

**CITY OF MT. VERNON, ILLINOIS  
CITY COUNCIL WORKSHOP MEETING  
Monday, June 13, 2016**

The Mt. Vernon City Council met in a Workshop Meeting on Monday, June 13, 2016 at 4:00 p.m. at City Hall, 1100 Main Street, Council Chamber Room, 2<sup>nd</sup> Floor, Mt. Vernon, IL.

**CALL TO ORDER**

Mayor Mary Jane Chesley called the meeting to order. Roll call showed present: Council Members Jeff May, Dennis McEnaney, Donte Moore, Todd Piper and Mayor Mary Jane Chesley.

Also present were City Manager Mary Ellen Bechtel, Finance Director Merle Hollmann and Nathan McKenna.

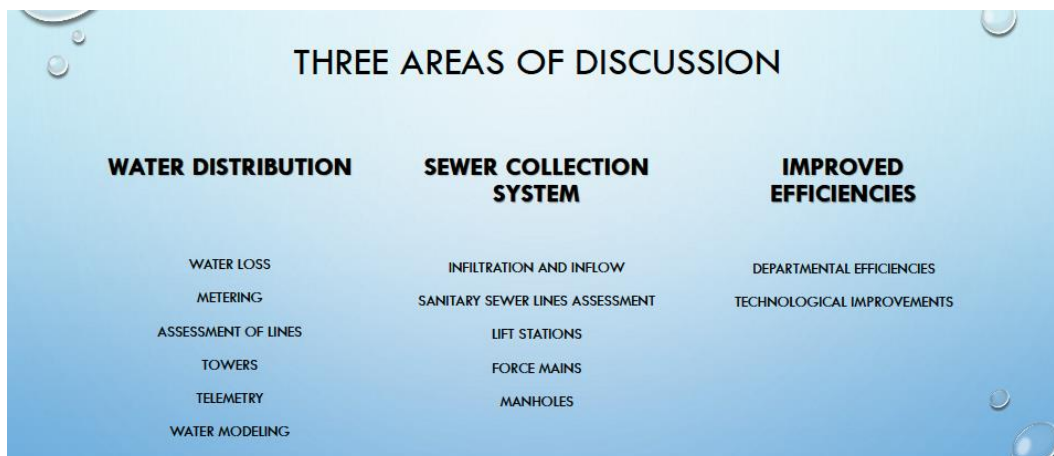
**VISITORS/CITIZEN REQUEST/ADDRESSES FROM THE AUDIENCE**

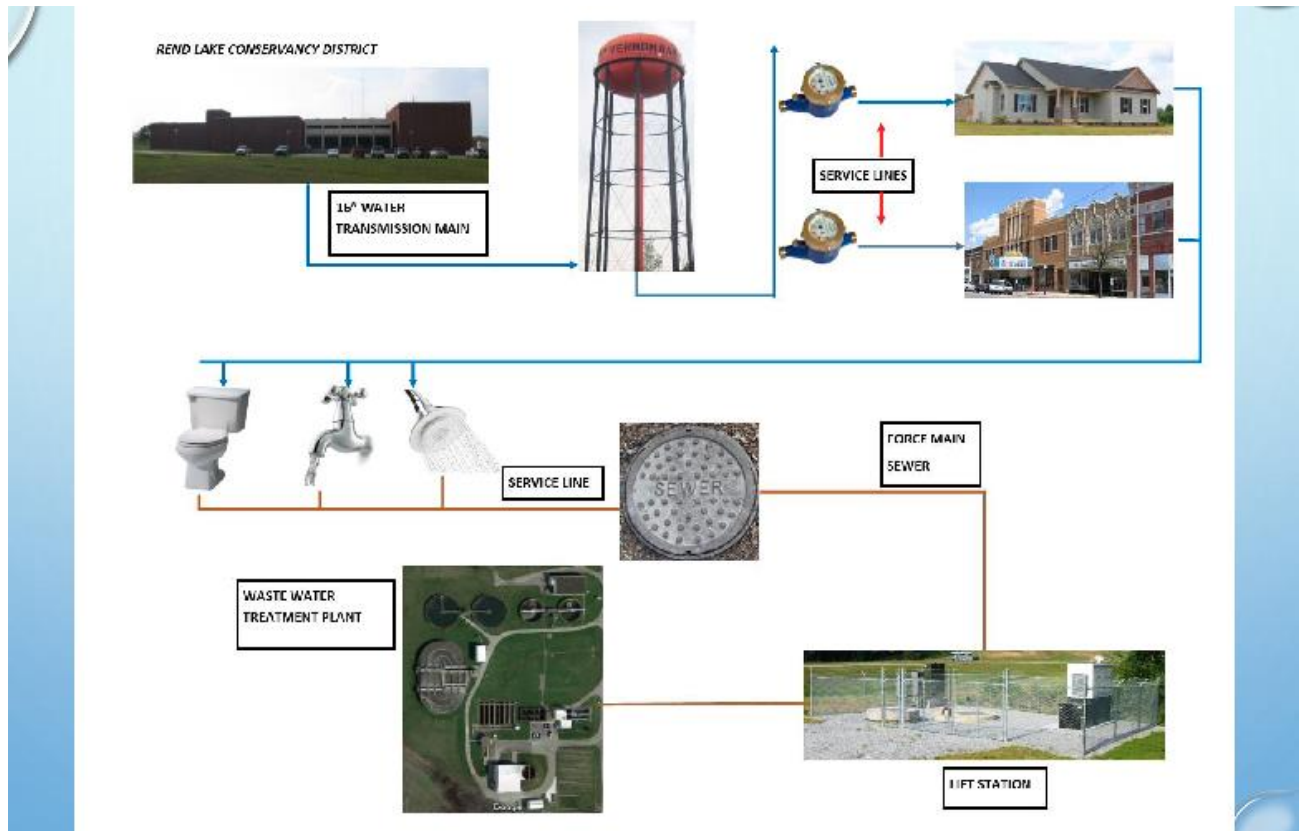
No visitors spoke at the meeting.

**PRESENTATION ON STATUS OF THE WATER AND SEWER SYSTEMS**

City Manager Bechtel stated that she's been compiling the information for this presentation since last June. Director of Public Jeff Wielt and Assistant Director Jonathan Younger attended the meeting and assisted the City Manager in compiling the information to be shared today. Matt Fauss, Director of Public Works, Merle Hollmann, Director of Finance and Nathan McKenna, Assistant to the City Manager, have all been very helpful. This report is a snapshot of the status of the water and sewer systems at this time with the information available at this time. Engineers, consultants, Rend Lake Conservancy District and other communities provided input. The water quality is good and the sewer treatment plant is in good condition and operational. The intent of sharing this information is to compile a long-term strategy for maintenance, repair and replacing the water and sewer systems as well as identifying funding sources.

