DRAFT

COMMITTEE OF THE WHOLE
MONDAY – DECEMBER 10, 2018
LIBRARY MEETING ROOM - 380 N. WILMOR ROAD
WASHINGTON, ILLINOIS

Mayor Manier called the Committee of the Whole meeting of December 10, 2018 to order at 7:00 p.m. in the Library meeting room at Five Points Washington.

Present: Aldermen Adams, Brownfield, Brucks, Butler, Cobb, Dingledine, Gee, and Moss.

Absent: None.

Also present: Controller Baxter, Public Works Director Andrews, Public Works Manager Schone, P & D Director Oliphant, Police Chief McCoy, Deputy Police Chief Stevens, City Treasurer Dingledine, and City Clerk Brown.

MINUTES

1. Aldermen wishing to be heard on non-agenda item – None.

2. Citizens wishing to be heard on a non-agenda item – None.

3. Approval of Minutes: Alderman Gee moved and Alderman Moss seconded to approve the minutes of the November 12, 2018 regular Committee of the Whole meeting. Motion carried unanimously by voice vote.

4. BUSINESS ITEMS

   A. Water/Sewer Rate Study – Public Works Director Andrews shared that the City's water system was established in the 1920's and the sanitary sewer system was formally established in the 1950's. He introduced Mr. Tom Beckley from Raftelis and together they provided detailed findings compiled as part of the water and sewer rate study through a PowerPoint presentation (included as part of these minutes) that included detailed information on the following topics: 1) water system; 2) sanitary sewer system; 3) need for rate increase as it relates to maintaining adequate reserve funds, as it relates to capital improvements, and as it relates to increased operations and maintenance costs; 4) existing rates; 5) area bill comparisons; 6) water account discounts; 7) water & sewer as % of median household income; 8) Water Treatment Plant #2 and Water Tower #2; 9) watermain capital replacement forecast; and 10) water and sewer recommended capital improvement schedule. Following the presentation discussion ensued on timing, creating the least impact, importance of maintaining systems and moving towards being proactive, defining areas and addressing them as equitable as we can, and investing in the proper equipment to continue providing the best water we can to residents.

   B. Budget Schedule Review – Controller Baxter presented the schedule for review noting that it is similar to what has been done in the past. There were no amendments suggested by Committee.

5. Other Business – None.

6. At 7:45 p.m. Alderman Cobb moved and Alderman Brucks seconded to adjourn. Motion carried unanimously by voice vote.

Patricia S. Brown

Patricia S. Brown, City Clerk

Rate Study Update
"the Case for Capital"

COMMITTEE OF THE WHOLE
DECEMBER 10, 2018

City of Washington

Founded in 1825

Water System

Established in 1920s

Sanitary Sewer System

"Formally" Established in 1950's

Water System

- 2 Water Treatment Facilities
- 2 Water Towers (500,000 gallons each)
- Water Distribution System
  - 85 miles of watermain ranging in size from 4-inches to 16-inches
  - Serving approximately 5,400 accounts

Approximate Replacement Value = $60M

Sanitary Sewer System

- 2 Wastewater Treatment Facilities
- Sanitary Sewer Collection System
  - 6 Pump Stations
  - 1,690 Manholes
  - 77 miles of sewer ranging in size from 4-inches to 42-inches
  - Serving approximately 5,900 connections

Approximate Replacement Value = $105M

Need for Rate Increase

- Maintain Adequate Reserve Fund
- Capital Improvements
- Increased Operations and Maintenance Costs

Water & Sewer Funds

Phase 2A Debt Service

OPERATING INCOME (LOSS)

	2014	2015	2016	2017	2018
Sewer Fund	$ 820,296	$ 1,058,649	$ 727,864	$ 832,851	$ 381,919
Water Fund	$ (50,006)	$ 42,065	$ (143,726)	$ 26,859	$ 16,294

Need for Rate Increase

- Maintain Adequate Reserve Fund
- Capital Improvements
- Increased Operations and Maintenance Costs

Capital Improvements

WATER – Filter/Softener Rehabilitation
Media Replacement
Filter/Softener Repair

Capital Improvements

WATER – WTP No. 1 Levee

Capital Improvements

WATER – Water Tower No. 3

Section 604.1300 General Storage Requirements

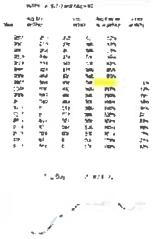
a) Storage facilities shall have sufficient capacity to meet domestic demands, and where fire protection is provided, fire flow demands.

