

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.

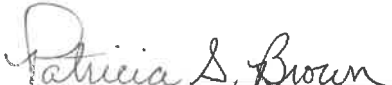
Present: Aldermen Adams, Brownfield, Brucks, Butler, Cobb, Dingledine, Gee, and Moss.

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, 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



Supplemental Budget to the Budget of the City of Washington

Financial Performance Report

Phase 2A
Data Service



OPERATING INCOME (LOSS)

	2014	2015	2016	2017	2018
Sewer Fund	\$ 820,206	\$ 1,094,049	\$ 727,844	\$ 832,851	\$ 361,919
Water Fund	\$ (50,000)	\$ 42,060	\$ (143,726)	\$ 26,869	\$ 16,264

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).

WSPR		WSPR		WSPR		WSPR		WSPR	
WSPR		WSPR		WSPR		WSPR		WSPR	
Year	WSPR	Year	WSPR	Year	WSPR	Year	WSPR	Year	WSPR
2007	1.0	2008	1.0	2009	1.0	2010	1.0	2011	1.0
2012	1.0	2013	1.0	2014	1.0	2015	1.0	2016	1.0
2017	1.0	2018	1.0	2019	1.0	2020	1.0	2021	1.0
2022	1.0	2023	1.0	2024	1.0	2025	1.0	2026	1.0
2027	1.0	2028	1.0	2029	1.0	2030	1.0	2031	1.0
2032	1.0	2033	1.0	2034	1.0	2035	1.0	2036	1.0
2037	1.0	2038	1.0	2039	1.0	2040	1.0	2041	1.0
2042	1.0	2043	1.0	2044	1.0	2045	1.0	2046	1.0
2047	1.0	2048	1.0	2049	1.0	2050	1.0	2051	1.0
2052	1.0	2053	1.0	2054	1.0	2055	1.0	2056	1.0
2057	1.0	2058	1.0	2059	1.0	2060	1.0	2061	1.0
2062	1.0	2063	1.0	2064	1.0	2065	1.0	2066	1.0
2067	1.0	2068	1.0	2069	1.0	2070	1.0	2071	1.0
2072	1.0	2073	1.0	2074	1.0	2075	1.0	2076	1.0
2077	1.0	2078	1.0	2079	1.0	2080	1.0	2081	1.0
2082	1.0	2083	1.0	2084	1.0	2085	1.0	2086	1.0
2087	1.0	2088	1.0	2089	1.0	2090	1.0	2091	1.0
2092	1.0	2093	1.0	2094	1.0	2095	1.0	2096	1.0
2097	1.0	2098	1.0	2099	1.0	2100	1.0	2101	1.0
2102	1.0	2103	1.0	2104	1.0	2105	1.0	2106	1.0
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2127	1.0	2128	1.0	2129	1.0	2130	1.0	2131	1.0
2132	1.0	2133	1.0	2134	1.0	2135	1.0	2136	1.0
2137	1.0	2138	1.0	2139	1.0	2140	1.0	2141	1.0
2142	1.0	2143	1.0	2144	1.0	2145	1.0	2146	1.0
2147	1.0	2148	1.0	2149	1.0	2150	1.0	2151	1.0
2152	1.0	2153	1.0	2154	1.0	2155	1.0	2156	1.0
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2162	1.0	2163	1.0	2164	1.0	2165	1.0	2166	1.0
2167	1.0	2168	1.0	2169	1.0	2170	1.0	2171	1.0
2172	1.0	2173	1.0	2174	1.0	2175	1.0	2176	1.0
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2642	1.0	2643	1.0	2644	1.0	2645	1.0	2646	1.0
2647	1.0	2648	1.0	2649	1.0	2650	1.0	2651	1.0
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2677	1.0	2678	1.0	2679	1.0	2680	1.0	2681	1.0
2682	1.0	2683	1.0	2684	1.0	2685	1.0	2686	1.0
2687	1.0	2688	1.0	2689	1.0	2690	1.0	2691	1.0

Capital Improvements

Washington

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 180 years before they need to be replaced, but on average they need to be replaced after they have been in the ground about 100 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 decade 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.