**PUBLIC UTILITY REPORT**





### MT. VERNON PUBLIC UTILITIES

#### RECENT INVESTMENTS IN THE WATER AND SEWER SYSTEM

PROJECT	COST	DATE	PROJECT	COST	DATE
Ambassador Water	\$ 72,335.00	Winter 2015	30-inch Sewer Pipe at Wastewater Plant	\$ 26,000.00	Fall 2013
Ambassador Sewer	\$ 324,044.99	Winter 2015	Industrial Park Water & Sewer	\$ 950,000.00	Summer 2017
S. 34th Street Water	\$ 201,631.30	Summer 2014	City Water Model	\$ 35,000.00	2015
Conger Water Main	\$ 212,000.00	Summer 2013	Dogwood Drive Water Main Extension	\$ 16,500.00	Summer 2012
Times Square Water Tower	\$ 1,100,000.00	Spring 2013	27th and Wescott Water Main Replacement	\$ 40,000.00	Summer 2011
Veteran's/Davidson Water	\$ 330,000.00	Spring 2013	Shiloh Drive Lift Station and Sewer Expansion	\$ 100,299.16	Summer 2012
Veteran's/Davidson Sewer and Lift Station	\$ 1,150,000.00	Summer 2013	Liberty Road Water Main Relocation	\$ 10,000.00	Fall 2011
S. 34th Street Sewer	\$ 150,000.00	Spring 2013	Cherry Street Water Main Relocation	\$ 13,000.00	Summer 2016
Richview Road Water 24th to 27th	\$ 30,000.00	Fall 2014	Veteran's and Wells Bypass Sanitary Sewer	\$ 2,697,794.00	Winter 2012
Broadway & Main St. Phase 1	\$ 1,800,000.00	Summer 2016	Perkins Ave. 10th - 12th Storm Sewer	\$ 1,100,000.00	Summer 2016
Broadway & Main St. Phase 2	\$ 825,000.00	Spring 2017	Conger and 26th Water Main Replacements	\$ 268,000.00	Summer 2011
S. 44th Street Water Line	\$ 85,000.00	Fall 2016			