Section 604.1340 Elevated Storage

a) The minimum storage capacity shall:

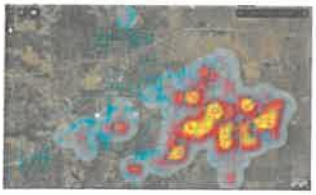
1) be equal to the average daily usage or be based on an engineering study of the distribution system hydraulic conditions, anticipated domestic water demands of the system, and where fire protection is provided, fire flow demands; and

2) be capable of maintaining adequate pressures as described in Section 604.1415(a);



Capital Improvements

Water – Watermain Replacement



Year	# of Breaks	Boil Orders Issued	Break to B.O. Rate	Avg # Accts per B.O.
2003	13	3	23%	69
2004	15	1	7%	5
2005	15	3	20%	63
2006	12	2	17%	25
2007	11	4	36%	11
2008	27	9	33%	36
2009	19	6	32%	8
2010	16	6	38%	52
2011	16	7	44%	49
2012	19	6	32%	20
2013	22	7	32%	26
2014	18	6	33%	11
2015	15	7	47%	82
2016	10	2	20%	18
2017	15	3	20%	9
2018	8	3	38%	8
Avg	16	5	29%	31

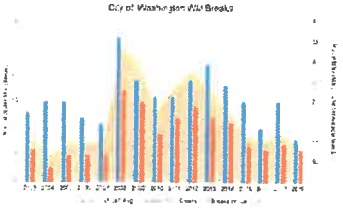
Capital Improvements

Cast Iron Water Main:

Accounts for less than 1/3 of the system but represents an average of 2/3 of the breaks.

Is the oldest main type in our system at 100 years old.

Breaks on the Cast Iron started exceeding 100% of the AWWA National Average in 2005.



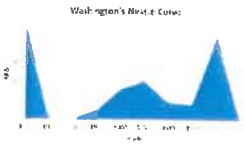
Capital Improvements

This curve is then used to forecast replacement needs using AWWA's findings:

The oldest cast iron pipes—dating to the late 1800s—have an average useful life of about 120 years. This means that, as a group, these pipes will last anywhere from 90 to 150 years before they need to be replaced, but on average they need to be replaced after they have been in the ground about 120 years.

Because manufacturing techniques and materials changed, the roaring '20s vintage of cast-iron pipes has an average life of about 100 years.

And because techniques and materials continued to evolve, pipes laid down in the Post-World War II boom have an average life of 75 years, more or less. Using these average life estimates and counting the years since the original installations shows that these water utilities will face significant needs for pipe replacement over the next few decades.



Decade	Miles	Est Life	Repair Yr	Mi/Yr
1900	23.6	100	2000	2.36
1910	[illegible]	[illegible]	[illegible]	0
1940	[illegible]	[illegible]	1940	0
1950	7	75	2025	0.93
1960	8.1	75	2035	0.81
1970	10.1	75	2045	1.35
1980	4.8	75	2055	0.64
1990	4.1	100	2090	0.41
2000	21.6	100	2100	2.16
2010	1.1	100	2110	0.11

Capital Improvements

Sewer – Phase 2b

Trunk Sewer is the replacement of approximately 2.3 miles of 50 year old sanitary trunk line connecting Sewer Treatment Plant #1 with Sewer Treatment Plant #2. The alignment follows portions of Farm Creek and the TP&W railway.

Capital Improvements

Sewer – VFDs at Pump Stations

The City is currently served by six (6) lift stations in the collection system, four (4) north of the bypass and two (2) in Rolling Meadows. The project would further upgrade these operations with the addition of Variable Frequency Drive (VFD) controllers.

Capital Improvements

Sewer – Sewer Replacements

The City's sewer collection system consists of over 77 miles of sanitary sewer. System wide maintenance and replacement of ageing sewer mains should be a part of the City's Capital Improvement Plans.

Equipment Repairs and Replacements

Water

- Valve Exercise Program
- Water Leak Study
- Chemical Flow Pacing
- Well #6 & #8 VFD
- Water Treatment Plant #2 Moisture Repairs
- Driveway/Parking Lot Maintenance
- Misc. Mechanical and Electrical Equipment Repairs

Equipment Repairs and Replacements

Sewer

- Clean and Televise Sewer
- CIPP Lining
- Manhole Rehabilitation
- Pump Stations
  - Electrical Equipment
  - Mechanical Equipment

Potential Regulatory Factors

Water

- Increased Chlorine Residuals
- Nitrification Action Plan
- Potassium Permanganate Feed

Sewer

- CMOM
- Nutrient Removal

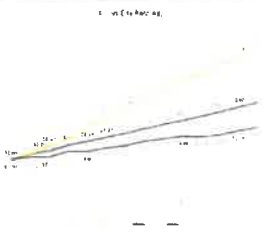
Need for Rate Increase

- Maintain Adequate Reserve Fund
- Capital Improvements
- Increased Operations and Maintenance Costs

CPI Index

Per Section 50.50(A)(3) of the City Code, the rate shall increase by 2.5% or the rate of inflation, whichever is greater, ...

