
Clarify Utility Financial Reporting and Budgeting

A brief discussion of each element and key team personnel is found below.

2015 PSC Reporting Compliance.
PCS staff have notified the City that the 2015 reporting of RCA funded assets is deficient. Rotroff/Jeanson and Ruekert/Mielke are working on the reporting issue with an expected completion date of Feb. 28th.

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2016 PSC Report.
The PSC report is an annual work effort of Rotroff/Jeanson with substantial efforts by Jane Mueller, Renee Reed and Jeff Weigel. The report is due April 1st.

Revising the PSC required Water RCA study report.
In 2015 substantial efforts by Ruekert/Mielke, Rotroff/Jeanson and Jeff Weigel culminating with the first Water RCA Study for PSC and the study was submitted by the April 1 deadline; however, due to form of the submittal, PSC did not realize that the study was completed, and after locating same raised questions. It was this non-acceptance of the study that caused us to not follow up with the required new reporting in 2016 (how can we report the progress of a study template that was not approved?).The revised RCA study will be worked on by Ruekert/Mielke, Rotroff/Jeanson and Jeff Weigel with a completion date to be determined. Essential to this task will be the quantification of deferred special assessments (more on this later).

Complete the 2017 Water Rate Case Application to PSC.
The Water RCA study revealed that our most recent water rate case had one inaccuracy relating to the capitalization of the new water tower project that was cancelled in the WISPARK development due to Waukesha County permitting issues. The way to correct or reclassify the tower costs is to undertake a new Water Rate Case at PSC. Rotroff/Jeanson worked on this in 2016, and delayed completion as the 2016 PSC annual report effort of winter 2016/2017 would provide data that would be beneficial to the completion of the new rate case. Rotroff/Jeanson, Jane Mueller and Jeff Weigel are the key employees on this issue.

Updating the 1996 Sewer Utility Ordinance.
Jane Mueller has been the team leader on this ordinance update, assisted by City Attorney Stan Riffle, Jeff Weigel, Renee Reed and Maggie Wagner. We anticipate bringing this ordinance forward for approval in spring 2017.

Preparing modifications to the special assessment policy moving forward.
Comments by City accounting staff resultant the transfer of the Utility accounting functions to the City Clerk/Treasurer's office, and with the 2016 Departmental Organizational Study (Finding no. 19) are recommending that the City change its special assessment policy to simplify the process to establish consistency throughout the process, and seek improve revenue recoveries we are preparing recommended changes to the special assessment policy. Maggie Wagner is developing those recommendations to be considered by the City accounting staff and Common Council in spring 2017.

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Preparing recommendations to the special assessment policy looking backward (i.e. already levied).
The long standing policies of the Town of Pewaukee Sanitary District No. 3, the Town of Pewaukee, and the City of Pewaukee have been to not require connection to the water system. This practice has, in our opinion, had a detrimental impact on the Water Utility fiscal situation. Marianne Hiltunen is researching the past 50 years of special assessment files to quantify deferred special assessment files relating to new development; Chris Arndt is researching the past 50 years of special assessment files to quantify deferred special assessments for existing buildings; Renee Reed is researching the past 50 years to quantify the deferred special assessments related to developer financed projects (10.10) and Maggie Wagner will be preparing summary reports on same to develop recommendations on special assessments that have been levied. Jeff Faber will be preparing maps to assist with this investigation.

Analyzing the fiscal implications of current special assessment policy actions.
Analyzing the fiscal implications of changing existing special assessment policy actions.
These analytical and reporting tasks are linked to the research listed above. Maggie Wagner, Jeff Weigel, and Rotroff/Jeanson will be preparing reports and summaries as to the fiscal impacts of changing the long standing policy of neither requiring connections no payment of special assessments. Jeff Faber will be preparing maps and exhibits to assist the analysis. City accounting staff will most likely review and comment.

Finalizing special assessments of completed projects.
It has been noted by Rotroff and the City accounting staff that several special assessment projects have been completed but the final assessments not yet levied. Three reasons led to these delays: 1) many projects such as Green Road appear to be completed but ongoing contractual disputes actually render the projects as not yet completed; 2) the final adoption of assessment resolutions are generally limited to a nine month timeframe, the same timeframe the building construction seams to occupy much of the Engineering Department's time; and 3) the evaluation of changes to future special assessments could be incorporated into these lagging assessments before the final levy is approved. Maggie Wagner is the team leader on preparing final assessments for approval, and Jeff Faber provides the mapping.

Preparing a Sewer RCA rate justification study.
As discussed at the Feb. 6th Common Council meeting, the sewer RCA study recommended rate adjustments through 2016. We now need to prepare a study justifying rates for the next five years or more. Ruekert/Mielke will work with Jeff Weigel on developing this study which needs to be completed before the end of the year.

Prepare and update to the Water Utility System Facility Plan. Our water facilities plan was last updated in 2000; however, Village/City merger studies have performed some of this effort since. We do need to update the study since the east-west transmission main has been constructed as well as the

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new water tower. We are not currently approved in the 2017 budget for this work, but it is needed and an important element to identifying our short and long term needs, especially as it relates to Water RCA projections. Jeff Weigel will work on the budgeting and authorization; Jane Mueller, Maggie Wagner, Jeff Weigel and Ruekert/Mielke would work on the study.

Prepare a Sewer Utility System Facility Plan.
The City does not have a sewer systems facility plan as the sewer expansions have been usually driven by development proposals. A sewer systems facility plan would serve two purposes: 1) to identify the service areas and facilities needed; and 2) to identify the costs and potential funding sources. The first stages of the plan would be to consolidate in a plan document and map the various sewer studies that have been completed .The next step would be to determine the facilities needed to serve the areas that have not been planned. The final component would be to forecast the costs and sources of revenues, which may be an important element of future Sewer RCA collections. Jeff Faber will prepare the initial map showing the various study areas. Maggie Wagner and Jeff Weigel will evaluate the needs for additional study areas. The financial component will most likely be a combination of Maggie Wagner, Jane Mueller, Jeff Weigel, Ruekert/Mielke and Rotroff/Jeanson.

Clarify Utility Financial Reporting and Budgeting.
The 2017 City budget process revealed a need to present the Sewer & Water Utility Budgets in a clearer manner, identifying revenue sources and pay-back timeframes. Jeff Weigel and Jane Mueller will lead the effort from the Utility side, City Accounting staff and City Administrator/Planner should lead the effort from the overall City budgeting standpoint.

Cash Basis

Under the cash basis the revenue requirements include operations & maintenance expense, debt service, and normalized capital improvements.

The advantages of cash basis is it is understood by City Councils since it is the method that general fund budgeting typically uses. Cash basis attempts to match cash inflows and outflows on a yearly basis and it does meet the bond obligations.

The disadvantages are the cash basis tends to conceal any major rate problems and revenue deficiencies since this method does not take into consideration the future replacements of assets. The cash method tends to result in unexpected and large rate adjustments and is not generally accepted by courts if rates are challenged.

Utility Basis

Under the utility basis the revenue requirements include operations and maintenance expense, depreciation expense, and rate of return on assets. The rate of return is determined by including an inflationary increase in asset replacement costs plus interest expense.

The advantages of utility basis is it leads to more stable and consistent rate adjustments and typically leads to a more financially stable and healthy Utility.

The disadvantages are cash reserves will build more quickly for future asset replacements and the cash reserves level may need to be justified. Most governments operate on a cash basis, the Utility may need to explain the use of depreciation since it is a non-cash expense and may need to explain the importance of rate of return.

PUBLIC SERVICE COMMISSION OF WISCONSIN
610 North Whitney Way
P.O. Box 7854
Madison, Wisconsin 53707-7854

NOTICE OF RIGHTS FOR REHEARING OR JUDICIAL REVIEW, THE TIMES ALLOWED FOR EACH, AND THE IDENTIFICATION OF THE PARTY TO BE NAMED AS RESPONDENT

The following notice is served on you as part of the Commission's written decision. This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

PETITION FOR REHEARING

If this decision is an order following a contested case proceeding as defined in Wis. Stat. § 227.01(3), a person aggrieved by the decision has a right to petition the Commission for rehearing within 20 days of the date of service of this decision, as provided in Wis. Stat. § 227.49. The date of service is shown on the first page. If there is no date on the first page, the date of service is shown immediately above the signature line. The petition for rehearing must be filed with the Public Service Commission of Wisconsin and served on the parties. An appeal of this decision may also be taken directly to circuit court through the filing of a petition for judicial review. It is not necessary to first petition for rehearing.

PETITION FOR JUDICIAL REVIEW

A person aggrieved by this decision has a right to petition for judicial review as provided in Wis. Stat. § 227.53. In a contested case, the petition must be filed in circuit court and served upon the Public Service Commission of Wisconsin within 30 days of the date of service of this decision if there has been no petition for rehearing. If a timely petition for rehearing has been filed, the petition for judicial review must be filed within 30 days of the date of service of the order finally disposing of the petition for rehearing, or within 30 days after the final disposition of the petition for rehearing by operation of law pursuant to Wis. Stat. § 227.49(5), whichever is sooner. If an *untimely* petition for rehearing is filed, the 30-day period to petition for judicial review commences the date the Commission serves its original decision.[1] The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

If this decision is an order denying rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not permitted.