**TOTAL INVESTMENT IN WATER AND SEWER SYSTEM SINCE 2011 - \$11,536,604.45**

City Manager Bechtel recommended an electronic water modeling study, at a cost of approximately \$10,000.00, be conducted to determine the impact of a breach of a major water line.

WATER DISTRIBUTION SYSTEM

- **FOUR WATER TANKS**
  - Times Square Mall Water Tower
  - Opdyke Water Tower
  - L&N Reservoir Water Tower
  - Eagle Court Storage Tank
- **WATER MAINS**
  - Public Utilities operates and maintains approximately 184.4 miles of water mains
  - Over half (97.4 miles or 514,272 linear feet) of the water mains are cast iron lines needing repaired or replaced.
- **WATER METERS**
  - Approximately 6793 active residential and commercial water meters.


WATER STORAGE TANKS

- Opdyke Water Tower – 500,000 gallon capacity (Maintenance needed)
- L&N Reservoir Water Tower – 1,500,000 gallon capacity (Maintenance needed)
- Eagle Court Storage Tank – 1,500,000 gallon capacity (Maintenance needed)
- Times Square Mall Water Tower – 500,000 gallon (New)
- Total Cost of Sandblasting, Painting and other Maintenance - \$1,729,000

The Illinois Environmental Protection Agency and an outside consultant inspected all of the water storage tanks.

WATER MAINS – BREAKS AND WATER LOSS:

<i>Fiscal Year</i>	<i>Breaks</i>	<i>Gallons</i>	<i>Cost</i>	<i>% of Loss</i>
2016	150	253,483,748	\$ 418,248.00	20.3%
2015	93	193,346,882	\$ 311,288.00	16.1%
2014	190	287,813,776	\$ 457,624.00	21.9%
2013	203	190,557,958	\$ 302,987.00	15.3%
2012	119	196,380,503	\$ 304,390.00	16.3%



❖ INDUSTRY STANDARD 5% - 15% WATER LOSS

The Public Utilities Department operates and maintains approximately 184.4 miles of water mains. Over one-half of those, 97.4 miles or 514,000 linear feet, are cast iron lines needing to be repaired (lined) or replaced. It is estimated that acoustic monitoring to locate leaks in the water mains would cost approximately \$160,000.00.

**CAST IRON WATER MAIN REPLACEMENT COSTS**

- Cost per linear foot - \$95
- Cast Iron lines in water system - 514,272 LINEAR FEET
- TOTAL COST TO REPLACE - \$48,855,840



SECTION OF WATER MAIN FROM LINE  
REPLACEMENT ON BROADWAY

The City has 6,793 active residential and commercial meters. The Public Utilities Department has a replacement strategy in place by replacing 100-150 water meters annually.

