

**Winnetka Village Council  
STUDY SESSION  
Village Hall  
510 Green Bay Road  
March 14, 2017**

Emails regarding any agenda item are welcomed. Please email [contactcouncil@winnetka.org](mailto:contactcouncil@winnetka.org), and your email will be relayed to the Council. Emails for a Tuesday Council meeting must be received by Monday at 4 p.m. Any email may be subject to disclosure under the Freedom of Information Act.

**AGENDA**

- 1) Call to Order
- 1) Water Rate Study .....2
- 2) Public Comment
- 3) Closed Session
- 4) Adjournment

**NOTICE**

All agenda materials are available at [villageofwinnetka.org](http://villageofwinnetka.org) (Government > Council Information > Agenda Packets & Minutes); the Reference Desk at the Winnetka Library; or in the Manager’s Office at Village Hall (2<sup>nd</sup> floor). Webcasts of the meeting may be viewed on the Internet via a link on the Village’s web site: <http://www.villageofwinnetka.org/government/village-videos/>.

The Village of Winnetka, in compliance with the Americans with Disabilities Act, requests that all persons with disabilities who require certain accommodations to allow them to observe and/or participate in this meeting or have questions about the accessibility of the meeting or facilities, contact the Village ADA Coordinator – Megan Pierce, at 510 Green Bay Road, Winnetka, Illinois 60093, 847-716-3543; T.D.D. 847-501-6041.



## Agenda Item Executive Summary

**Title:** Water Rate Study

**Presenter:** Brian Keys, Director of Water & Electric

**Agenda Date:**

03/14/2017

**Consent:**

YES

NO

Ordinance

Resolution

Bid Authorization/Award

Policy Direction

Informational Only

**Item History:**

Burns & McDonnell Engineering is tasked with developing a prioritization plan and a financial plan for the replacement of the water distribution infrastructure. At the September 6, 2016 Village Council meeting, the consultant presented a preliminary report entitled; "Water Main Replacement Plan and Water Rate Study". The report included an assessment of the existing infrastructure, a prioritization plan and a financial scenario to move the utility toward a 100-year water main replacement cycle by the year 2025. As follow-up to the initial meeting, Burns & McDonnell and Village staff presented additional financial scenarios and supporting data to assist the Council in their consideration of a long-term plan at the December 13, 2016 Study Session.

**Executive Summary:**

The Village contracted with Burns & McDonnell Engineering Company to develop a prioritization and financial plan for the replacement of the water distribution system infrastructure. Burns & McDonnell Engineering Company has presented financial analysis and supporting information to the Village Council at two prior public meetings. Two critical decisions remain before the consultant can finalize the water utility rate design, as follows:

- Critical Decision #1: Select the financial planning scenario.
- Critical Decision #2: Select the rate structure: volumetric or volumetric in combination with a monthly service charge.

Burns & McDonnell has updated the original recommended scenario to reflect the 4.0% rate increase implemented in 2017, and developed an alternative financial scenario for further discussion. Preliminary rate design has been completed for the two scenarios.

Representatives from Burns & McDonnell will be at the March 14th Village Council Study Session to review the prepared information. Village staff and the Consultant will address questions regarding the work completed to date and the next steps.

**Recommendation:**

Provide policy direction regarding the critical decisions outlined with respect to the water utility.

**Attachments:**

Agenda Report dated March 9, 2017

## AGENDA REPORT

**SUBJECT:** Water Rate Study

**PREPARED BY:** Brian Keys, Director Water & Electric

**REF:** September 6, 2016 Council Meeting, pp. 32-132  
December 13, 2016 Study Session, pp. 2-11

**DATE:** March 9, 2017

### Executive Summary

The Village contracted with Burns & McDonnell Engineering Company to develop a prioritization and financial plan for the replacement of the water distribution system infrastructure. Burns & McDonnell Engineering Company has presented financial analysis and supporting information to the Village Council at two prior public meetings. Two critical decisions remain before the consultant can finalize the water utility rate design, as follows:

- *Critical Decision #1: Select the financial planning scenario.*
- *Critical Decision #2: Select the rate structure: volumetric or volumetric in combination with a monthly service charge.*

### Background

The Village's water distribution system is comprised of approximately 72 miles of water main, most of it installed in the early 1900's. Given the age of the water distribution system, a long-term, comprehensive plan for water main replacement and a related funding strategy is necessary to ensure the utility's future viability.