Revised: March 27, 2013

[1] *See Currier v. Wisconsin Dep't of Revenue,* 2006 WI App 12, 288 Wis. 2d 693, 709 N.W.2d 520.

SERVICE DATE
Oct 20, 2015

PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of City of Pewaukee Water Utility, Waukesha County, Wisconsin, to Construct an Elevated Water Storage Tank — 4625-CW-117

CERTIFICATE OF AUTHORITY AND ORDER

Introduction

On June 20, 2015, the Commission received an application from the City of Pewaukee Water Utility (Utility), as a public water utility, pursuant to Wis. Stat. § 196.49 and Wis. Admin. Code ch. PSC 184. (PSC REF#: 236711.) The Utility seeks authority to construct an elevated water storage tank, in the City of Pewaukee, at an estimated total cost of $2,771,500. The Commission issued a Notice of Investigation on July 27, 2015. (PSC REF#: 272639.) No hearing was held. No major concerns were brought to the attention of the Commission staff.

The Application is GRANTED, subject to conditions.

Findings of Fact

1. The Utility is a public utility as defined under Wis. Stat. § 196.01(5)(a) and provides water service to approximately 4,190 customers in Waukesha County.

2. This project consists of constructing an elevated water storage tank, at an estimated total cost of $2,771,500.

3. The type of project and the estimated cost of this project require Commission review and approval under Wis. Admin. Code ch. PSC 184.

4. The Utility reported water operating revenues of $1,967,415 in 2014.

5. The proposed project is necessary to provide adequate and reliable service for present and future customers.

6. The project, as conditioned herein, complies with Wis. Stat. § 196.49(3)(b) because:

a. The project will not substantially impair efficiency of utility service.

b. The project will not provide facilities unreasonably in excess of probable future requirements.

c. When placed in service, the project will increase the value or available quantity of service in proportion to any addition to the utility's cost of service.

7. The facilities approved by this Final Decision will not have undue adverse impacts on environmental values including ecological balance, public health and welfare, historic sites, geological formations, aesthetics of land and water, and recreational use.

8. The general public interest and public convenience and necessity require completion of the project.

Conclusions of Law

1. The Commission has authority under Wis. Stat. §§ 1.11, 44.40, 196.02, 196.025, 196.395, and 196.49, and Wis. Admin. Code chs. PSC 4 and 184, to issue a certificate and order authorizing the Utility to construct the proposed facilities at an estimated total cost of $2,771,500.

2. The Commission has authority under Wis. Stat. § 15.02(4) to delegate to the Administrator of the Division of Water, Compliance and Consumer Affairs, those functions vested by law as enumerated above.

Discussion

The City of Pewaukee Water Utility provides water service to its customers in the City of Pewaukee in Waukesha County. The Utility's existing water system consists of 10 wells, two elevated water tanks and 87.2 miles of water main. The Utility has a need for additional water storage, as identified in its *Water System Planning Study Update*. (PSC REF#: 236712.) Water storage is used to supplement water flow in the Utility's distribution system during general service, daily peak demands and for fire demands. The Utility previously received Commission approval for a 750,000 gallon tank in 2013 in Docket No. 4623-CW-116. (PSC REF#: 185958.) However, the previously intended location for the proposed tank was denied and it was not constructed. Its proximity to the Waukesha County Airport would have restricted the tank's height and its ability to provide the intended function. The Utility was required to resubmit this project for review.

The older of the Utility's two existing water tanks is a 250,000 gallon elevated tank that was constructed in 1974. The tank contains lead paint and requires refurbishment, upgrading and repainting. Its need to be repainted is overdue by several years and the necessary repairs and upgrades are estimated to cost approximately $640,000. (PSC REF#: 275216.) However, previous and current plans have been to install a larger tank and demolish this older tank. For comparison purposes, replacement of the 250,000 gallon tank with another 250,000 gallon tank is estimated to cost approximately $1,225,000. The proposed larger 750,000 gallon elevated tank would be constructed on the City Hall property where the existing tank is located. As part of this project's cost, the existing tank will be demolished and removed.

A system the size of the City of Pewaukee needs two elevated tanks for reliability in situations where tank one needs to be removed from service for maintenance or painting. Also, having two water tanks benefits daily functioning of Pewaukee's municipality and water system. There are two larger areas of Pewaukee that are connected by a long transmission main. Having a tank in each of the two major areas will provide better water pressure stability.

This Utility has a history of requiring new customers to pay for the facilities that will initially supply those new customers through Reserve Capacity Assessments (RCAs). In 1974, when the Utility was initially formed, it made use of a deep well and water tower that was originally constructed for the Company Central Stores of Wisconsin Electric Power Company. At the time of the formation of the Utility, the Town of Pewaukee Sanitary District adopted RCA charges applicable to new customers and stated, "There is capacity in the initial system to service an area considerably beyond the properties fronting the proposed mains at the time this ordinance was passed. This [Sanitary District] Commission directs that additional oversizing costs in future extensions will also be paid from RCAs." (PSC REF#: 194207.) The Town of Pewaukee later became a City and took over the assets of the Sanitary District. However, this system of financing the new supply facilities affects the Public Service Commission's evaluation of whether the project will increase the value or available quantity of service in proportion to any addition to the utility's cost of service.

The Commission last determined reasonable utility rates for this utility in Docket 4625-WR-102 with a rate order issued on February 14, 2014. (PSC REF#: 199410.) That rate order explained that plant additions that will be financed through RCAs are not included in Net Investment Rate Base. That order directed the Utility to track the funds that are

collected through RCAs and the cost of facilities that are constructed with RCA funds in order to monitor the Utility's net recovery of those costs. In the utility rate making process, facilities that are paid for by RCAs are treated in the same manner as facilities that are constructed by a developer and contributed to the Utility. Accordingly, to the extent the facilities will be paid for through RCAs, the facilities do not add to the Utility's cost of service. The evaluation of the effect on the cost of service is only applicable to that portion of the facilities that replaces existing facilities.

The elevated water tower for which construction authority is sought will in part replace existing facilities and in part will provide additional capacity to serve additional new customers. The water tower will be a 750,000 gallon water tower. It is replacing a 250,000 gallon water tower. In a data request issued on August 27, 2015, staff sought further information to assist in determining the appropriate allocation of the construction costs between those to be paid for through Utility rates and those to be paid for through RCAs. Staff obtained the information that the direct costs associated with only the replacement of the 250,000 gallon tower would have been $1,225,000. The comparable direct costs of the construction of the 750,000 gallon water tower are $2,005,000. It is reasonable to conclude that 61 percent of the cost of this project will be associated with replacing an existing facility and may be includable in rate base. (PSC REF#: 275678.) The remaining 39 percent of the cost of this project should be paid for through RCAs and should be accounted for as contributed plant. For purposes of providing an estimate of the impact of this construction on the utility's cost of service, a rate impact calculation is based on an estimated $1,690,615 addition to rate base.

The total estimated cost of this project is $2,771,500. However, the portion of these costs that are included in this rate impact calculation is $1,690,615. The Utility plans to fund this project with 10 to 20 year bonds at an anticipated 3 percent interest rate. Commission staff estimates that considering the portion project that may be included in rate base, this project would result in the need to increase rates by 13 percent.

The following additional detail shows the project's projected rate impact in terms of an average Utility customer's bill. For an average residential customer using 15,250 gallons per quarter, the estimated 13 percent increase in general service rates would cause the bill to increase from $68.36 to $77.25 per quarter. This does not include the portion for public fire protection which for this Utility is charged directly to water customers and therefore is on their water bills. This fire protection direct charge portion of the water bill is based on a charge of $0.04505 per $1,000 of assessed value. The 13 percent increase would bring this charge to $0.05091 per $1,000 of assessed value and then applied to the total assessed value of each customer's property.

This estimated rate impact is provided for information purposes. The actual amount of any rate increase and the portion of the costs of this project included in the rate base would be determined at the time that the Utility submits an application for a rate increase. The amount of any increase would depend on several factors, including but not limited to, project financing, growth in customer demand, inflation, actual project costs, and the requested rate of return.

The proposed construction is needed to provide a water supply that meets minimum standards for reliability. The Commission believes that completion of this project at the

estimated cost will not impair the efficiency of the Utility's service and, when placed in operation, will not disproportionately add to the costs of service.

This is a Type III action under Wis. Admin. Code § PSC 4.10(3). No unusual circumstances suggesting the likelihood of significant environmental effects on the human environment have come to the Commission's attention. Neither an environmental impact statement under Wis. Stat. § 1.11 nor an environmental assessment is required.