**WATER METERS**

AGE	METER COUNT	SYSTEM WIDE PERCENT
Less than 5 years old	821	11%
6 to 10 years old	938	13%
11 to 20 years old	4028	54%
21-30 years old	1557	21%
31-44 years old	75	1%

AVERAGE AGE – 15.7 YEARS OLD  
\*\*Active and Inactive Meters\*\*

**RESULTS OF AGED METERS**

- UNDER BILLING – 4% TO 10%
- Estimated between 49.8 million gallons to 124.6 million gallons
- \$290,000 to \$724,000 lost revenue
- COST TO REPLACE - \$445,140 (Material Only)

### SANITARY SEWER COLLECTION SYSTEM

- SEWER MAINS
  - Public Utilities maintains approximately 123.6 miles of sewer mains
  - Approximately 67% (82.8 miles) are clay or concrete
- MANHOLES
- LIFT STATIONS
- FORCE MAINS
- SEWER TREATMENT PLANT

### SANITARY SEWER MAINS

#### 82.8 MILES OF CLAY/CONCRETE MAINS

- |                                   |              |
|-----------------------------------|--------------|
| • Replacement – 24.82 miles (30%) | \$19,017,504 |
| • Relining – 57.96 (70%)          | \$13,771,296 |

It would take a full time “in-house” team using the jet truck to test, clean, video and prioritize about 20% of the sanitary sewer system per year. To contract out the work would cost approximately \$1.9 million or \$4.25-\$4.50 per linear foot.

### SANITARY SEWER INFILTRATION/INFLOW

- On average, the sanitary sewer system collects approximately 3.5 million gallons of waste
- During a rain event, the collection increases to approximately 9 1/2 million gallons of waste

#### CAUSES OF INFILTRATION/INFLOW

- |                                 |  |
|---------------------------------|--|
| • Downspouts connected to sewer | • Open Basement Drains                     |
| • Sump pumps connected to sewer | • Open Driveway Drains                     |
| • Open Cleanouts                | • Collapsed/Damaged/Compromised Sewer Line |

### SANITARY SEWER MANHOLES



- Approximately 4300 Manholes
- Public Utilities department replaces and/or repairs 10 – 15 annually
- 60% need maintenance, relining or replaced
- COST \$3,000,000 - \$9,000,000

### SANITARY SEWER LIFT STATIONS

Lift Stations are used when the topography is such that gravity cannot be used. Lift Stations pump the flow through force mains to the sewer treatment plant.

- Sanitary Sewer system has 16 Lift Stations
- Oldest lift station in the system built in 1971
- Newest lift station in the system built in 2015
- Priority Replacement: Lift Station #14 – Estimated cost \$2,000,000



Restaurants are urged to properly maintain their grease traps to prevent excessive grease from entering the lift stations.

### SANITARY SEWER FORCE MAINS

Sanitary Sewer system includes 46,200 linear feet of force mains.

PRIORITY REPLACEMENTS	SIZE	LENGTH	COST
• Lift Station #14 Force Main	14"	8,650 LF	\$1,800,000
• Lift Station #1 Force Main (Maple)	14"	6,136 LF	\$1,500,000
• Lift Station #7 Force Main (Wagner)	6"	2,845 LF	\$200,000

**SEWER TREATMENT PLANT**



- 28 Years Old (20 Year life expectancy)
- Engineering study needed to determine estimated remaining life
- Repairs and Maintenance with in 2 – 7 years: \$191,000 - \$449,800

The sewer treatment plant was last updated in 1988. The City has a contract with EMC/American Contract Services for management of the plant. A de-watering system was installed in 2008. The centrifuge needs to be updated at a cost of \$51,000.00 which comes from the maintenance fund account for this purpose. Bechtel recommended that an Engineering Study be conducted to determine the remaining life of the sewer treatment plan. The City pays \$13,000.00 into a maintenance fund every month, along with the contract amount, for repairs and maintenance. Inflow and infiltration are major issues in managing the sanitary sewer system.

**DEPARTMENT EFFECIENCIES**

• GIS System	\$80,000
• Consolidated Facilities	\$400,000
• Video Camera	\$70,000
• Leak Detection Equipment	\$10,000
• Utility Trucks	\$60,000

The purchase of a video camera and leak detection equipment are priorities.