Date	CPI - Water, Trash & Sewer		CPI - Consumer		Cost - Annual 2.5% or CPI - Consumer	
1/1/2005		$ 1.00		$ 1.00		$ 1.00
1/1/2006	4.9%	$ 1.05	4.0%	$ 1.02	4.0%	$ 1.04
1/1/2007	4.9%	$ 1.10	2.1%	$ 1.02	2.5%	$ 1.07
1/1/2008	5.4%	$ 1.16	4.3%	$ 1.06	4.3%	$ 1.11
1/1/2009	6.1%	$ 1.23	-0.1%	$ 1.06	2.5%	$ 1.14
1/1/2010	6.1%	$ 1.31	2.6%	$ 1.09	2.6%	$ 1.17
1/1/2011	5.4%	$ 1.38	1.7%	$ 1.11	2.5%	$ 1.20
1/1/2012	4.7%	$ 1.44	3.0%	$ 1.14	3.0%	$ 1.23
1/1/2013	5.8%	$ 1.53	1.7%	$ 1.16	2.5%	$ 1.27
1/1/2014	3.4%	$ 1.58	1.5%	$ 1.18	2.5%	$ 1.30
1/1/2015	4.5%	$ 1.65	-0.2%	$ 1.18	2.5%	$ 1.33
1/1/2016	3.9%	$ 1.71	1.5%	$ 1.18	2.5%	$ 1.36
1/1/2017	3.7%	$ 1.77	2.5%	$ 1.22	2.5%	$ 1.40
1/1/2018	2.9%	$ 1.83	2.1%	$ 1.25	2.5%	$ 1.43



Existing Rates

Water

Technology Charge	$ 3.85
Charge per 1000 Gallons	
Resident	$ 4.33
Senior Citizen	$ 3.90

Sewer

Charge per 1000 Gallons	
Resident	$ 9.01
Senior Citizen	$ 8.11

Minimum charge of $7.53 for residents, based on 850 gallons consumption + technology charge.

Area Bill Comparison

Community	Census Population	IEPA System Class (>10,000 Pop)	Minimum Bill Water	Minimum Bill Sewer	Minimum Bill Combined	% of Reg Avg	Typical Bill (4500 gal) Water	Typical Bill (4500 gal) Sewer	Typical Bill (4500 gal) Combined	% of Reg Avg
Morton	16,499	Major	$ 11.17	$ 2.12	$ 13.29	40%	$ 29.46	$ 25.88	$ 55.34	78%
Pekin	33,924	Major	$ 24.52	$ 3.00	$ 27.52	83%	$ 36.81	$ 26.58	$ 63.39	87%
Peoria	115,007	Major	$ 24.29	$ -	$ 24.29	74%	$ 60.82	$ 27.69	$ 78.51	107%
Metamora	3,735	Minor	$ 30.76	$ 12.23	$ 42.98	130%	$ 49.53	$ 18.28	$ 67.91	93%
Eureka	5,378	Minor	$ 14.80	$ 9.96	$ 24.76	75%	$ 33.30	$ 22.41	$ 55.71	76%
Germantown Hills	3,510	Minor	$ 29.00	$ 40.60	$ 69.60	211%	$ 51.50	$ 63.10	$ 114.60	157%
East Peoria	23,402	Major	$ 19.35	$ 23.33	$ 42.68	129%	$ 47.29	$ 34.95	$ 82.38	113%
L-Ah Washington Estates	*1,500	Minor	$ 24.29	$ 4.42	$ 28.71	87%	$ 50.62	$ 19.81	$ 70.43	96%
Northern Tazewell Water	*1,500	Minor	$ 23.48	$ -	$ 23.48	71%	$ 30.20	$ 40.55	$ 70.75	97%
Regional Average			$ 22.41	$ 11.66	$ 33.05		$ 42.17	$ 29.84	$ 73.29	
City of Washington	16,566	Major	Minimum Bill Water	Minimum Bill Sewer	Minimum Bill Combined		Average Bill (4500 gal) Water	Average Bill (4500 gal) Sewer	Average Bill (4500 gal) Combined	
		w/ Technology Fee Single Meter	$ 7.53	$ -	$ 7.53	23%	$ 23.34	$ 40.55	$ 63.88	87%
		Dual Meter	$ 12.88	$ -	$ 12.88	39%	$ 24.99	$ 40.55	$ 65.53	90%

Washington Water Accounts

Discounts:

Senior Discount is **10%**

- Aged based, qualified by City (age 62, drawing Social Security, ...)