Certificate

City of Pewaukee Water Utility, as a public utility, is authorized to construct the facilities proposed in its June 20, 2015, application. The total cost of these improvements is estimated to be $2,771,500.

Order

1. The Utility's application for authority to construct facilities in Waukesha County, at an estimated total cost of $2,771,500 is granted.

2. The Utility shall account for 39 percent of the cost of this project as contributed plant.

3. The Utility shall acquire any other necessary permits and approvals required from other governmental entities before proceeding with construction.

4. The Utility shall promptly notify the Commission if the location of the proposed project changes or if the actual cost of the project exceeds $2,771,500 by more than ten percent and provide a reason for the change.

5. Unless the Commission grants an extension, the Utility must commence construction within two years of the effective date of this Certificate and Order.

6. This Certificate and Order takes effect one day after the date of service.

7. Jurisdiction is retained.

Dated at Madison, Wisconsin, October 20, 2015

For the Commission:

Jeff Stone
Administrator
Division of Water, Compliance and Consumer Affairs

JAS:PKF:pc:DL:00978458

See attached Notice of Rights

W233 N2080 Ridgeview Parkway • Waukesha, WI 53188-1020 • Tel. (262) 542-5733

March 17, 2015

Mr. Jeffrey L. Weigel, P.E.
Director of Public Works/Engineer
City of Pewaukee
W240 N3065 Pewaukee Road
Pewaukee, WI 53072

RE: City of Pewaukee - Water RCA Study

Dear Mr. Weigel,

We have completed a draft of the Water Reserve Capacity Assessment (RCA) update and submit our analysis and findings for your review.

Ruekert & Mielke, Inc. (R/M) was originally retained to update the prior RCA studies and develop a tracking tool that could be used to monitor Water RCA balance and assess the adequacy of the current annual charge through the planning period 2015-2035. This tool comparing actual expenditures to RCA income will enable the City of Pewaukee Water Utility to comply with the Public Service Commission Final Decision in Docket 4625-WR-102. In this docket, the PSC required the Utility to file a report of the cumulative status of RCA collections compared to costs each year. This report is to be filed in conjunction with the Utility's PSC Annual Report by April 1st each year.

We prepared a schedule of RCA charges for water facilities using a projection of new customer connections and project costs for the planning period. Project funding includes a combination of RCA cash and new debt issuances. A copy of that analysis is enclosed. We believe that the revised method of forecasting RCA income based on historical analysis will track more accurately with actual experience and address the timing concerns that the PSC staff was concerned with in conducting the 2013-14 water rate case. This method will provide full recovery of the costs that the City can expect to incur for the water projects needed to extend service to future development.

Reserve Capacity Assessments

Reserve capacity assessments were computed for facilities based on the premise that new connections to the system should be required to "buy into" the new capacity needed to serve their parcel. In the earlier studies, the RCAs were computed for each infrastructure system by dividing a projection of future planned improvements to be financed through RCAs by the new capacity of the proposed capital facilities in Residential Equivalent Connections (RECs), to arrive at a current charge per REC. For the current study, the present RCA level was increased to provide a base RCA charge beginning in 2015. This new base charge is increased

5) The total historical value of RCA collections was reduced by the amount of outstanding long-term debt associated with RCA funded plant to arrive at the current balance of the RCA fund.

RCA Charge and Application

As shown in Table 5 of the enclosed analysis, the 2015 water utility RCA is $4,328 per REC. This base rate would be inflated 3.00% per year through the design period to be adjusted as needed to reflect actual costs/changes over the study period. The water RCAs would apply only to new connections within the City of Pewaukee to be provided with water service. Consistent with the recent past they would not be applied on private fire protection connections. We recommend laterals larger than one-inch be charged based on the rate multiplied by the PSC established ratio of equivalent service laterals but not to exceed the charge on a 3-inch lateral. This creates more equity between large and small users without jeopardizing desirable business growth.

The planned cost of future capital facilities, in terms of RECs, was computed based on information and data contained in the above-referenced PSC rate case workpapers from Docket 4625-WR-102 and R/M planning documents of supply, storage and transmission mains for the period 2015-2035.

Evaluation of RCA Use

The RCA alternative is consistent with past and current City practice in funding water supply, storage and transmission main capital costs. By adopting the past methodology of determining the RCA charge it continues the rate philosophy previously used. By simplifying the application to the historical 10-year annual REC connection average it makes the tracking mechanism more administratively feasible and realistic in terms of the dollars that can be depended on to be generated over the typical 20-year life of bonds or other debt vehicles. Because of the magnitude of the projected capital improvements to be funded with RCA dollars, it is necessary to provide long-term financing. The associated debt service can be paid using RCA cash, but will require structuring the bonds to pay only annual interest with the full principal due with the final payment.

Broadly speaking, RCAs have the advantage of fewer fund management requirements as compared for example to an Impact Fee. Each separate component of the RCA does not have to be deposited into a separate account. There is also no requirement that RCAs be applied only to the proportionate share of the cost of each improvement needed to serve future development.

A disadvantage of using RCAs is that the PSC is now requiring the Utility to provide annual tracking and reporting of actual RCA revenues and expenditures. In so doing the PSC is

The proposed alternative should be reviewed by the City Attorney with respect to the legal aspects of implementation.

Very truly yours,

RUEKERT & MIELKE, INC.

David A Sheard

David A. Sheard
Senior Economic Consultant
dsheard@ruekert-mielke.com

DAS:crp
Enclosure
cc: Kenneth R. Ward, P.E., Ruekert & Mielke, Inc.
File

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Reserve Capacity Assessment for Existing Water System Capacity

The existing City water supply and distribution system serves customers within the City of Pewaukee only. The system consists of wells, pumping stations, booster stations, storage tanks and reservoirs, and water mains, hydrants, valves and meters.

Based on projected costs of needed new well capacity, storage and transmission mains in the 2015-2035 study period and forecast new customer connections through 2045, an annual RCA per Residential Equivalent Connection (REC) is computed as shown in Table 5. The RCA dollar balance is used to fund new well capacity, storage and transmission mains (oversizing). Certain transmission main projects are funded in part or whole by developer contribution or special assessments. Other capital costs including treatment that benefits new and existing customers alike is financed through general service rates as prescribed by the Public Service Commission (PSC).

Reserve Capacity Assessment for Planned Water System Capacity

In 2014, as part of the RCA evaluation, Ruekert/Mielke prepared water supply, storage and transmission facilities planning through 2035 for the City. This planning effort evaluated the capacity of the system to serve both existing and future customers and is incorporated herein by reference with a summary in the Appendix to this Report. The planning study recommended additional well, pumping station, treatment, storage and transmission main facilities. The improvements will be needed primarily to provide excess capacity for anticipated future development in the City of Pewaukee and generally will be funded through RCAs or debt financing amortized with RCA cash.

The cash flow projection in Table 5 takes into account the actual fee collections to date, future debt service for future projects and projected fees to be collected from new development in the future. Based on this analysis, the calculated RCA for 2015 would be $4,328 per REC. This amount would be increased annually for inflation (3.00% in attached Table 5). The RCA fee represents the amount that would generate sufficient revenues to cover the RCA share of cash or debt service given the underlying assumptions.

The estimated total cost of the planned water system improvements, including estimated future transmission water mains for the planning period is $29,583,530[i]. Approximately $11,774,019 would be RCA funded either with cash payment or debt amortized with RCA funds. Based on the estimated cost and the total forecast number of REU connections over the planning period, an annual Reserve Capacity Assessment per REC is computed for the facilities as shown in Table 5.

[i] In 2014 dollars

Table 1: RCA for Existing RCA Charges

Table 1

Reserve Capacity Assessment for Existing RCA Charges

			City's 1996 Review	City's 2004 Review	
1996 Analysis	Estimated Cost		$7,794,875	$15,811,000	
	Collected		$0	$2,408,000	
	Net		$7,794,875	$13,403,000	
	REUs		5200	4540	
	RCA Fee		$1,499.01	$2,952.20	
Estimated increase in ave day demand mgd		1.562			
RM est 2020 ave day pumpage				2,602,000	mgd
2013 ave day				1,246,000	0.4788624
2004 Analysis	Estimated Cost	$13,403,000	$13,403,000		
	REUs	4540	4540		
	RCA Fee	$2,952.20	$2,952.20		
		Estimated 2020 annual pumpage		949,730,000	mgd

RCA Fee (Inflationary Increase)	
2005	3,190
2006	3,318
2007	3,438
2008	3,514
2009	3,735
2010	3,713
2011	3,869
2012	4,008
2013	4,100