Burns & McDonnell Engineering is tasked with developing a prioritization plan and a financial plan for the replacement of the water distribution infrastructure. At the September 6, 2016 Village Council meeting, the consultant presented a preliminary report entitled; "*Water Main Replacement Plan and Water Rate Study*". The report included an assessment of the existing infrastructure, a prioritization plan and a financial scenario to move the utility toward a 100-year water main replacement cycle by the year 2025. Staff was asked to provide additional information and financial scenarios for further Council consideration.

At the December 13, 2016 Study Session, representatives from Burns & McDonnell and Village staff addressed questions raised at the September 2016 meeting. To assist the Council in their consideration of a long-term plan, information was presented on the following topics:

- Replacement plans in other communities
- Terms of the Northfield Water Supply Agreement
- Comparison of the Northfield wholesale rate to other wholesale rates
- Comparison of Operating & Maintenance (O&M) costs for the water utility
- Expanding the number of communities in the rate comparison
- Comparison of rate multipliers used for unincorporated areas
- Additional financial scenarios

The meeting concluded with general consensus to move forward with a 100-year cycle, but some concerns remained about the increasing annual revenue requirements.

**Financial Scenarios**

As noted, Burns & McDonnell presented five financial scenarios at the December 13, 2016 Village Council Study Session. The scenarios presented equal annual revenue increases ranging from 4 to 8.5%, beginning in 2017; with resulting replacement cycles ranging from 100 years to 670 years achieved by 2025. The financial scenarios considered and the corresponding replacement cycles achieved by 2025 are shown below.

	Original <u>Recommendation</u> 8.5% Annual revenue increases, (3) Loans of \$1M	6.5% Annual revenue increases, (3) Loans of \$1M	5.0 % Annual revenue increases, (3) Loans of \$1M	5.0% Annual revenue increases, No Loans	4.0% Annual revenue increases, (3) Loans of \$1M
Estimated Renewal / Replacement Cycle	100 Years	180 Years	380 Years	270 Years	670 Years

Included with the December presentation materials were the results of a Northwest Municipal Conference survey on water main replacement programs. Fifteen municipalities responded that they had established a water main replacement cycle; the most common replacement cycle being 100 years (1% of system). However, only a few communities were on track to meet this target.

Based on the replacement programs of other communities, noting that the average age of failing water main in Winnetka is 87-years old, and recognizing that 58% of Winnetka’s system is passed its useful life, the general consensus of the Village Council was to target a 100 year replacement cycle.

Burns & McDonnell has updated the original recommended scenario to reflect the 4.0% rate increase implemented in 2017. The updated scenario also incorporates an estimated 15% savings in replacement projects by coordinating water main replacement with the annual street rehabilitation program. Achieving a 100-year replacement cycle by 2025 still requires 8.5% annual increases starting in FY2018 as a result of the smaller than projected revenue increase in 2017. This updated scenario is summarized in Attachment A.

Based on the Council’s discussion regarding annual rate increases, staff requested that Burns & McDonnell create an alternative financial scenario. Alternative Scenario 2 is based on annual revenue increases starting in FY2018 of 6.5%, fixed payment in lieu of taxes (PILOT) and a single issuance of debt in the amount of \$1M. Under this alternative scenario, the target of a 100-year replacement cycle is not met in 2025. However, extending the annual 6.5% rate increases for the years 2026-2029 will eventually provide the necessary funding level for a 100-year replacement cycle. The summary of this alternative financial plan, Scenario 2, is in Attachment B.

There are distinct differences between the two scenarios. Updated Scenario 1 (8.5% annual increases) will result in reaching the 100-year replacement cycle by 2025. Included in this scenario is the issuance of \$3M of debt over the timeframe of 2017-2019. During the period of 2018-2025, the water utility would complete \$10,285,000 in replacement projects. The alternative Scenario 2 (6.5% annual increases), will result in the utility reaching the 100-year replacement cycle in 2029. Included in this scenario is a single issuance of \$1M of debt in 2017. During the period of 2018-2025, the water utility would complete \$5,900,000 in replacement projects.

A comparison of the projected water main renewal and replacement funding levels for years 2018-2025 is summarized below.

	2018	2019	2020	2021	2022	2023	2024	2025
Updated 8.5% Scenario 1	\$850,000	\$850,000	\$935,000	\$1,020,000	\$1,105,000	\$1,360,000	\$1,700,000	\$2,465,000
Alt. 6.5% Scenario 2	\$450,000	\$450,000	\$600,000	\$700,000	\$700,000	\$800,000	\$1,000,000	\$1,200,000

In order for the consultant to finalize the water utility’s rate design and to facilitate staff’s development of the 2018 water main replacement program, selection of a financial plan is required.