Circuit Breaker is **18%**

- Income based, qualified thru State of Illinois

Type of Account	No.	Percent
Senior	765	14%
Circuit Breaker	43	1%
Standard	4592	85%
Total	5400	

Washington Water Accounts

$1 Billed
to 5400 Accounts

=

$0.90 (10% Senior Discount)
for 765 Accounts

+

$1.02 (2% Increase)
for 4592 Accounts

Water & Sewer as % of MHI

AWWA would suggest 1.5% to 2.5% of Medium Household Income (MHI) for Water & Sewer Combined.

Community	Poverty Rate	Socioeconomics Med Household Income (MHI)	Water & Sewer as % MHI
Morton	4.6%	$ 71,385	0.69%
Pekin	13.3%	$ 47,876	1.59%
Peoria	19.9%	$ 49,121	1.91%
Metamora	6.4%	$ 54,029	1.51%
Eureka	6.0%	$ 57,273	1.17%
Germantown Hills	5.0%	$ 107,092	1.28%
East Peoria	8.5%	$ 50,751	1.65%
IL-AM Washington Estates	4.7%	$ 70,512	1.20%
Northern Tazewell Water	4.7%	$ 70,512	1.20%
Regional Average	8.3%	$ 64,283	1.37%
City of Washington	4.7%	$ 70,512	1.09%

Water as % of MHI

Reviewing just an Average Water Bill of 4500 gallons as a % of MHI within the Census Tracts of Washington & Water Providers.

Census Tract	212.01	221	222	223	224
Medium Household Income (MHI)	$88,942	$61,441	$77,500	$72,215	$58,380
North Tazewell Water District					
Min $ 23.48	0.32%	0.46%	0.36%	0.39%	0.48%
Avg $ 42.53	0.57%	0.83%	0.66%	0.71%	0.87%
Illinois American Water Company					
Min $ 24.29	0.33%	0.47%	0.38%	0.40%	0.50%
Avg $ 50.62	0.68%	0.99%	0.78%	0.84%	1.04%
City of Washington Water					
Min $ 7.53	0.10%	0.15%	0.12%	0.13%	0.15%
Avg $ 22.34	0.31%	0.45%	0.36%	0.39%	0.46%

WTP#2 & WT#2

In 1991 – 1995, Water Tower #2 and Water Plant #2 were costed against TIF 1, not water rates. In current value dollars, this results in an almost $8.50 month discount to current rates:

20Yr Loan at 2.5% for $8.5M

$545,250.59

$8.41

Watermain Capital Replacement Forecast

Planned improvements to Lawndale help define the cost per mile of reconstruction.

		Roadway Items	Sewer Items	Storm Items	Water Items
Est. Cost per Foot =	$1,067.61	$336.04	$240.58	$383.94	$105.05
Projected Cost per Mile =	$ 5,634,984.54	$1,784,654.94	$1,270,252.50	$2,027,218.10	$554,654.00

Watermain Capital Replacement Forecast

With 5400 accounts, a $1 extra flat charge per month only equals $65k in additional capital.

In rough numbers:
10 Yr = $20/mo
20 Yr = $10/mo
40 Yr = $5/mo

Recommended Capital Improvement Schedule

Water

- Water Treatment Plant No. 1 Levee – FY 2020
- Water Tower No. 3 – FY 2021
- Water Treatment Plant No. 1 Filters – FY 2019
- Water Treatment Plant No. 2 Filters – FY 2021
- Watermain Replacements – Ramp up program from FY 2020 to 2025 to get to a 20-year replacement schedule
- Water Treatment Plant No. 3 – FY 2025 (This is a placeholder to demonstrate the impacts on the rates. Likely need is closer to 2030)

Recommended Capital Improvement Schedule

Sewer

- Pump Stations VFDs– FY 2019
- Sewer Phase 2b– FY 2020
- Sewer Replacements – Ramp up program from FY 2020 to 2029 to get to a 20-year replacement schedule
- Sewer Treatment Plant Phase 3 – FY 2025 (This is a placeholder to demonstrate the impacts on the rates. Likely need is closer to 2030)

Questions & Answers