Table 3: Forecast Capital Improvents to be Funded by RCAs - Page 1

Table 3 Forecast Capital Improvements to be Funded by RCAs Page 1 of 2

Updated through 12/31/14 actuals

Item Description	Year Planned	Cost	Percent RCA Funded	RCA Fee Amount	2014	1 2015	2 2016	3 2017	Inflation Rate 4 2018	0.03 5 2019	6 2020
Well 8	2014	$2,194,611	100%	$2,194,611	$2,194,611						
WM - Swan Road	2014	$1,037,172	Actual	$87,206	$87,206						
Swan Road wetland and culver crossing	2014	$103,459	100%	$103,459	$103,459						
WM-Lakefield Dr.	2014	$349,523	Actual	$34,783	$34,783						
WM-Duplainville/Lindsay/Weyer	2014	$947,579	Actual	$77,026	$77,026						
Duplainville/Lindsay/Weyer--RR & Duplainville Crossing	2014	$89,915	100%	$89,915	$89,915						
WM-Bluemound Road S.	2014	$634,739	Actual	$63,257	$63,257						
Well 5 Treatment [1/]	2015	$1,274,000	0%	$0		$0					
Replacement Elevated Tank [/2]	2015	$2,525,000	0%	$0		$0					
WM-Deer Haven Ct. to E. Fieldhack Dr.	2015	$115,570	1%	$1,156		$1,190					
WM-Lindsay Road WM (Wilhar to Swan Road)	2016	$3,318,900	25%	$829,725			$880,255				
Lindsay Road (Wilhar to Swan Road) STH 74 Crossing	2016	$263,250	100%	$263,250			$279,282				
WM-Bluemound Road CTH F and River Crossings	2018	$1,299,935	75%	$974,951					$1,097,316		
WM-CTH SS (780 feet west of CTH G to Orchard Lane)	2018	$494,416	10%	$49,442					$55,647		
WM-CTH SS (Oak St. W. to Edgewater DR.)	2018	$863,993	10%	$86,399					$97,243		
WM-Edgewater/Spring Creek Dr.	2018	$611,130	10%	$61,113					$68,783		
Booster Station 1	2020	$130,000	100%	$130,000							$155,227
WM-Lindsay Road (Swan Road to High St.)	2020	$2,232,620	25%	$558,155							$666,466
Lindsay Road (Swan Road to High St.) STH 164 crossing	2020	$185,250	100%	$185,250							$221,198
WM-High St. (Lindsay Rd. north to CTH KF)	2020	$171,958	25%	$42,990							$51,332
Well 13 (Sandstone Well...at Well No. 8)	2025	$734,000	100%	$734,000							
Northwest Area Well	2025	$877,500	100%	$877,500							
NW Area Elevated Tank	2025	$1,177,000	100%	$1,177,000							
WM-Ryan Road (CTH KF)--(High St. to 1400' sout of S. of CTH JK)	2025	$294,840	25%	$73,710							
WM-Ryan Road (CTH KF):-(E-W, N-S segment to Capitol Dr. Crossing)	2025	$1,945,327	25%	$486,332							
Ryan Road (CTH KF) Capitol Dr. Crossing	2025	$292,500	100%	$292,500							
WM-Ishnala Trails (Capitol Dr. to Glacier Rd)	2025	$941,460	10%	$94,146							
WM-Glacier Rd (Ishnalla to Village of Pewaukee)	2025	$916,695	10%	$91,670							
Glacier Rd (Ishnalla to Village of Pewaukee) river crossing	2025	$91,000	100%	$91,000							
Booster Station 2	2025	$130,000	100%	$130,000							
WM-Springdale Road (developer financed)	2035	$633,932	1%	$6,339							
WM-Springdale Road Extension (Capitol Dr to Weyer Road)	2035	$1,666,080	75%	$1,249,560							
Booster Station 3	2035	$130,000	100%	$130,000							
TOTAL PROJECTS		$28,673,354		$11,266,444	$2,650,257	$1,190	$1,159,537	$0	$1,318,990	$0	$1,094,223
FINANCING					Cash	Cash	Debt		Debt		Cash
Debt							$1,159,537		$1,318,990		
Cash					$2,650,257	$1,190					$1,094,223

1/ Treatment facilities are placed in rate base and not paid for with RCA funds

2/ Replace smaller tank with 750,000 gallon tank: 1/3 of the added capacity is to meet 2035 peak day demand but use "0" as it was included in rate base in 2014 rate case

3/ Assumes annual cost inflation of 3% per year

Table 4: Cash and Debt Financing for Project Costs - Page 1

Table 4 - Cash and Debt Financing for Project Costs Page 1 of 2

Part 1- Debt Financing

								Interest Rate	4.00%						
				Annual Debt Service				Term	20	Interest Payments Principal at end					
Initial Debt Year	Total Actual / Projected Project Costs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2016	$1,159,537			$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381
2017	$0														
2018	$1,318,990					$52,760	$52,760	$52,760	$52,760	$52,760	$52,760	$52,760	$52,760	$52,760	$52,760
2019	$0														
2020	$0							$0	$0	$0	$0	$0	$0	$0	$0
2021	$0														
2022	$0														
2023	$0														
2024	$0														
2025	$5,603,181												$224,127	$224,127	$224,127
2026	$0			$0											
Total	$8,081,708	$0	$0	$46,381	$46,381	$99,141	$99,141	$99,141	$99,141	$99,141	$99,141	$99,141	$323,268	$323,268	$323,268

Part 2- Cash Financing

Total	$6,323,851	$2,650,257	$1,190					$1,094,223							
Total [1/]	$14,405,559	$2,650,257	$1,190	$46,381	$46,381	$99,141	$99,141	$1,193,364	$99,141	$99,141	$99,141	$99,141	$323,268	$323,268	$323,268

1/ The total plant that is either debt or cash financed is $14,405,559 which is more than CIP tab total of $ 11,266,444 due to inflating projects 3% per year from estimate in 2014 dollars

Table 5: RCA Fee Computation and Cash Flow Projection

Table 5

RCA Fee Computation and Cash Flow Projection

Year	New REUs	Fee/REC [1]	Collected	Interest Income [2]	Cash Cost or Debt Service	Balance
						$0
1977-2012	0	var	$8,657,421	$0	($5,292,871)	$3,364,550
2013	57	$4,100.00	$215,396	$16,823	($93,668)	$3,503,101
2014	116	$4,208.00	$489,588	$17,516	($2,650,257)	$1,359,947
2015	75	$4,328.00	$324,600	$6,800	($1,190)	$1,690,157
2016	75	$4,458.00	$334,350	$8,451	($46,381)	$1,986,576
2017	75	$4,592.00	$344,400	$9,933	($46,381)	$2,294,527
2018	75	$4,730.00	$354,750	$11,473	($99,141)	$2,561,609
2019	75	$4,872.00	$365,400	$12,808	($99,141)	$2,840,676
2020	75	$5,018.00	$376,350	$14,203	($1,193,364)	$2,037,865
2021	75	$5,169.00	$387,675	$10,189	($99,141)	$2,336,588
2022	75	$5,324.00	$399,300	$11,683	($99,141)	$2,648,430
2023	75	$5,484.00	$411,300	$13,242	($99,141)	$2,973,831
2024	75	$5,649.00	$423,675	$14,869	($99,141)	$3,313,234
2025	75	$5,818.00	$436,350	$16,566	($323,268)	$3,442,882
2026	75	$5,993.00	$449,475	$17,214	($323,268)	$3,586,303
2027	75	$6,173.00	$462,975	$17,932	($323,268)	$3,743,942
2028	75	$6,358.00	$476,850	$18,720	($323,268)	$3,916,243
2029	75	$6,549.00	$491,175	$19,581	($323,268)	$4,103,731
2030	75	$6,745.00	$505,875	$20,519	($323,268)	$4,306,856
2031	75	$6,947.00	$521,025	$21,534	($323,268)	$4,526,147
2032	75	$7,155.00	$536,625	$22,631	($323,268)	$4,762,135
2033	75	$7,370.00	$552,750	$23,811	($323,268)	$5,015,427
2034	75	$7,591.00	$569,325	$25,077	($323,268)	$5,286,561
2035	75	$7,819.00	$586,425	$26,433	($4,060,986)	$1,838,432
2036	75	$8,054.00	$604,050	$9,192	($276,887)	$2,174,788
2037	75	$8,296.00	$622,200	$10,874	($1,595,876)	$1,211,985
2038	75	$8,545.00	$640,875	$6,060	($224,127)	$1,634,793
2039	75	$8,801.00	$660,075	$8,174	($224,127)	$2,078,914
2040	75	$9,065.00	$679,875	$10,395	($224,127)	$2,545,057
2041	75	$9,337.00	$700,275	$12,725	($224,127)	$3,033,930
2042	75	$9,617.00	$721,275	$15,170	($224,127)	$3,546,247
2043	75	$9,906.00	$742,950	$17,731	($224,127)	$4,082,801
2044	75	$10,203.00	$765,225	$20,414	($5,827,308)	($958,868)
2045	75	$10,509.00	$788,175	($4,794)	$0	($175,487)
2046	75	$10,824.00	$811,800	($877)	$0	$635,435
Total			$26,409,830	$483,070	($26,257,464)	

1. Assumes 3.00% annual rate increase after 2015
2. Assumes 0.50% interest rate per year on the RCA fund balance

Assuming the sandstone well can be pumped at 500 gpm, at least 200 gpm of additional well capacity will be needed. It is proposed to construct an additional well in the northwest part of the City. Currently there are no water system facilities in the northwest part of the City. This portion of the City is somewhat isolated because it is separated from the remainder of the City by the Village of Pewaukee. In order to provide water service to this area, it will be necessary to construct a water main through the Village. Because the northwest part of the City will be supplied through a single long transmission main, it is recommended that the future well be constructed there. The land in the far west part of the City may be underlain by a significant sand and gravel aquifer. Hydrogeologic investigations will be needed to explore for potential well sites.