**Rate Design**

The Village’s water rate design is currently based only on the quantity of water consumed by a customer, which is a volumetric type rate structure. There is no differentiation between customer types such as residential, commercial or school & government or the size of the required water service and metering equipment. Consistent with this approach, Burns & McDonnell has developed volumetric rates for both the 8.5% and 6.5% financial plans. A summary of the projected monthly cost for a typical 1” metered customer consuming 15 Ccf under both the updated Scenario 1 and alternative Scenario 2 financial plans is shown below.

**Forecast of Typical Residential Bill  
Under Volumetric Rate Structure  
1-inch meter, 15 Ccf per month**

Scenario	1		2		
Annual Increase	8.50%		6.50%	Difference	
2017	\$ 53.29	\$	53.29	\$	-
2018	\$ 57.83	\$	56.76	\$	1.07
2019	\$ 62.75	\$	60.45	\$	2.29
2020	\$ 68.09	\$	64.38	\$	3.71
2021	\$ 73.87	\$	68.56	\$	5.31
2022	\$ 80.15	\$	73.02	\$	7.13
2023	\$ 86.96	\$	77.77	\$	9.19
2024	\$ 94.35	\$	82.83	\$	11.52
2025	\$ 102.37	\$	88.21	\$	14.16

The disadvantages to this type of rate structure are that the utility is susceptible to weather anomalies and all customer and utility costs are recovered solely through the volume basis. As part of the study, Burns & McDonnell was asked to develop an alternative rate structure for the Village’s consideration.

One such alternative rate structure is to implement a monthly service charge with a volumetric component. The service charge would be phased-in over time and vary by the customer’s meter size. The monthly service charge would be a component of the overall percentage of rate increase, not in addition to the rate increase. Volume-based rates would recover the remaining cost. Over time, this would improve the revenue stability of the water utility. Burns & McDonnell has created this rate design based on a revenue increase of 8.5%. Rates for a customer with a 1” meter would be as follows:

**Alternative Rate Structure – Monthly Service Charge With A Volumetric Rate**

	2018	2019	2020
Volume Rate (\$/1000 cubic feet)	\$37.50	\$40.00	\$42.75
Monthly Service Charge for 1” meter	\$1.50	\$3.05	\$4.60

Additional rate detail for other meter sizes has been included in Attachment C.

**Rate Comparison**

In prior meetings, comparison data for sixteen Cook County communities and eleven members of the DuPage Water Commission was presented. The average rate assessed across the water suppliers is \$85.49 per month for a typical customer with a 1” meter and consumption of 15 Ccf/month. Winnetka’s 2017 rate for the same customer is \$53.29. Under either of the proposed rate structure options, a typical Winnetka bill in the Year 2020 would be 20% less than the average of the 2017 survey rates. Comparison graphs of a typical residential bill have been created for both the volumetric rate design and the rate design with a monthly service charge are included as Attachments D and E.

**Metrics**

At the December 2016 meeting, staff was asked to create metrics for the water replacement program. Staff proposes to add two metrics: one financial and one infrastructure as part of the annual budget process for the water utility. Additionally, the Finance Department will provide a comparison of the proposed fiscal year Operating & Maintenance Expenses to the financial projections in the Water Rate Study to ensure that funding allocated for water main replacement is not consumed by operating expenses.

Examples of the proposed metrics are as follows:

**Water Main Replacement**

Fiscal Year	Amount of Water Main Replacement Planned for Fiscal Year (ft.)	Amount of Water Main Replaced Since Inception of Replacement Program (ft.)
2017	2,054	0
2018	TBD	2,054

**Water Main Replacement Program – Capital Funding**

Fiscal Year	Capital Funding Projected To Be Available	Capital Funding Included In Proposed Budget	Water Main Renewal & Replacement Since Inception of Replacement Program
2017	\$850,000	\$850,000	\$0
2018	\$850,000		\$850,000

**Next Steps**

Policy direction from the Council is required before proceeding with the development of proposed water rates for 2018-2021. Each of the listed critical decisions will have an impact on the rate design.

Based on direction from the Village Council, Burns & McDonnell will make the required changes to their financial analysis and proceed with the development of five years of water rates. With consensus on incorporating a monthly service charge to the rate structure of the water utility, staff will start the steps required to implement the rate structure for 2018. Modifications to the financial system will be required.