**TOTAL ESTIMATED COST**

**\$97,400,000**

**POTENTIAL FUNDING SOURCES FOR REPAIRS**

1. CDAP Grants - \$450,000 ceiling, 25% match required.
2. Traditional Loans, IEPA Loans
3. Meter Fee
4. Water and Sewer Rate Increase
5. Sales Tax

**MONTHLY METER FEE**

Category	Meter Count	\$5 Monthly Meter Charge	\$7 Monthly Meter Charge	\$10 Monthly Meter Charge	\$20 Monthly Meter Charge
Residential (In City Limits)	5240	\$26,200.00	\$36,680.00	\$52,400.00	\$104,800.00
Residential (Out of City Limits)	437	\$2,185.00	\$3,059.00	\$4,370.00	\$8,740.00
Commerical (In City Limits)	1065	\$5,325.00	\$7,455.00	\$10,650.00	\$21,300.00
Commerical (Out of City Limits)	6	\$30.00	\$42.00	\$60.00	\$120.00
Non-City Government Buildings	39	\$195.00	\$273.00	\$390.00	\$780.00
Villages	6	\$30.00	\$42.00	\$60.00	\$120.00
<b>TOTAL - Monthly Charge</b>		<b>\$33,965.00</b>	<b>\$47,551.00</b>	<b>\$67,930.00</b>	<b>\$135,860.00</b>
<b>TOTAL - Yearly Charge</b>		<b>\$407,580.00</b>	<b>\$570,612.00</b>	<b>\$815,160.00</b>	<b>\$1,630,320.00</b>

**METER CHARGE OPTIONS**

CHARGE OPTIONS	YEARLY FEE
OPTION 1 - \$5 CHARGE ON ALL METERS	\$407,580.00
OPTION 2 - \$5 CHARGE ON RES. AND \$10 ON COM.	\$469,140.00
OPTION 3 - \$7 CHARGE ON RES. AND \$10 ON COM.	\$605,388.00
OPTION 4 - \$10 CHARGE ON ALL METERS	\$815,160.00
OPTION 5 - \$10 CHARGE ON RES. AND \$20 ON COM.	\$938,280.00
OPTION 6 - \$5 ON RES. IN \$10 COM. IN & \$10 ON RES. OUT \$20 COM. OUT	\$496,080.00
OPTION 7 - \$7 ON RES. IN \$10 COM. IN & \$10 ON RES. OUT \$20 COM. OUT	\$621,840.00



WATER RATES

Water and Sewer Rate Increase compounded over a 10 year period

3% - First Year Revenue Increase: \$179,962 -Total Revenue Generated at 10 Years: \$2,063,072.96

10% - First Year Revenue Increase: \$599,876.33 -Total Revenue Generated at 10 Years: \$9,560,483.83 20% -

First Year Revenue Increase: \$1,199,752.67 -Total Revenue Generated at 10 Years: \$31,143,998.07

SALES TAX

FISCAL YEAR 1% HOME RULE SALES TAX	
2015-2016	\$ 3,610,529.53
2014-2015	\$ 3,682,330.83
2013-2014	\$ 3,602,116.27
2012-2013	\$ 3,648,470.42
2011-2012	\$ 3,818,070.00
2010-2011	\$ 3,617,643.97
2009-2010	\$ 3,497,483.77
2008-2009	\$ 3,309,343.36
2007-2008	\$ 3,370,253.50
<b>9YEAR AVERAGE</b>	\$ 3,572,915.74
<b>5 YEARLOW AVERAGE</b>	\$ 3,477,945.29
<b>5 YEAR HIGH AVERAGE</b>	\$ 3,675,408.95

	9 YEAR AVERAGE	5 YEAR LOW	5 YEAR HIGH
<b>1/4 PERCENT</b>	\$ 893,228.93	\$ 869,486.32	\$ 918,852.24
<b>1/2 PERCENT</b>	\$ 1,786,457.87	\$ 1,738,972.64	\$ 1,837,704.48

EXECUTIVE SESSION

No Executive Session was held.

ADJOURNMENT

**Council Member McEnaney made a motion to adjourn. The motion was seconded by Council Member Moore. Yeas: May, McEnaney, Moore, Piper and Chesley.**

The Workshop Meeting adjourned at 5:30 p.m.

Respectfully submitted,

Jerilee Hopkins  
 City Clerk