Current storage capacity is adequate. The Well 8 facility includes a 0.29 MG reservoir which will be needed to meet projected future demands. For a number of years it has been planned to replace the existing 250,000 gallon elevated tank located at the City Hall site with a larger tank. The original location selected for the new tank was initially approved, but subsequently rejected by Waukesha County for being too close to the Waukesha County Airport. The location currently under consideration is at the City Hall site. A 750,000 gallon tank was approved by the DNR and PSC.

A future 200,000 gallon tank will be located in the northwest portion of the City, west of the Village of Pewaukee, when that area develops.

	Available RCA's		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
S. F. Subdivisions Under Construction													
Woodleaf Reserve		7	2	2	2	1							
Woodleaf Reserve Add. No. 1		40	8	8	8	8	8						
Victoria Station III		0											
Victoria Station IV		12	4	4	4								
Broken Hill & No. 1		7	2	2	2	1							
Broken Hill & No. 2 (Bielinski)		14	2	3	3	3	3						
Hawks Meadow & Addition		5	2	2	2								
Still River		38	7	8	8	8	7						
Wyndemere		9	2	2	2	2	1						
Greenwood Manor		5	1	1	1	1	1						
Sunder Creek		5	1	1	1	1	1						
LOTS AVAILABLE FEB 2017		142	31	33	33	25	21	0	0	0	0	0	
Condo Development													
Meadowbrook Village		71	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	2.2		
Foxtrail		4		2		2							
Auburn Ridge		4	2	2									
Subtotal		79	10.6	12.6	8.6	10.6	8.6	8.6	8.6	8.6	2.2	0	
S.F. Subdivisions Preliminay Plat													
Woodleaf Reserve		99			12	12	12	12	12	12	12	15	
Whispering Winds		21			4	4	4	4	5				
Subtotal		120	0	0	16	16	16	16	17	12	12	15	
Totals			41.6	45.6	57.6	51.6	45.6	24.6	25.6	20.6	14.2	15	342
	RCA Rate		$ 4,517	$ 4,653	$ 4,792	$ 4,936	$ 5,084	$ 5,236	$ 5,394	$ 5,555	$ 5,722	$ 5,894	
	RCA Pd.		$ 187,907	$ 212,154	$ 276,024	$ 254,690	$ 231,827	$ 128,816	$ 138,074	$ 114,440	$ 81,252	$ 88,405	$ 1,713,591

Potential Devleopment Areas Within Current Water Service Area

Swan Road Neighborhood Planning Area 3	150
Century Farm Planing Neighborhood Area 4	325
Existing Woods Edge Subd.	*18*
Spring Creek Planning Neighborhood 5	100
Existing Valley Brook Subd.	*85*
Green Road Planning Neighborhood 6	*25*
Existing Shady Ln. & Shady Nk. Subd.	*21*
Springdale Neighborhood Plan Area 7	250
Quarry Neighborhood Plan Area 9	70
Existing Sherwood Forest Subd.	*72*
Office Industiral Neighborhood Plan Area 10	30
City Center Neighborhood Plan Area 11	19
North Bluemound Neighborhood Plan Area 12	300
South Lake Neighborhood Plan Area 13	*625*
	2090

$ 9,440,530 possible future RCA's 2017 rate

Existing Homes Near Water System	
Existing Woods Edge Subd.	*18*
Existing Valley Brook Subd.	85
Existing Shady Ln. & Shady Nk. Subd.	21
Existing Sherwood Forest Subd.	*72*
South Lake Neighborhood Plan Area 13	625
	821

Water Pipe Extensions with significant deferrals

Year	Project	Main Cost	No. Services	Main Deferments	System Costs (non-assessable)	
2004	Pewaukee Road (Green Rd to Swan Road)	$ 585,811			$ 375,164	
2012	Bluemound Road/College Ave	$ 524,279	$ 73		$ 1,215,952	
2014	Lakefield Drive	$ 292,666	$ 22			
2014	Dupl/Lindsay/Weyer	$ 305,715	$ 35	$ 683,363		
2015	Swan Road	$ 213,138	$ 44	$ 1,177,104		
2015	Lindsay Road	$ 66,085	$ 13	$ 559,182		
		$ 1,987,694	$ 187	$ 2,419,649	$ 1,591,116	$ 5,998,646

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.4.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY: Jeffrey Weigel, Public Works Director and City Engineer

SUBJECT:

Discussion and possible recommendation of the Pewaukee Common Council becoming the Water Utility General Authority of PSC reporting purposes.

BACKGROUND:

Prior to incorporation as a City, the Town of Pewaukee Sanitary District No. 3 was under the Sanitary District Commission, appointed by the Town Board. The Commission had full authority over the Water and Sewer Utility, including the levy of property taxes.

Upon incorporation as a City, the Sanitary District ceased to exist, and the Water and Sewer Utility were brought into the City government. A Public Works Committee was established to fill the statutory requirements of a Board of Public Works; however all authority remained with the Pewaukee Common Council.

To date, we have been reporting to the Public Service Commission of Wisconsin that the Utility reported to a Board or Commission. It is time to clarify that in the City of Pewaukee that the Common Council has full and complete authority over the Sewer and Water Utility operations.

FINANCIAL IMPACT:

The short term fiscal impact is that we will need assistance from financial consultants, probably for 2018 and lesser moving beyond. The longer term impact should be that the financial status of the Water utility would be more positive and compliant with best practices and regulations.

RECOMMENDED MOTION:

Public Works Committee recommends to the Common Council that the Common Council formally recognize its responsibilities and authority pursuant to Public Service Commission of Wisconsin regulations.

ATTACHMENTS:

Description

PSC report page of designated authority

Identification and Ownership - Governing Authority and Audit Information

Utility Governing Authority

Select the governing authority for this utility.

_x_Reports to utility board/commission

___Reports directly to city/village council

Audit Information

Are utility records audited by individulas or firms other than utility employees? _x_Yes __No

Date of most recent audit report: 05/26/2015

Period covered by most recent audit: YEAR ENDED DECEMBER 31, 2014

Individual or firm, if other than utility employee, auditing utility records

Name:	HOWARD JEANSON
Title:	CPA
Organization Name:	ROTROFF JEANSON & COMPANY, SC
USPS Address:	385 WILLIAMSTOWNE, SUITE 204
City State Zip	DELAFIELD, WI 53018
Telephone:	(262) 303-4701
Email Address:	howard@rotroffjeanson.com

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.5.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY:

SUBJECT:

Discussion and possible recommendation to implement the collection of water pipe special assessments from properties that have had the water system available for at least five years. This may involve conducting several public hearings on the special assessments.

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.6.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY: Jeffrey Weigel, Public Works Director and City Engineer

SUBJECT:

Discussion and possible recommendation to implement policies to extend municipal water infrastructure to properties only if the special assessments become payable within an established, consistent timeframe (suggest five years)

BACKGROUND:

The long standing policy of letting existing properties to avoid paying water main special assessments until the property choses to connect to the water system has left the Utility with millions of dollars of pipe infrastructure construction with no known time or expectation of payment of the infrastructure. In other words we have expended millions of dollars on building water main with very few properties paying us back for these investments.

FINANCIAL IMPACT:

If we continue to allow properties to not pay for the water system that was installed to eventually serve that property, our fiscal position will worsen, continueing to spend money, depreciate the expense and deplete cash reserves will quicken our path to bankruptcy. To adopt the recommended action will be the first step in reversing this path.

RECOMMENDED MOTION:

Public Works Committee recommends to the Common Council that water main not be extended past properties without a specific date or plan that would require the payments of special assessments, recommend 5 years.

ATTACHMENTS:

Description

Proposed Oak Street

Spreadsheet of Pipe Assessments

CITY OF PEWAUKEE
The City in the Country

Department of Public Works

W240 N3065 Pewaukee Road
Pewaukee, WI 53072

DPW Main Office: (262)-691-0804 Fax: 691-5729
Water & Sewer Division 691-0804 Fax: 691-5729
Street Division 691-0771 Fax: 691-6079
Engineering Division 691-0804 Fax: 691-5729

TO: Common Council

FR: Jeffrey Weigel, Public Works Director

DT: January 31, 2017

RE: Authorize letter inquiring on interest in municipal water service for Oak Street & Peninsula Drive

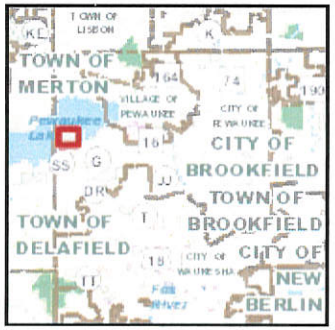
REQUESTED ACTION:
Common Council authorizes staff to send a letter to the property owners on Oak Street and Peninsula Drive inquiring on the level of interest in the City installing municipal water services as a part of a future street paving project.