The proposed budget and capital funding (i.e. water main replacement) will be based on the selected financial plan and will be presented to the Village Council for their consideration as part of the 2018 Water & Electric Budget presentation. Review of the Water Fund will also include an update on the established metrics for the water main replacement program. Formal approval of the rates would occur in December 2017 with the Council’s consideration of the 2018 Rate Resolution.

Representatives from Burns & McDonnell will be at the March 14<sup>th</sup> Village Council Study Session to review the prepared information. Village staff and the Consultant will address questions regarding the work completed to date and the next steps.

**Recommendation**

Provide policy direction regarding the critical decisions outlined with respect to the water utility.

**Attachment A**  
**Summary of Financial Scenario**

	<b>Prior Scenario 1</b>	<b>Updated Scenario 1</b>
	8.5% Increases	8.5% Increases
	Gen. Fund Loan Fixed PILOT	Gen. Fund Loan Fixed PILOT
Total Baseline CIP	\$ 4,904,000	\$ 4,904,000
Renewal & Replacement CIP 2017-2020	\$ 4,100,000	\$ 3,485,000
Renewal & Replacement CIP 2021-2025	\$ 9,000,000	\$ 7,650,000
Total Renewal/Replacement	\$ 13,100,000	\$ 11,135,000
<u>2025 Performance Measures</u>		
Renewal & Replacement Spend	\$ 2,900,000	\$ 2,465,000
Estimated Renew/Replace Cycle - Years	100	100
Annual System Replacement Rate - %	1.0%	1.0%
Number of Debt Issues	3	3
Total Debt Issued	\$ 3,000,000	\$ 2,550,000
FY 2017 (Impl Jan 1 of each year)	8.50%	4.00%
FY 2018	8.50%	8.50%
FY 2019	8.50%	8.50%
FY 2020	8.50%	8.50%
FY 2021	8.50%	8.50%
FY 2022	8.50%	8.50%
FY 2023	8.50%	8.50%
FY 2024	8.50%	8.50%
FY 2025	8.50%	8.50%
Cumulative Increase	108.39%	99.74%

**Attachment B**  
**Summary of Alternative Financial Scenario**

	<b>Updated Scenario 1</b>	<b>Alternative Scenario 2</b>
	8.5% Increases Gen. Fund Loan Fixed PILOT	6.5% Increases Through 2029 Gen. Fund Loan Fixed PILOT
Total Baseline CIP	\$ 4,904,000	\$ 4,904,000
Renewal & Replacement CIP 2017-2020	\$ 3,485,000	\$ 2,201,000
Renewal & Replacement CIP 2021-2025	\$ 7,650,000	\$ 4,400,000
Total Renewal/Replacement	\$ 11,135,000	\$ 6,601,000
<u>2025 Performance Measures</u>		
Renewal & Replacement Spend	\$ 2,465,000	\$ 1,200,000
Estimated Renew/Replace Cycle - Years	100	200
Annual System Replacement Rate - %	1.0%	0.5%
Number of Debt Issues	3	1
Total Debt Issued	\$ 2,550,000	\$ 1,000,000
FY 2017 (Impl Jan 1 of each year)	4.00%	4.00%
FY 2018	8.50%	6.50%
FY 2019	8.50%	6.50%
FY 2020	8.50%	6.50%
FY 2021	8.50%	6.50%
FY 2022	8.50%	6.50%
FY 2023	8.50%	6.50%
FY 2024	8.50%	6.50%
FY 2025	8.50%	6.50%
Cumulative Increase	99.74%	72.12%

**Attachment C**

		<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
<b>Volume Rates (\$/1000 cubic feet)</b>					
Winnetka	\$	35.53	\$ 37.50	\$ 40.00	\$ 42.75
Unincorporated	\$	63.52	\$ 67.13	\$ 71.60	\$ 76.52
Special (Plant)	\$	26.63	\$ 28.11	\$ 29.98	\$ 32.04