Washington's Need Curve

Year	Miles	Est. Life	Begin Yr	End Yr
1880	23.6	120	1900	2100
1920	2	100	1940	2040
1940	2	75	2015	2090
1950	8.1	75	2025	2100
1960	10	75	2035	2110
1970	8.1	75	2045	2120
1980	4.5	75	2055	2130
2000	21.5	75	2075	2150
2020	1.8	75	2100	2175

Capital Improvements

Washington

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

Washington

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.

[illegible]

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

[illegible]

Equipment Repairs and Replacements



Sewer

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

[illegible]

Potential Regulatory Factors

Water

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



Sewer

- CMOM
- Nutrient Removal




Need for Rate Increase

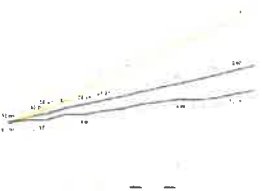

- Maintain Adequate Reserve Fund
- Capital Improvements
- Increased Operations and Maintenance Costs

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	Costs - Annual 2.5% or CPI - Consumer
1/1/2005	\$ 1.00	\$ 1.00	\$ 1.00
1/1/2006	4.9%	3.0%	4.9%
1/1/2007	4.9%	3.1%	4.9%
1/1/2008	2.4%	3.1%	3.1%
1/1/2009	6.1%	3.2%	6.1%
1/1/2010	6.1%	3.3%	6.1%
1/1/2011	5.4%	3.3%	5.4%
1/1/2012	4.7%	3.4%	4.7%
1/1/2013	5.0%	3.4%	5.0%
1/1/2014	5.0%	3.4%	5.0%
1/1/2015	4.5%	3.4%	4.5%
1/1/2016	3.9%	3.4%	3.9%
1/1/2017	3.7%	3.4%	3.7%
1/1/2018	2.9%	3.4%	3.4%

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	Med Household Income (\$K)	Water & Sewer as % MHI
Morton	4.6%	\$ 71,385	0.85%
Pekin	13.3%	\$ 47,476	1.55%
Peoria	10.8%	\$ 48,121	1.91%
Macomb	6.4%	\$ 54,029	1.51%
Eureka	6.0%	\$ 57,273	1.17%
Germantown Hills	5.0%	\$ 107,082	1.28%
East Peoria	8.5%	\$ 50,751	1.85%
L-AM Washington Estates	4.7%	\$ 70,512	1.20%
Northern Tazewell Water	4.7%	\$ 70,512	1.20%
Regional Average	6.3%	\$ 64,283	1.37%
City of Washington	4.7%	\$ 70,512	1.00%

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 (\$K)	\$82,942	\$61,441	\$77,500	\$72,715	\$68,380
North Tazewell Water District					
Min	\$ 25.46	0.52%	0.48%	0.30%	0.39%
Max	\$ 42.63	0.57%	0.83%	0.80%	0.71%
Avg	\$ 34.28	0.53%	0.47%	0.39%	0.50%
Whole American Water Company					
Min	\$ 25.46	0.52%	0.48%	0.30%	0.39%
Max	\$ 42.63	0.57%	0.83%	0.80%	0.71%
Avg	\$ 34.28	0.53%	0.47%	0.39%	0.50%
City of Washington Water					
Min	\$ 25.46	0.52%	0.48%	0.30%	0.39%
Max	\$ 42.63	0.57%	0.83%	0.80%	0.71%
Avg	\$ 34.28	0.53%	0.47%	0.39%	0.50%

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	Sanitary Items	Storm Items	Water Items
Est. Cost per Foot =	\$1,067.51	\$336.04	\$240.58	\$383.94	\$105.05
Proposed Cost per Mile = \$	\$1,074,884.54	\$1,784,654.94	\$1,270,282.50	\$1,027,211.10	\$1,054,664.00

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