RATIONALE:
In recent Capital Budget proposals for road projects, we have included the reconstruction of Oak Street and Peninsula Drive in the lake region. 2017 is a year for engineering design and 2018 is anticipated for street reconstruction.

The general project limits are Oak Street between Rocky Point Road and Woodland Drive, and all of Peninsula Drive. Please see the enclosed air photo. This area is generally rural in nature (ditches) and very dense in homes. All homes are served by sanitary sewer constructed by the Lake Pewaukee Sanitary District (LPSD) and private wells. The existing municipal water is shown in blue, limited to the homes constructed as a part of the Rocky Point subdivision. As a part of the design process in these types of areas, we recommend sending a letter similar to the enclosed Draft letter to inquire if any of the property owners are interested in municipal water. This is particularly important given the high groundwater in the area, and it would be very expensive to add the water mains after the road is reconstructed, must likely resulting in the total reconstruction of the road pavement and road base should water be added at a date after the 2018 project.

PEWAUKEE GIS Viewer Wisconsin

City of Pewaukee GIS Map



Legend

- Civil Division Boundary
- Parks
- Sanitary Mains
- Water Mains
- Municipal Boundary_1K
- Railroad_1K
- TaxParcel_1K_Labels
- SimultaneousConveyance
  - Assessor Plat
  - CSM
  - Condo Plat
  - Subdivision Plat
- TaxParcel_1K
- Cartoline_1K
  - <all other values>
  - EA-Easement_Line
  - PL-DA
  - PL-Extended_Tie_line
  - PL-IA
  - PL-Meander_Line
  - PL-Note
  - PL-Original_Parcel_Line
  - PL-PT
  - PL-Tie
  - PL-Tie_Line
  - ROW_CL
  - RR_CL
  - RW_Radius
  - SD-SD_Block_O_100

0 372.73 Feet

City of Pewaukee Disclaimer

Notes:

Printed: 1/31/2017

February ___, 2017

To the residents along Oak Street, Lincoln Avenue, Chicago Avenue, and Peninsula Drive:

The City is planning to reconstruct Oak Street, Lincoln Avenue, Chicago Avenue, and Peninsula Drive in the near future. It is prudent to ask the residents in this area if there is an interest in obtaining municipal water service prior to the road construction project. Along with this letter you will find a post card "ballot" to use to express your wishes on the water issue. Please mark the ballot and return it to the City Hall Public Works Department by _____. We will bring the results of the ballot or survey to the Public Works Commission at the _____ meeting (6:00 PM, City Hall Council Chambers). We will ask the Commission for the authorization to prepare the water plans if a majority of the residents were to respond in favor of the water. If a majority respond against the water, we will recommend canceling the water main project.

Please note that these ballots are used only to see if there is enough interest to authorize the engineering. A "yes" vote does not make a commitment to approve the water. If the water engineering is authorized, a Public Hearing will be held after the plans are prepared and bid. At that time, the Common Council will make the decision to approve or reject the water project, based on the public input before and during the hearing. Many projects are carried to the hearing stage only to be rejected by the residents and Council.

The costs of the water main pipes, hydrants and service laterals are paid by the residents through special assessments. Our consulting engineers have estimated the cost of these assessments to be between $8,000 and $10,000 per home. Connection to the water system is voluntary, but payment of the assessments will begin within one year of installation, and can be spread over ten years. Should you choose to connect to the water system, another assessment (hook-up fee) of $4,397 (201 6 rate) will be due. The hook-up fee is required only at the time of connection. You will also have costs associated with the work your plumber must do to connect to the water. You may keep your private well for watering your yard if your well and plumbing meet the code requirements and a permit is obtained from the City. Finally, as a water customer, you will receive a bill every three months. Our rate is $2.83 for each 1000 gallons of water plus a fixed meter charge. A "typical" home would be billed somewhere around $66 per quarter ($22 per month), depending on how much water you use.

We realize that this may be a confusing issue. Please feel free to attend the March 11th Public Works Commission meeting or call us if you have questions.

Sincerely,

Jeffrey L. Weigel, PE
Public Works Director

Cc: Acting Mayor Bierce
Alderperson Kara
Alderperson Brown

Water Pipe Extensions with significant deferrals

Year	Project	Main Cost	No. Services	Main Deferments	System Costs (non-assessable)	
2004	Pewaukee Road (Green Rd to Swan Road)	$ 585,811			$ 375,164	
2012	Bluemound Road/College Ave	$ 524,279	$ 73		$ 1,215,952	
2014	Lakefield Drive	$ 292,666	$ 22			
2014	Dupl/Lindsay/Weyer	$ 305,715	$ 35	$ 683,363		
2015	Swan Road	$ 213,138	$ 44	$ 1,177,104		
2015	Lindsay Road	$ 66,085	$ 13	$ 559,182		
		$ 1,987,694	$ 187	$ 2,419,649	$ 1,591,116	$ 5,998,646

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.7.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY: Jeffrey Weigel, Public Works Director and City Engineer

SUBJECT:

Discussion and possible recommendation to establish a formalized reporting of water and sewer financials to the Common Council, or a committee of appropriate expertise in the evaluation of the fiscal impacts of proposed projects prior to authorization.

BACKGROUND:

Fiscal management within the Water Utility has been mostly limited to annual budget preparation and cash basis management. With the Common Council clearly responsible for the Utility management, and with the changes proposed, we believe direct reporting to the Common Council on a regular basis will be a prudent first step and necessary to keep the focus, both staff focus and Council focus on the various issues affecting the Utility.

FINANCIAL IMPACT:

There will be an increase in costs, yet undetermined, due to the need for consultant financial advice and the development of best practices and procedures. As we move through this process, it is anticipated that the consultant cost would diminish as the process would lead to less need for expertise on regular practices and limited to periodic advice and reviews. Long term the fiscal impact should be positive.

RECOMMENDED MOTION:

Public Works Committee recommends that eh Common Council develops a formal process to review and authorize expenditures that specifically affect the Utility fiscal status, primarily capital expenditures and projects,

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.8.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY:

SUBJECT:

Discussion and possible recommendation to establish a review of development proposals and the impact on the water utility prior to the approval of development at the Common Council.

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.9.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY: Jeffrey Weigel, Public Works Director and City Engineer

SUBJECT:

Discussion and possible recommendation to authorize the Water and Sewer Utility to hire a financial consultant to assist the utilities in determining best financial practices and policies in operation of rate based Water and Sewer Utilities.

BACKGROUND:

The PSC staff have questioned whether our Reserve Capacity Assessment collections (RCA's) are sufficient to recover the costs to install the infrastructure. In 2015 the City submitted a new report on the RCA's. To date the PSC believes that more work on this issue is required.

FINANCIAL IMPACT:

There will be additional consultant costs. We estimate $10,000-$20,000.

RECOMMENDED MOTION:

We recommend that the Public Works Committee recommends to the Common Council the continued use of professional consultants to complete the RCA study report.

ATTACHMENTS:

Description

RCA Study report 2015

W233 N2080 Ridgeview Parkway • Waukesha, WI 53188-1020 • Tel. (262) 542-5733

March 17, 2015

Mr. Jeffrey L. Weigel, P.E.
Director of Public Works/Engineer
City of Pewaukee
W240 N3065 Pewaukee Road
Pewaukee, WI 53072

RE: City of Pewaukee - Water RCA Study

Dear Mr. Weigel,

We have completed a draft of the Water Reserve Capacity Assessment (RCA) update and submit our analysis and findings for your review.

Ruekert & Mielke, Inc. (R/M) was originally retained to update the prior RCA studies and develop a tracking tool that could be used to monitor Water RCA balance and assess the adequacy of the current annual charge through the planning period 2015-2035. This tool comparing actual expenditures to RCA income will enable the City of Pewaukee Water Utility to comply with the Public Service Commission Final Decision in Docket 4625-WR-102. In this docket, the PSC required the Utility to file a report of the cumulative status of RCA collections compared to costs each year. This report is to be filed in conjunction with the Utility's PSC Annual Report by April 1st each year.

We prepared a schedule of RCA charges for water facilities using a projection of new customer connections and project costs for the planning period. Project funding includes a combination of RCA cash and new debt issuances. A copy of that analysis is enclosed. We believe that the revised method of forecasting RCA income based on historical analysis will track more accurately with actual experience and address the timing concerns that the PSC staff was concerned with in conducting the 2013-14 water rate case. This method will provide full recovery of the costs that the City can expect to incur for the water projects needed to extend service to future development.