**Monthly Service Charge (\$/month)**

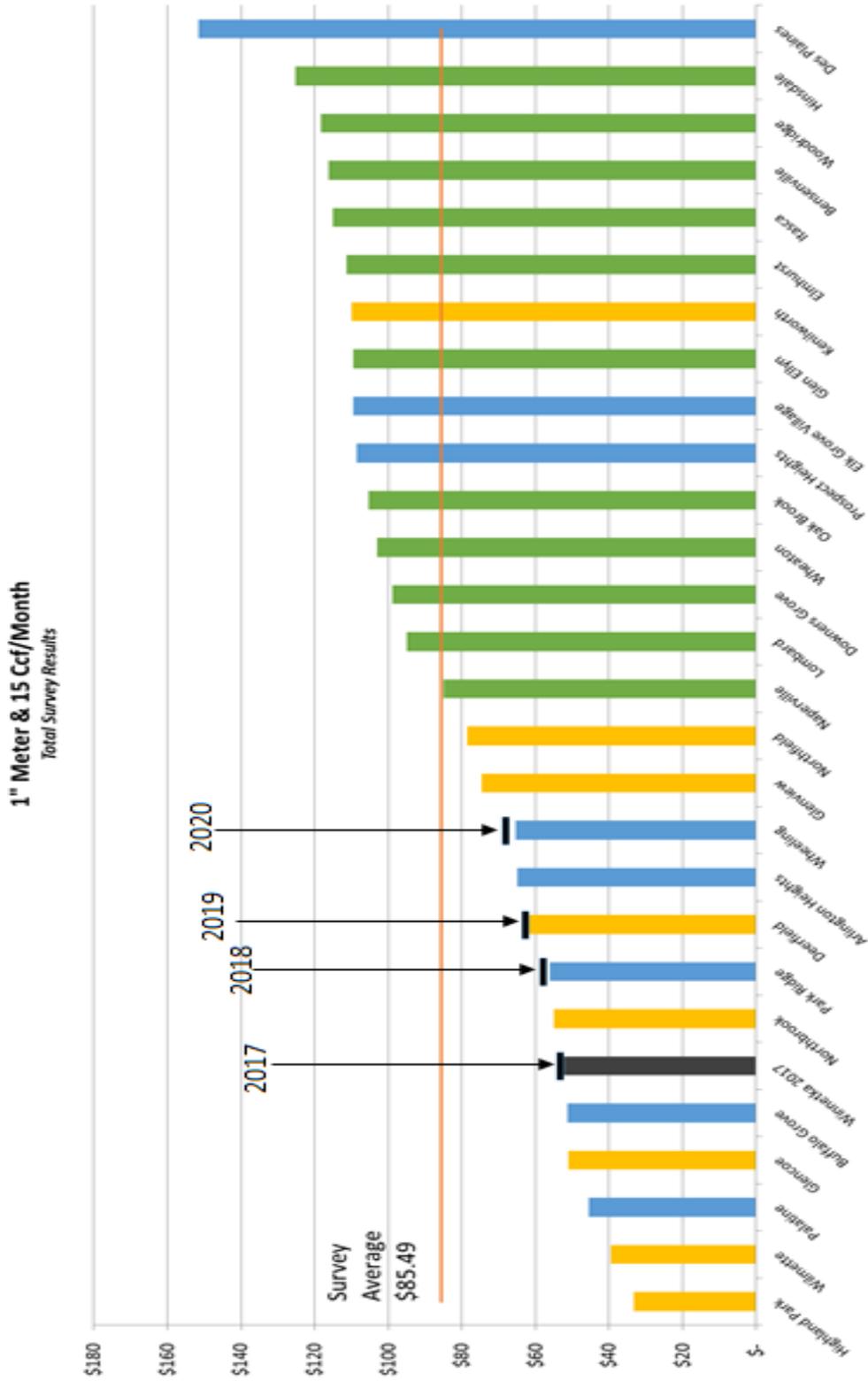
5/8"	\$	-	\$ 1.25	\$ 2.50	\$ 3.75
3/4"	\$	-	\$ 1.30	\$ 2.65	\$ 3.95
1"	\$	-	\$ 1.50	\$ 3.05	\$ 4.60
1 1/2"	\$	-	\$ 1.80	\$ 3.60	\$ 5.40
2"	\$	-	\$ 2.55	\$ 5.10	\$ 7.65
3"	\$	-	\$ 8.10	\$ 16.25	\$ 24.40
4"	\$	-	\$ 10.15	\$ 20.35	\$ 30.55
6"	\$	-	\$ 14.95	\$ 29.95	\$ 45.00
8"	\$	-	\$ 20.45	\$ 40.95	\$ 61.50

Note:

Northfield rate set by contract

Unincorporated multiplier of 1.79 maintained on volumetric rate

## Attachment D Future Typical Bill With Existing Rate Structure



### Attachment E Future Typical Bill With Service Charge