Reserve Capacity Assessments

Reserve capacity assessments were computed for facilities based on the premise that new connections to the system should be required to "buy into" the new capacity needed to serve their parcel. In the earlier studies, the RCAs were computed for each infrastructure system by dividing a projection of future planned improvements to be financed through RCAs by the new capacity of the proposed capital facilities in Residential Equivalent Connections (RECs), to arrive at a current charge per REC. For the current study, the present RCA level was increased to provide a base RCA charge beginning in 2015. This new base charge is increased

5) The total historical value of RCA collections was reduced by the amount of outstanding long-term debt associated with RCA funded plant to arrive at the current balance of the RCA fund.

RCA Charge and Application

As shown in Table 5 of the enclosed analysis, the 2015 water utility RCA is $4,328 per REC. This base rate would be inflated 3.00% per year through the design period to be adjusted as needed to reflect actual costs/changes over the study period. The water RCAs would apply only to new connections within the City of Pewaukee to be provided with water service. Consistent with the recent past they would not be applied on private fire protection connections. We recommend laterals larger than one-inch be charged based on the rate multiplied by the PSC established ratio of equivalent service laterals but not to exceed the charge on a 3-inch lateral. This creates more equity between large and small users without jeopardizing desirable business growth.

The planned cost of future capital facilities, in terms of RECs, was computed based on information and data contained in the above-referenced PSC rate case workpapers from Docket 4625-WR-102 and R/M planning documents of supply, storage and transmission mains for the period 2015-2035.

Evaluation of RCA Use

The RCA alternative is consistent with past and current City practice in funding water supply, storage and transmission main capital costs. By adopting the past methodology of determining the RCA charge it continues the rate philosophy previously used. By simplifying the application to the historical 10-year annual REC connection average it makes the tracking mechanism more administratively feasible and realistic in terms of the dollars that can be depended on to be generated over the typical 20-year life of bonds or other debt vehicles. Because of the magnitude of the projected capital improvements to be funded with RCA dollars, it is necessary to provide long-term financing. The associated debt service can be paid using RCA cash, but will require structuring the bonds to pay only annual interest with the full principal due with the final payment.

Broadly speaking, RCAs have the advantage of fewer fund management requirements as compared for example to an Impact Fee. Each separate component of the RCA does not have to be deposited into a separate account. There is also no requirement that RCAs be applied only to the proportionate share of the cost of each improvement needed to serve future development.

A disadvantage of using RCAs is that the PSC is now requiring the Utility to provide annual tracking and reporting of actual RCA revenues and expenditures. In so doing the PSC is

The proposed alternative should be reviewed by the City Attorney with respect to the legal aspects of implementation.

Very truly yours,

RUEKERT & MIELKE, INC.

David A Sheard

David A. Sheard
Senior Economic Consultant
dsheard@ruekert-mielke.com

DAS:crp
Enclosure
cc: Kenneth R. Ward, P.E., Ruekert & Mielke, Inc.
File

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Reserve Capacity Assessment for Existing Water System Capacity

The existing City water supply and distribution system serves customers within the City of Pewaukee only. The system consists of wells, pumping stations, booster stations, storage tanks and reservoirs, and water mains, hydrants, valves and meters.

Based on projected costs of needed new well capacity, storage and transmission mains in the 2015-2035 study period and forecast new customer connections through 2045, an annual RCA per Residential Equivalent Connection (REC) is computed as shown in Table 5. The RCA dollar balance is used to fund new well capacity, storage and transmission mains (oversizing). Certain transmission main projects are funded in part or whole by developer contribution or special assessments. Other capital costs including treatment that benefits new and existing customers alike is financed through general service rates as prescribed by the Public Service Commission (PSC).

Reserve Capacity Assessment for Planned Water System Capacity

In 2014, as part of the RCA evaluation, Ruekert/Mielke prepared water supply, storage and transmission facilities planning through 2035 for the City. This planning effort evaluated the capacity of the system to serve both existing and future customers and is incorporated herein by reference with a summary in the Appendix to this Report. The planning study recommended additional well, pumping station, treatment, storage and transmission main facilities. The improvements will be needed primarily to provide excess capacity for anticipated future development in the City of Pewaukee and generally will be funded through RCAs or debt financing amortized with RCA cash.

The cash flow projection in Table 5 takes into account the actual fee collections to date, future debt service for future projects and projected fees to be collected from new development in the future. Based on this analysis, the calculated RCA for 2015 would be $4,328 per REC. This amount would be increased annually for inflation (3.00% in attached Table 5). The RCA fee represents the amount that would generate sufficient revenues to cover the RCA share of cash or debt service given the underlying assumptions.

The estimated total cost of the planned water system improvements, including estimated future transmission water mains for the planning period is $29,583,530[i]. Approximately $11,774,019 would be RCA funded either with cash payment or debt amortized with RCA funds. Based on the estimated cost and the total forecast number of REU connections over the planning period, an annual Reserve Capacity Assessment per REC is computed for the facilities as shown in Table 5.

[i] In 2014 dollars

Table 1: RCA for Existing RCA Charges

Table 1

Reserve Capacity Assessment for Existing RCA Charges

			City's 1996 Review	City's 2004 Review	
1996 Analysis	Estimated Cost		$7,794,875	$15,811,000	
	Collected		$0	$2,408,000	
	Net		$7,794,875	$13,403,000	
	REUs		5200	4540	
	RCA Fee		$1,499.01	$2,952.20	
Estimated increase in ave day demand mgd		1.562			
RM est 2020 ave day pumpage				2,602,000	mgd
2013 ave day				1,246,000	0.4788624
2004 Analysis	Estimated Cost	$13,403,000	$13,403,000		
	REUs	4540	4540		
	RCA Fee	$2,952.20	$2,952.20		
		Estimated 2020 annual pumpage		949,730,000	mgd

RCA Fee (Inflationary Increase)	
2005	3,190
2006	3,318
2007	3,438
2008	3,514
2009	3,735
2010	3,713
2011	3,869
2012	4,008
2013	4,100

Table 3: Forecast Capital Improvents to be Funded by RCAs - Page 1

Table 3 Forecast Capital Improvements to be Funded by RCAs Page 1 of 2

Updated through 12/31/14 actuals

Item Description	Year Planned	Cost	Percent RCA Funded	RCA Fee Amount	2014	1 2015	2 2016	3 2017	Inflation Rate 4 2018	0.03 5 2019	6 2020
Well 8	2014	$2,194,611	100%	$2,194,611	$2,194,611						
WM - Swan Road	2014	$1,037,172	Actual	$87,206	$87,206						
Swan Road wetland and culver crossing	2014	$103,459	100%	$103,459	$103,459						
WM-Lakefield Dr.	2014	$349,523	Actual	$34,783	$34,783						
WM-Duplainville/Lindsay/Weyer	2014	$947,579	Actual	$77,026	$77,026						
Duplainville/Lindsay/Weyer--RR & Duplainville Crossing	2014	$89,915	100%	$89,915	$89,915						
WM-Bluemound Road S.	2014	$634,739	Actual	$63,257	$63,257						
Well 5 Treatment [1/]	2015	$1,274,000	0%	$0		$0					
Replacement Elevated Tank [/2]	2015	$2,525,000	0%	$0		$0					
WM-Deer Haven Ct. to E. Fieldhack Dr.	2015	$115,570	1%	$1,156		$1,190					
WM-Lindsay Road WM (Wilhar to Swan Road)	2016	$3,318,900	25%	$829,725			$880,255				
Lindsay Road (Wilhar to Swan Road) STH 74 Crossing	2016	$263,250	100%	$263,250			$279,282				
WM-Bluemound Road CTH F and River Crossings	2018	$1,299,935	75%	$974,951					$1,097,316		
WM-CTH SS (780 feet west of CTH G to Orchard Lane)	2018	$494,416	10%	$49,442					$55,647		
WM-CTH SS (Oak St. W. to Edgewater DR.)	2018	$863,993	10%	$86,399					$97,243		
WM-Edgewater/Spring Creek Dr.	2018	$611,130	10%	$61,113					$68,783		
Booster Station 1	2020	$130,000	100%	$130,000							$155,227
WM-Lindsay Road (Swan Road to High St.)	2020	$2,232,620	25%	$558,155							$666,466
Lindsay Road (Swan Road to High St.) STH 164 crossing	2020	$185,250	100%	$185,250							$221,198
WM-High St. (Lindsay Rd. north to CTH KF)	2020	$171,958	25%	$42,990							$51,332
Well 13 (Sandstone Well...at Well No. 8)	2025	$734,000	100%	$734,000							
Northwest Area Well	2025	$877,500	100%	$877,500							
NW Area Elevated Tank	2025	$1,177,000	100%	$1,177,000							
WM-Ryan Road (CTH KF)--(High St. to 1400' sout of S. of CTH JK)	2025	$294,840	25%	$73,710							
WM-Ryan Road (CTH KF):-(E-W, N-S segment to Capitol Dr. Crossing)	2025	$1,945,327	25%	$486,332							
Ryan Road (CTH KF) Capitol Dr. Crossing	2025	$292,500	100%	$292,500							
WM-Ishnala Trails (Capitol Dr. to Glacier Rd)	2025	$941,460	10%	$94,146							
WM-Glacier Rd (Ishnalla to Village of Pewaukee)	2025	$916,695	10%	$91,670							
Glacier Rd (Ishnalla to Village of Pewaukee) river crossing	2025	$91,000	100%	$91,000							
Booster Station 2	2025	$130,000	100%	$130,000							
WM-Springdale Road (developer financed)	2035	$633,932	1%	$6,339							
WM-Springdale Road Extension (Capitol Dr to Weyer Road)	2035	$1,666,080	75%	$1,249,560							
Booster Station 3	2035	$130,000	100%	$130,000							
TOTAL PROJECTS		$28,673,354		$11,266,444	$2,650,257	$1,190	$1,159,537	$0	$1,318,990	$0	$1,094,223
FINANCING					Cash	Cash	Debt		Debt		Cash
Debt							$1,159,537		$1,318,990		
Cash					$2,650,257	$1,190					$1,094,223

1/ Treatment facilities are placed in rate base and not paid for with RCA funds

2/ Replace smaller tank with 750,000 gallon tank: 1/3 of the added capacity is to meet 2035 peak day demand but use "0" as it was included in rate base in 2014 rate case

3/ Assumes annual cost inflation of 3% per year

Table 4: Cash and Debt Financing for Project Costs - Page 1

Table 4 - Cash and Debt Financing for Project Costs Page 1 of 2

Part 1- Debt Financing

								Interest Rate	4.00%						
				Annual Debt Service				Term	20	Interest Payments Principal at end					
Initial Debt Year	Total Actual / Projected Project Costs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2016	$1,159,537			$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381	$46,381
2017	$0														
2018	$1,318,990					$52,760	$52,760	$52,760	$52,760	$52,760	$52,760	$52,760	$52,760	$52,760	$52,760
2019	$0														
2020	$0							$0	$0	$0	$0	$0	$0	$0	$0
2021	$0														
2022	$0														
2023	$0														
2024	$0														
2025	$5,603,181												$224,127	$224,127	$224,127
2026	$0			$0											
Total	$8,081,708	$0	$0	$46,381	$46,381	$99,141	$99,141	$99,141	$99,141	$99,141	$99,141	$99,141	$323,268	$323,268	$323,268

Part 2- Cash Financing

Total	$6,323,851	$2,650,257	$1,190					$1,094,223							
Total [1/]	$14,405,559	$2,650,257	$1,190	$46,381	$46,381	$99,141	$99,141	$1,193,364	$99,141	$99,141	$99,141	$99,141	$323,268	$323,268	$323,268

1/ The total plant that is either debt or cash financed is $14,405,559 which is more than CIP tab total of $ 11,266,444 due to inflating projects 3% per year from estimate in 2014 dollars

Table 5: RCA Fee Computation and Cash Flow Projection

Table 5

RCA Fee Computation and Cash Flow Projection

Year	New REUs	Fee/REC [1]	Collected	Interest Income [2]	Cash Cost or Debt Service	Balance
						$0
1977-2012	0	var	$8,657,421	$0	($5,292,871)	$3,364,550
2013	57	$4,100.00	$215,396	$16,823	($93,668)	$3,503,101
2014	116	$4,208.00	$489,588	$17,516	($2,650,257)	$1,359,947
2015	75	$4,328.00	$324,600	$6,800	($1,190)	$1,690,157
2016	75	$4,458.00	$334,350	$8,451	($46,381)	$1,986,576
2017	75	$4,592.00	$344,400	$9,933	($46,381)	$2,294,527
2018	75	$4,730.00	$354,750	$11,473	($99,141)	$2,561,609
2019	75	$4,872.00	$365,400	$12,808	($99,141)	$2,840,676
2020	75	$5,018.00	$376,350	$14,203	($1,193,364)	$2,037,865
2021	75	$5,169.00	$387,675	$10,189	($99,141)	$2,336,588
2022	75	$5,324.00	$399,300	$11,683	($99,141)	$2,648,430
2023	75	$5,484.00	$411,300	$13,242	($99,141)	$2,973,831
2024	75	$5,649.00	$423,675	$14,869	($99,141)	$3,313,234
2025	75	$5,818.00	$436,350	$16,566	($323,268)	$3,442,882
2026	75	$5,993.00	$449,475	$17,214	($323,268)	$3,586,303
2027	75	$6,173.00	$462,975	$17,932	($323,268)	$3,743,942
2028	75	$6,358.00	$476,850	$18,720	($323,268)	$3,916,243
2029	75	$6,549.00	$491,175	$19,581	($323,268)	$4,103,731
2030	75	$6,745.00	$505,875	$20,519	($323,268)	$4,306,856
2031	75	$6,947.00	$521,025	$21,534	($323,268)	$4,526,147
2032	75	$7,155.00	$536,625	$22,631	($323,268)	$4,762,135
2033	75	$7,370.00	$552,750	$23,811	($323,268)	$5,015,427
2034	75	$7,591.00	$569,325	$25,077	($323,268)	$5,286,561
2035	75	$7,819.00	$586,425	$26,433	($4,060,986)	$1,838,432
2036	75	$8,054.00	$604,050	$9,192	($276,887)	$2,174,788
2037	75	$8,296.00	$622,200	$10,874	($1,595,876)	$1,211,985
2038	75	$8,545.00	$640,875	$6,060	($224,127)	$1,634,793
2039	75	$8,801.00	$660,075	$8,174	($224,127)	$2,078,914
2040	75	$9,065.00	$679,875	$10,395	($224,127)	$2,545,057
2041	75	$9,337.00	$700,275	$12,725	($224,127)	$3,033,930
2042	75	$9,617.00	$721,275	$15,170	($224,127)	$3,546,247
2043	75	$9,906.00	$742,950	$17,731	($224,127)	$4,082,801
2044	75	$10,203.00	$765,225	$20,414	($5,827,308)	($958,868)
2045	75	$10,509.00	$788,175	($4,794)	$0	($175,487)
2046	75	$10,824.00	$811,800	($877)	$0	$635,435
Total			$26,409,830	$483,070	($26,257,464)	

1. Assumes 3.00% annual rate increase after 2015
2. Assumes 0.50% interest rate per year on the RCA fund balance

Assuming the sandstone well can be pumped at 500 gpm, at least 200 gpm of additional well capacity will be needed. It is proposed to construct an additional well in the northwest part of the City. Currently there are no water system facilities in the northwest part of the City. This portion of the City is somewhat isolated because it is separated from the remainder of the City by the Village of Pewaukee. In order to provide water service to this area, it will be necessary to construct a water main through the Village. Because the northwest part of the City will be supplied through a single long transmission main, it is recommended that the future well be constructed there. The land in the far west part of the City may be underlain by a significant sand and gravel aquifer. Hydrogeologic investigations will be needed to explore for potential well sites.

Current storage capacity is adequate. The Well 8 facility includes a 0.29 MG reservoir which will be needed to meet projected future demands. For a number of years it has been planned to replace the existing 250,000 gallon elevated tank located at the City Hall site with a larger tank. The original location selected for the new tank was initially approved, but subsequently rejected by Waukesha County for being too close to the Waukesha County Airport. The location currently under consideration is at the City Hall site. A 750,000 gallon tank was approved by the DNR and PSC.

A future 200,000 gallon tank will be located in the northwest portion of the City, west of the Village of Pewaukee, when that area develops.

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 6.10.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY: Jeffrey Weigel, Public Works Director and City Engineer

SUBJECT:

Discussion and possible recommendation to authorize staff to obtain proposals from consultants to prepare separate Water and Sewer Facility Plan.

BACKGROUND:

Facilities plans are necessary to project the infrastructure needs of the community, and especially necessary in Pewaukee as our community is growing. Facility plans are necessary for financial projections and studies as the infrastructure constructed is expensive and needs to be planned in advance. The 2002 and 2009 Village/City merger studies essentially filled the facility planning needs at that time, but much has changed since. Facility plans are essential in properly planning a communities' services and projecting the costs.

FINANCIAL IMPACT:

We estimate the cost of the Water Facility Plan update to cost about $25,000; We estimate the Sewer Facility Plan to cost about $75,000.

RECOMMENDED MOTION:

We recommend that the Public Works Committee recommends to the Common Council to authorize the staff to prepare Requests for Proposals (RFP's) for the Water and Sewer Facility Planning and present same to the Common Council for consideration of funds as soon as is practicable.

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 7.1.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY:

SUBJECT:

City Hall Water Tower Update

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
PUBLIC WORKS COMMITTEE AGENDA ITEM 7.2.

DATE: December 7, 2017

DEPARTMENT: PW - Water/Sewer

PROVIDED BY:

SUBJECT:

Well 1 Radium Mitigation - Status

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION: