



City of Appleton

100 North Appleton Street
Appleton, WI 54911-4799
www.appleton.org

Meeting Agenda - Final Utilities Committee

Tuesday, March 21, 2017

5:30 PM

Council Chambers, 6th Floor

1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

[17-365](#) Approval of the March 7, 2017 Utilities Committee meeting minutes.

Attachments: [March 7, 2017 Utilities Committee Meeting Minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

[17-366](#) Award Organic Recycling Contractor Services to Hsu Growing Supply for an initial term ending December 31, 2020 for a total not to exceed contract cost of \$315,000.

Attachments: [170306_UC Memo - Hsu Contract.pdf](#)

[17-367](#) Request to file Water Leak Policy with the Public Service Commission of Wisconsin.

Attachments: [Water Leak Policy.pdf](#)

[17-368](#) Approve City of Appleton Water Usage Monitoring Procedure.

Attachments: [Water Usage Monitoring Procedure.pdf](#)

6. **Information Items**

[17-375](#) Presentation and discussion of 2016 Sanitary Flow Monitoring Project and proposed changes to the City's Sanitary Lateral Replacement Policy.

Attachments: [Appleton Utility Committee Update 20170214.pdf](#)

[17-370](#) Update on Water Meter Project.

[17-369](#) Monthly Reports for February 2017
- Water Distribution and Meter Team Monthly Report

Attachments: [Water Meter Team Reports February.pdf](#)

7. Adjournment

Notice is hereby given that a quorum of the Common Council may be present during this meeting, although no Council action will be taken.

Reasonable Accommodations for Persons with Disabilities will be made upon Request and if Feasible.

For questions on the agenda, contact Chris Shaw at 920-832-5945 or Paula Vandehey at 920-832-6474.



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Meeting Minutes Utilities Committee

Tuesday, March 7, 2017

5:30 PM

Council Chambers, 6th Floor

1. Call meeting to order

Chairperson Dannecker called the Utilities Committee meeting to order at 5:30 p.m.

2. Roll call of membership

Present: 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

3. Approval of minutes from previous meeting

[17-269](#)

Approval of the February 23, 2017 Utilities Committee meeting minutes.

Baranowski moved, seconded by Jirschele, that the Minutes be approved. Roll Call. Motion carried by the following vote:

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

4. Public Hearings/Apearances

5. Action Items

[17-270](#)

Accept the 2016 Annual Stormwater Report for submittal to the Wisconsin Department of Natural Resources.

Baranowski moved, seconded by Meltzer, that the Report Action Item be recommended for approval. Roll Call. Motion carried by the following vote:

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

[17-271](#)

Award of Unit K-17 Native Landscape Management Contract to Applied Ecological Services, Inc. in an amount not to exceed \$143,307.83.

Baranowski moved, seconded by Reed, that the Report Action Item be recommended for approval. Roll Call. Motion carried by the following vote:

Aye: 4 - Dannecker, Baranowski, Meltzer and Reed

Abstained: 1 - Jirschele

[17-273](#)

Award engineering contract for Appleton Wastewater Iron Salt Chemical Room Rehabilitation and Improvements to McMahon in the amount of \$72,594 with a 10% contingency of \$7,255 for a project total not to exceed \$79,849.

Baranowski moved, seconded by Meltzer, that the Report Action Item be recommended for approval. Roll Call. Motion carried by the following vote:

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

[17-274](#)

Award Sole Source Phosphorus Analyzer and Filter System to Hach Company in the amount of \$24,120.

Baranowski moved, seconded by Reed, that the Report Action Item be recommended for approval. Roll Call. Motion carried by the following vote:

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

6. Information Items

[17-272](#)

Update on an upcoming event "You and the River - a conversation about clean water" at Tempest Coffee Collective on March 22, 2017.

Discussed.

[17-275](#)

Update on Water Leak Policy and Water Usage Monitoring Procedure.

Discussed.

7. Adjournment

Baranowski moved, seconded by Jirschele, that the Utilities Committee meeting be adjourned at 5:41 p.m. Roll Call. Motion carried by the following vote:

Aye: 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele



"...meeting community needs...enhancing quality of life."

Department of Utilities
Wastewater Treatment Plant
2006 E Newberry Street
Appleton, WI 54915
920-832-5945 tel.
920-832-5949 fax

TO: Chairperson Greg Dannecker and Members of the Utilities Committee

FROM: Environmental Programs Coordinator Brian Kreski

DATE: March 3, 2017

RE: *Award Organic Recycling Contractor Services to Hsu Growing Supply for an initial term ending December 31, 2020 for a total not to exceed contract cost of \$315,000.*

BACKGROUND:

The Appleton Wastewater Treatment Plant (AWWTP) has operated a biosolids compost facility since the fall of 2010. Since its conception, the AWWTP has successfully contracted Hsu Growing Supply (Hsu) for compost processing services. Year-end 2016 marked the end of the third different contract term with Hsu. As such, the AWWTP is required to once again seek competitive quotes for "Organic Recycling Contractor Services" that include all labor and equipment, and ancillary devices required to mix and process raw compost feedstocks (e.g. biosolids, leaves, and ground brush) to a desired end-product that meets WDNR regulatory standards and nationally recognized US Compost Council Seal of Testing Assurance quality standards.

RFQ PROCESS AND QUOTE RESULTS:

The Organic Recycling Contractor Services request for quote (RFQ) was completed on March 1, 2017. Hsu's was the only firm of six with who was responsive to the RFQ. Reasons provided by the non-responsive firms included the inability to meet necessary qualifications, the inability to be competitive based on process frequency and distance to mobilize equipment, and/or the services requested were outside of their corporate business model. The quote tabulation is listed below in Table 1. Firms were asked to quote on specific processing volumes which were based on past project experience to provide resolution on economy-of-scale. The compost program budget and contract award amount (over four years) is based on processing three "batches" of material annually for a total of 16,000 cubic yards (5,333 yards per batch).

Table 1: Organic Recycling Contractor Services Quotes

Company	Required Quote (by quarter) Compost Processing			Alternate Quotes	
	2,500 YD	5,000 YD	10,000 YD	Stockpiling 3,500 YD	Screening 1,000 YD
Hsu Growing Supply	\$19,125	\$26,250	\$42,500	\$12,075	-
Purple Cow Organics, LLC	DNQ				-
Veolia	DNQ				-
Soil Solutions	DNQ				-
Synagro Technologies	DNQ				-
Vandenberg Trucking	DNQ				-

Note: Fuel surcharges would apply.

RECOMMENDATION:

I recommend contract award of Organic Recycling Contractor Services to Hsu for an initial term ending December 31, 2020 for a total not to exceed \$315,000. If you have any questions regarding this project please contact Brian Kreski at 920-832-2316.



"...meeting community needs...enhancing quality of life."

DEPARTMENT OF PUBLIC WORKS

**Engineering Division
100 North Appleton Street
Appleton, WI 54911
(920) 832-6474
FAX (920) 832-6489**

Revised Date: March 9, 2017

WATER LEAK POLICY

BEFORE THE METER

It is the sole responsibility of the property owner to maintain their water service and to ensure it is in proper working order and free of leaks. Water losses (leaks) that occur between the City connection (curb stop) and the water meter shall be the responsibility of the customer or the owner of the property.

Once a leak has been identified, the Water Utility will issue the property owner a 30 day notice to repair the water service unless the leak presents a risk to the public's health, safety or welfare. If the service is not repaired within the 30 days, the property owner will receive a 10 day final notice to repair the water service. If the service has not been repaired after the 10 days, the water service will be disconnected per Wisconsin Public Service Commission (PSC) Code 185.37 until the proper repairs have been made. The Water Utility may grant an extension for good cause provided the leak does not pose a risk to the public's health, safety or welfare.

Water loss incurred after expiration of the 30 day notice may be subject to water loss charges. The charges will be determined based on an estimated water loss calculation performed by the Water Utility and will be billed at the current filed rates.

AFTER THE METER

Water losses (leaks) that occur on the premises, which are registered by the water meter, shall be the responsibility of the customer or the owner of the property. It is the sole responsibility of the customer to monitor their metered water and prevent leakage in all piping and fixtures on the premises at and beyond the metering point. The Utility shall inform each customer once per year of this responsibility and to inform them that any leaks or other losses of water registered by the meter will be billed at the filed rates.

Prior to requesting a bill adjustment for consideration, the following conditions shall be met:

1. Property shall be a residential property with 3 living units or less (100# accounts).
2. Customer shall contact the Water Utility to schedule a one (1) hour appointment for a water meter technician to help identify or verify the possible leak(s). This will include an in-house inspection as well as reviewing the consumption history for the property.
3. The meter shall be tested by Water Utility personnel and witnessed by the customer at the Water Utility test lab.
4. Customer may be required to submit the claim of loss and/or damage to the customer's property insurer e.g. homeowner's insurance and, if denied, provide the City written evidence of the denial.
5. The excess water volume for the billing period shall be at least three (3) times the average usage over the previous four quarters, but not less than a 10,000 gallon increase.
6. Customer shall provide a written request to the Water Utility for a bill adjustment, explaining the details of the loss and justification for the water bill adjustment. Pictures will be required for any sewer credit requests to verify the water did not enter the sewer system. Written request shall be received by the Water Utility within 120 days of the bill date in question.

If all of the above conditions have been met, the Utilities Committee may consider whether a bill adjustment is appropriate. Since any credit(s) issued will directly impact all of the Water Utility customers, consideration may be based on whether or not the leak may have resulted from neglect or carelessness of the owner, agent or tenant.

- A. Per PSC 185.35, the Water Utility may adjust the rate charged per gallon but is not allowed to adjust the metered consumption. Therefore, a billing adjustment can be made down to the lowest City of Appleton customer rate on file with the Water Utility for the entire excess water volume.
- B. Per PSC 185.36(6), no water bill adjustment shall be made for water supplied after the customer has been notified of the excessive usage. Notifications may include receipt of a water bill showing excessive water usage, notice by the Water Utility of a high consumption, or other notice.
- C. The Water Utility may provide an extended payment plan, if desired by the customer.

WATER USAGE MONITORING PROCEDURE

Updated March 9, 2017

The Public Service Commission (PSC) does not require a Utility to monitor or notify for high water usage or significant changes in consumption. Therefore, it is the sole responsibility of each customer to monitor their metered water on their premises, at and beyond the metering point.

The Appleton Water Utility values the importance of providing good customer service and may assist with monitoring for significant increases in consumption and large leaks that have a potential to present a risk to the public's health, safety or welfare. Monitoring and notification of customer usage by the Utility is not guaranteed and is dependent upon several factors including, but not limited to, availability of staff, equipment and technology.

The Utility may monitor for significant increases in consumption utilizing available meter technology. The following parameters are recommended guidelines when monitoring for abnormally high consumption:

- #100 accounts (residential) - 30 gallons/hour for at least 120 consecutive hours
- #200 accounts (commercial) – 100 gallons/hour for at least 168 consecutive hours
- #300 accounts (industrial) – not monitored
- #400 accounts (public authority) – 100 gallons/hour for at least 168 consecutive hours
- #600 accounts (apartment bldgs.) - 100 gallons/hour for at least 168 consecutive hours

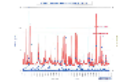
If a significant change in consumption has been identified by the Utility, the following process may be followed:

- Mail, email or text a high consumption notice to the customer to notify them of the increased water usage.
 - Utility may assist the customer in identifying the source of the increased water usage. This may include a phone conversation or up to a one (1) hour appointment at their property.
- Utility may visit the property if the leak is substantial and staff determines there may be the potential to present a risk to the public's health, safety or welfare (over 250 gal/hour).
 - If the Utility is not able to make contact with the customer, staff will leave a notice at the property advising the customer of the detected high consumption and asking for them to contact the Utility.
 - If no response within 48 hours, the Utility may turn the water off at the curb box until the customer requests the water to be turned back on.

This procedure is intended only to provide guidelines regarding the Utility's monitoring of, and response to, increased water usage. This procedure shall not be construed as making any promises, warranties, representations or the like to any property owner regarding the monitoring of water usage, nor is it intended in any way to relieve property owners of the ultimate responsibility to monitor water use on their property.

City of Appleton I/I Overall Sewer Basin Ratings 2012 - 2016

**City of Appleton
Sewer Investigation Project**
2012-2016
Project is a city-wide program to identify and quantify I/I in the sewer system. The project is a multi-phased effort that includes:
1. Data Collection
2. Data Analysis
3. Data Reporting
4. Data Archiving



Program Objectives and Goals
1. Identify and quantify I/I in the sewer system.
2. Prioritize I/I for repair based on severity and location.
3. Develop and implement a long-term I/I reduction program.
4. Report I/I data to the public and other stakeholders.

Private Sector Policy Options
1. Incentivize private sector I/I reduction efforts.
2. Develop a private sector I/I reduction program.
3. Report private sector I/I data to the public and other stakeholders.

Cost Sharing Options

Option	Cost	Benefit
Option 1	High	High
Option 2	Moderate	Moderate
Option 3	Low	Low

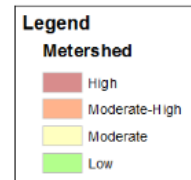


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2012-2016 Flow Monitoring I/I Quantification
Overall Priority Ratings





City of Appleton

Sewer Investigation Project

Utility Committee Update

March 21, 2017

Program Results: 2012 through 2016

- Monitoring/ Analysis
- Dyed Water Testing
- Benefits and Conclusions

Next Steps for Appleton

- Continue sewer system maintenance programs
- Consider lateral repair and replacement policy changes

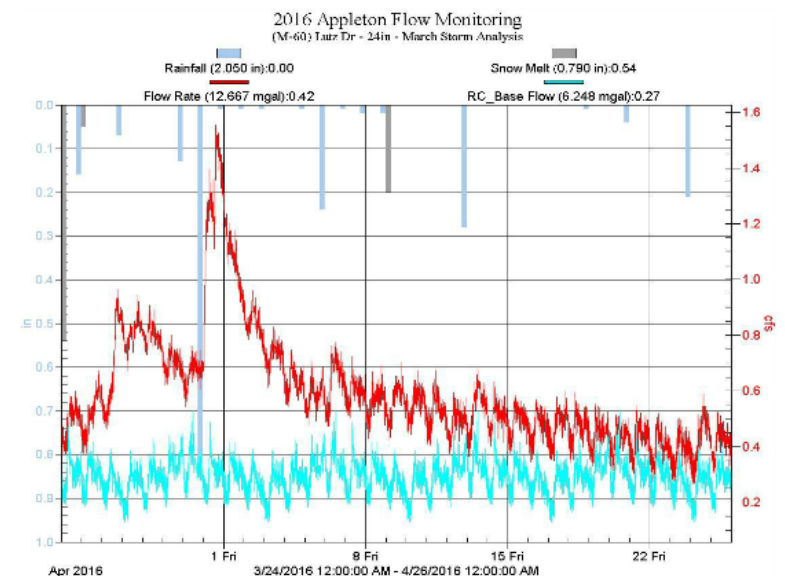
R.A. Smith National

*Beyond Surveying
and Engineering*

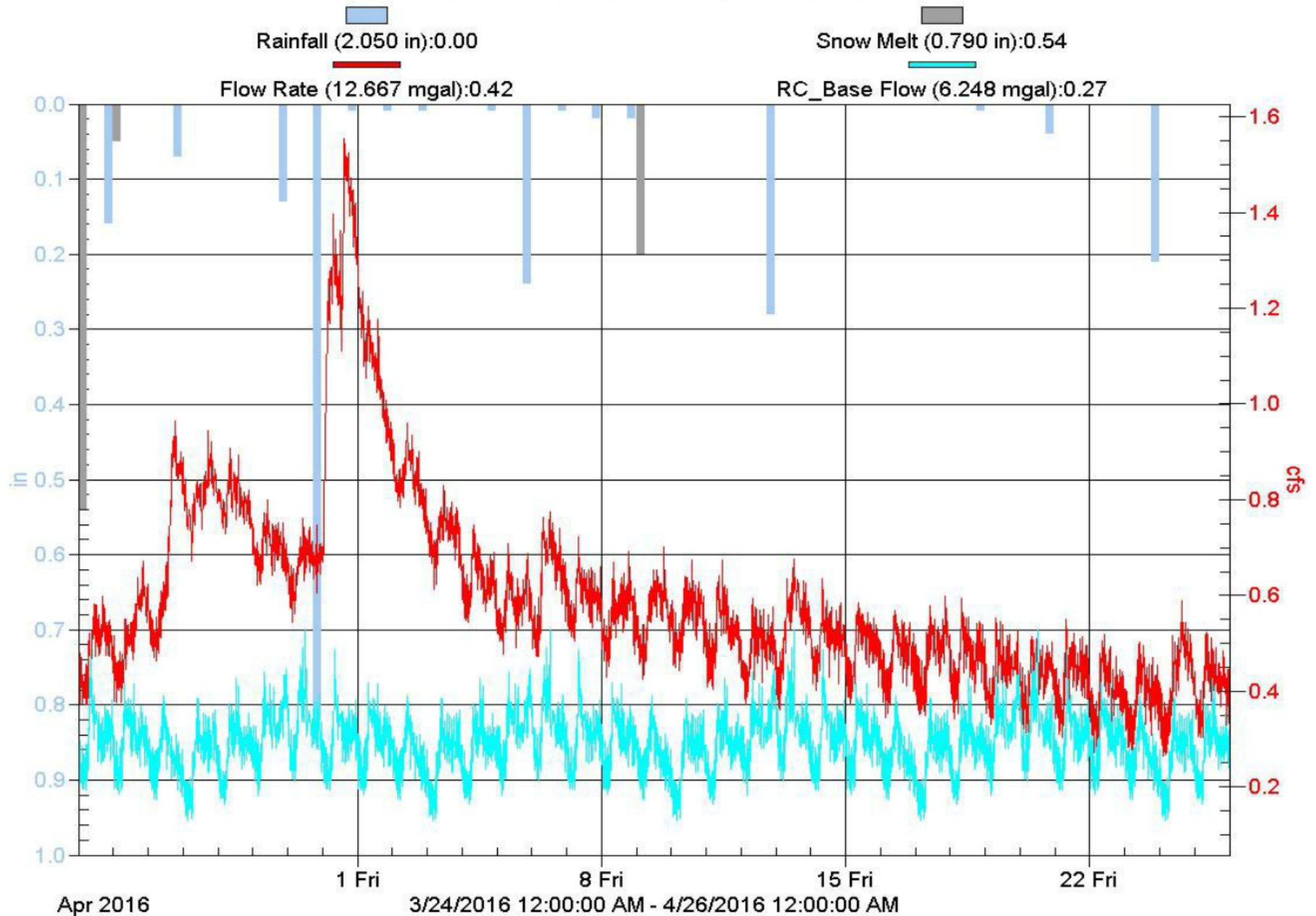
Program Results through 2016

Flow Monitoring and Analysis

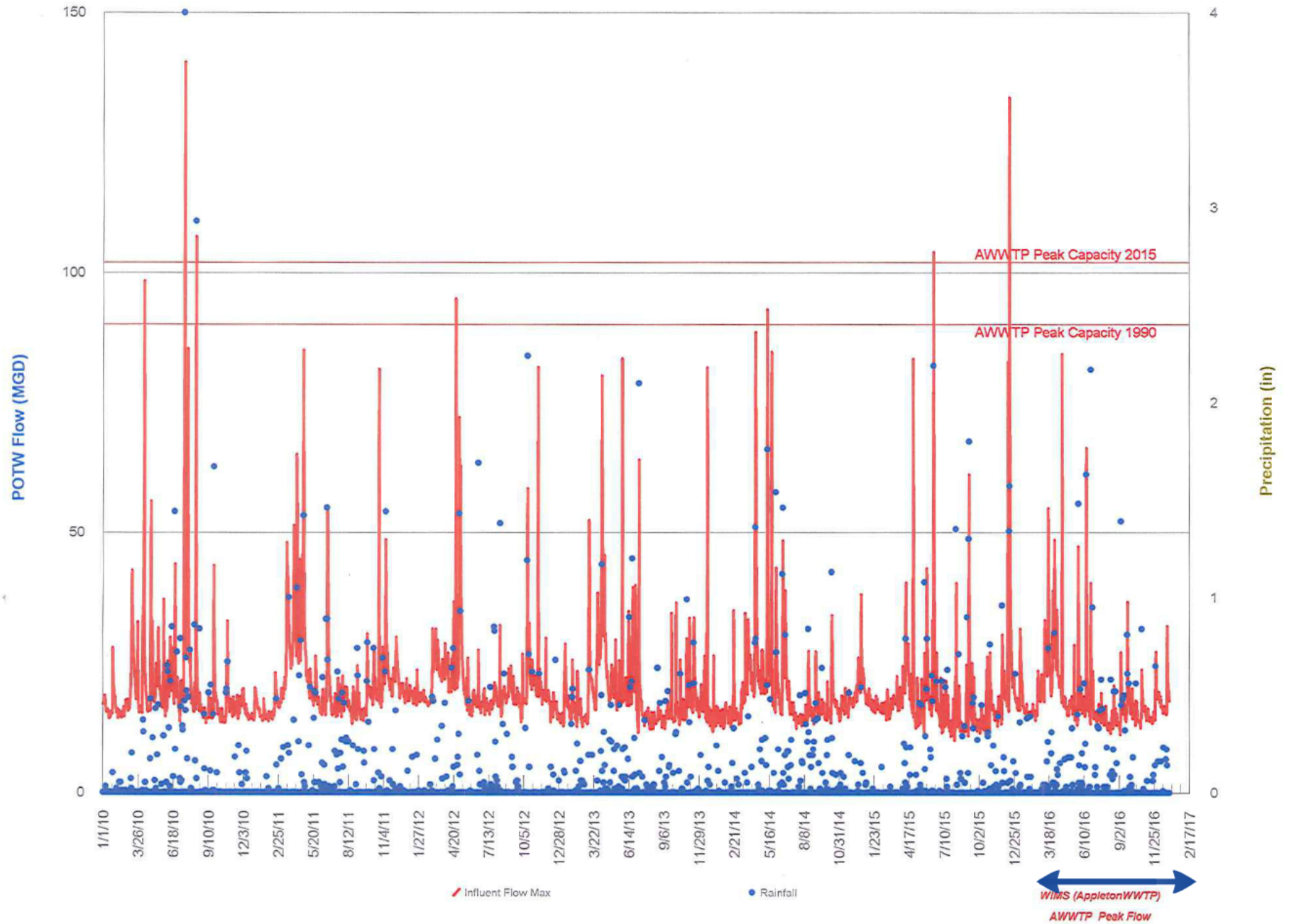
- Sewer flows recorded during wet and dry periods
- Data used to rate infiltration/ inflow (I/I) impact by sewer basin
- Overall map shows relative I/I by basin
- Resulting ratings guide more intensive investigative efforts



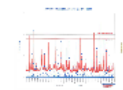
2016 Appleton Flow Monitoring (M-60) Lutz Dr - 24in - March Storm Analysis



AWWTP Influent Maximum Flow 2010-2016



City of Appleton I/I Overall Sewer Basin Ratings 2012 - 2016



Program Results and Challenges

Over the past several years, the City of Appleton has made significant progress in addressing its I/I issues. This progress has been achieved through a combination of proactive measures and reactive responses to specific events.

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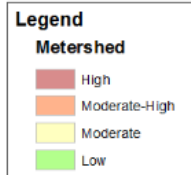
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2012-2016 Flow Monitoring I/I Quantification
Overall Priority Ratings

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July 2016

Dyed Water Testing and Televising

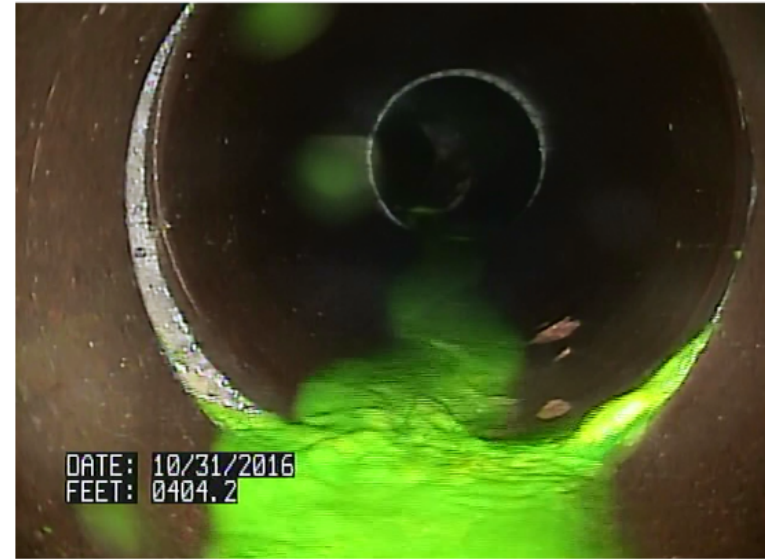
- Selected areas with high I/I based on flow analysis
- Simulated rainfall; flooded storm sewers with dyed green water
- Televised sanitary sewers; recorded green water leakage into the sewer system
- Determined leakage source and severity
- Documented defects by type, location and estimated flow rate



2016 Dye Testing Summary

Mainline Sewers

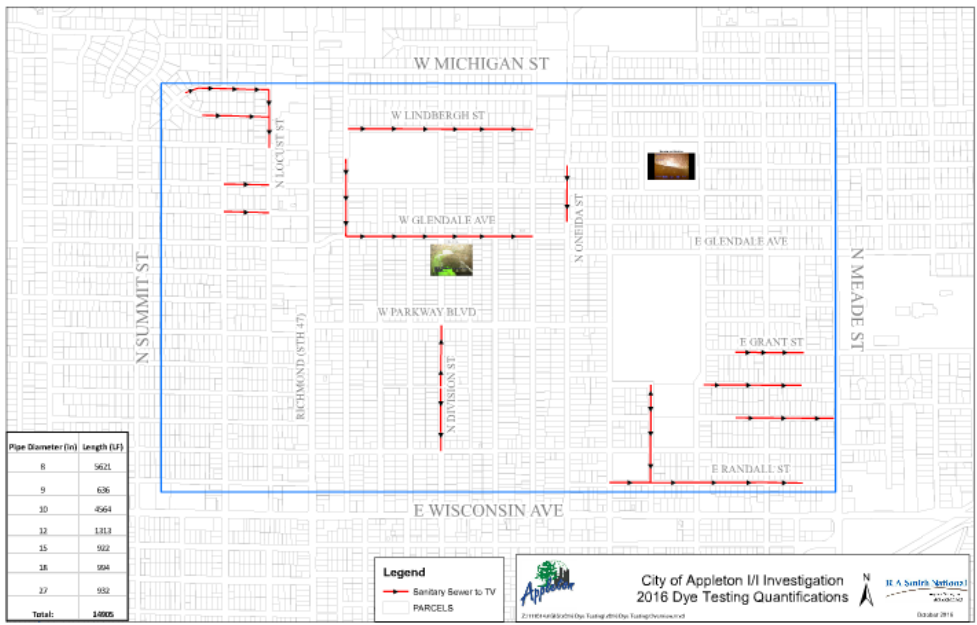
- 14,316 lf of sewer tested in October 2016
- 56 sanitary sewer leaks documented
- Estimated total flow rate of 67 gpm
- Found and documented collapsed pipe section (Promptly repaired)

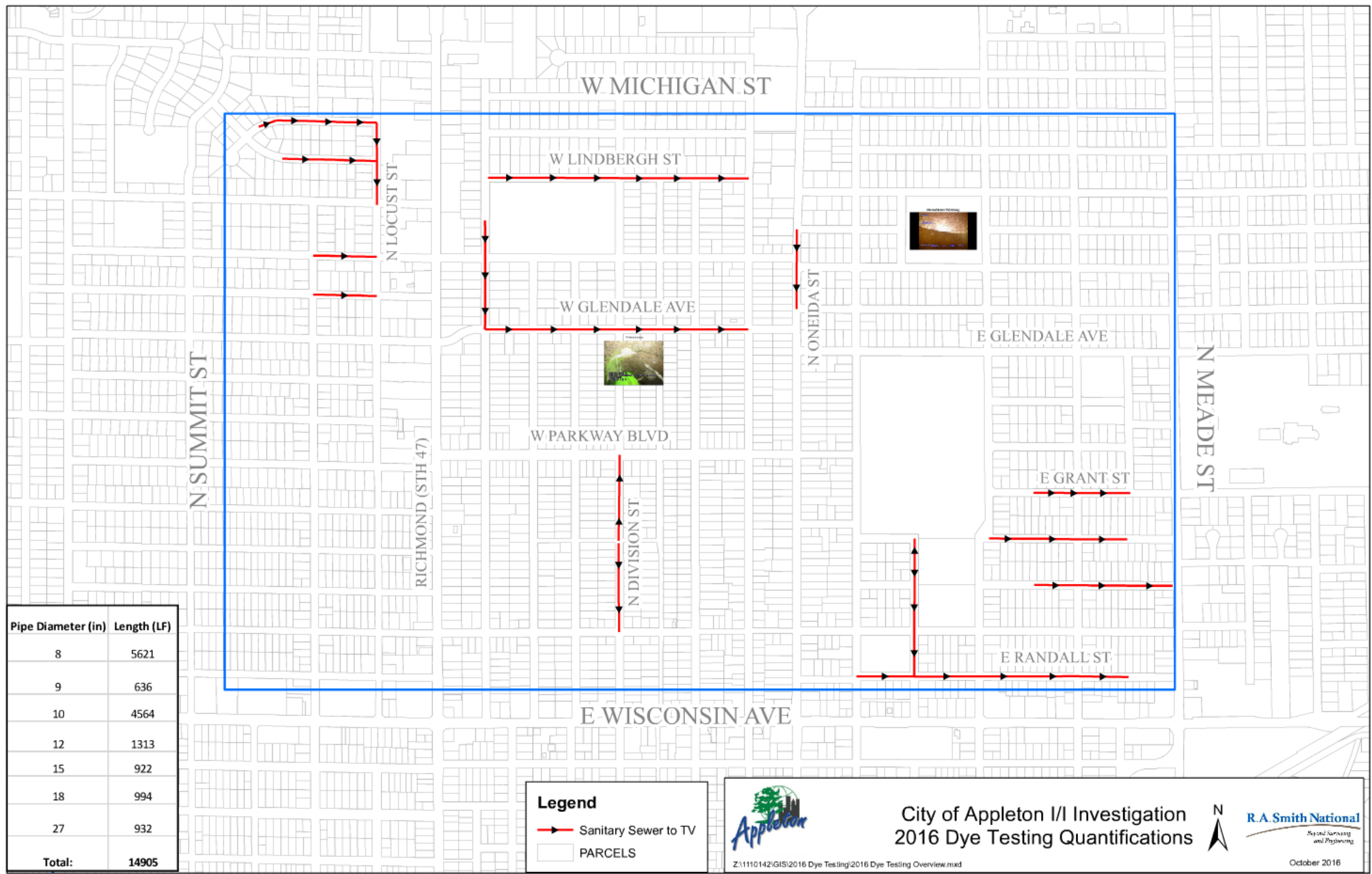


Private Sewer Laterals

- 61 leaking private sewer laterals documented
- Estimated total flow rate of 220 gpm

ability
Private Property
N/A
37% Owner
0/50 to 25 ft
Owner > 25 ft
erty lateral)
N/A
y lateral)
0 entire private
length



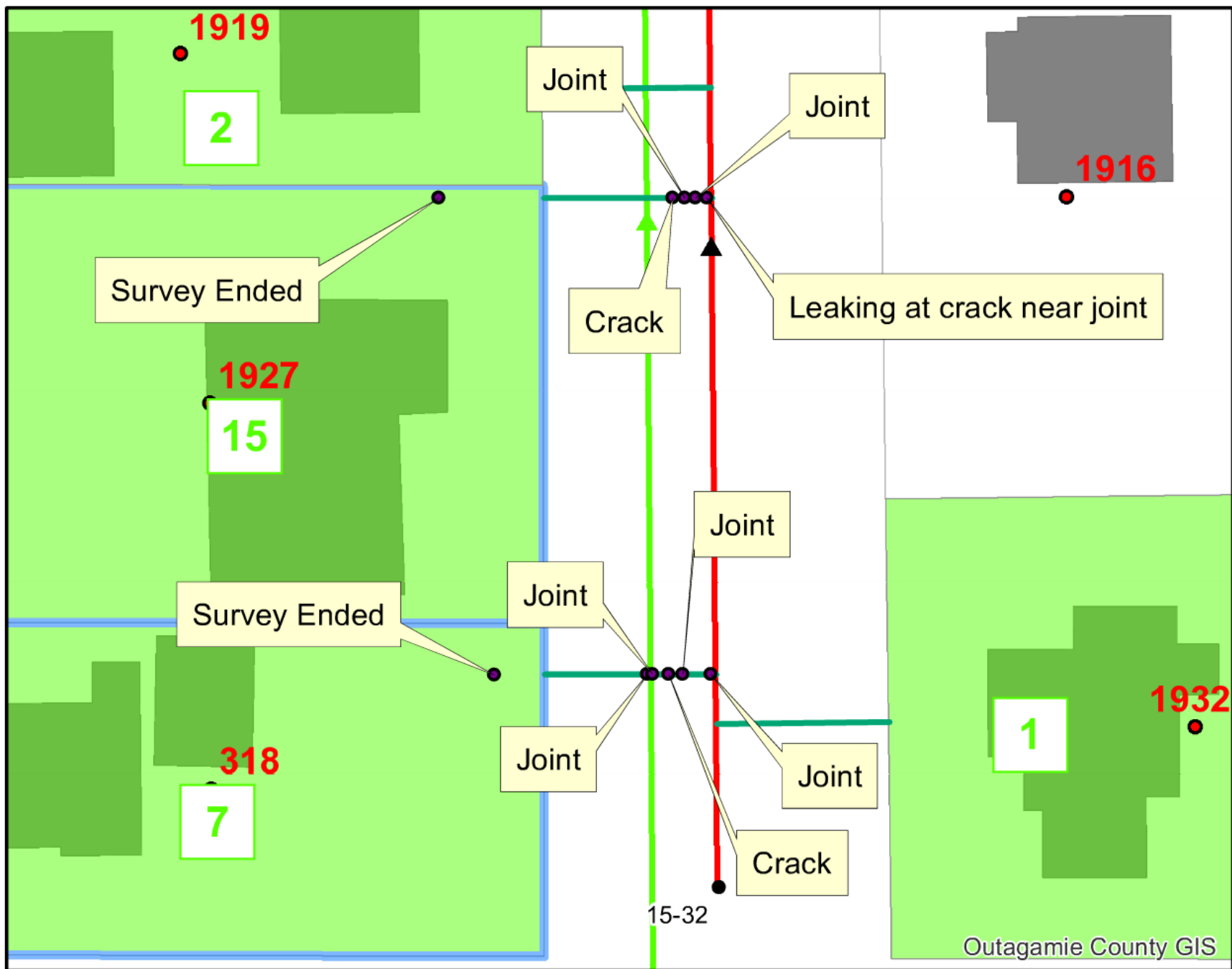


Normal Sewer Televising



W. Glendale Avenue





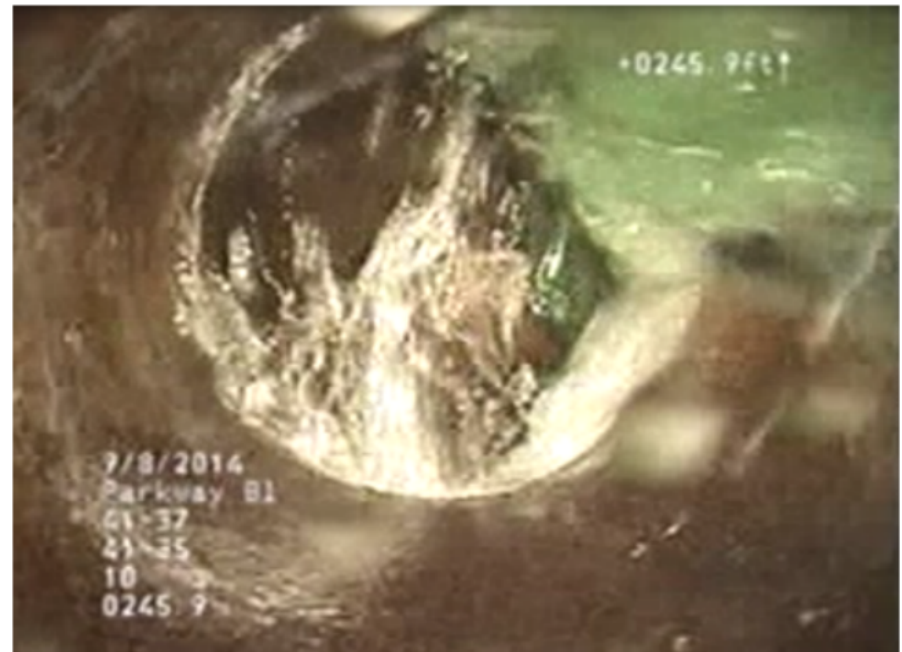
318 E Calumet St. & 1927 Jefferson St.

Program Benefits and Conclusions

1. Identified actual defects for repair, rehabilitation or replacement
 - Spot repairs completed for substantial defects
 - Others included in on-going City sewer maintenance program
2. Information to correlate defects with sewer pipe materials and ages
 - Input for consideration in overall CIP project selection
3. Documented that substantial share of total I/I is from defective private sewer laterals
 - Existing policy addresses sewer from main to property line
 - Consider issues and policy for repair or replacement from building foundation to property line

Private Lateral Issues

- Clearwater infiltration and inflow from laterals is substantial and growing; the problem will not go away
- Total private lateral length is often equal to total City sewer length
- Private laterals are rarely maintained or replaced unless blocked and backing up
- "Time and Money" - requires a program, not just a project
- Common challenge for many neighboring and peer cities



Private Lateral Policy Challenges

Lateral Inspection

- Inspection from main sewer requires special equipment
- Inspection through building clean-out requires access

Lateral Repair / Replacement

- Pipe bursting and slip lining options
- Lateral slip lining, or cured-in-place technology
- Lateral open-cut replacement is costly and disruptive

Funding for Private Lateral Replacement

- Property owners unaccustomed and unprepared for the cost
- Public-Private cost share must be addressed
- Generally rely on State plumbing code for enforcement authority
- Mandatory replacement is unpopular

Private Lateral Policy Options

Inspection and Repair

- Require inspection and necessary repair or replacement:
 - Continuous program in priority areas
 - At time of street or sewer reconstruction (*Marshfield, North Fond du Lac, Combined Locks, Oshkosh*)

Cost Reduction or Sharing Options

- Options for mandatory or voluntary replacement between the sewer main and the property line, and from the property line and the building connection
- Options for cost responsibility by City, by property owner or split as shared cost between both parties

Cost Sharing Options

Scenario	Cost Responsibility	
	In Rt-of-Way	On Private Property
<i>Current</i>		
Mandatory in R-of-W; Voluntary to Building	50/50	N/A
<i>Option 1-A</i>		
Mandatory in R-of-W and to Building	100% City	100% Owner
<i>Option 1-B</i>		
Mandatory in R-of-W and to Building	100% City	50/50 to 25 ft 100% Owner > 25 ft
<i>Option 2-A (Owner does NOT replace private property lateral)</i>		
Mandatory in R-of-W; Voluntary to Building	100% Owner	N/A
<i>Option 2-B (Owner DOES replace private property lateral)</i>		
Mandatory in R-of-W; Voluntary to Building	100% City	50/50 entire private length

What's next for Appleton?



2017 - Research and Develop

- Review funding scenarios
- Utility Committee approval of preferred cost sharing option (April 11)
- Develop and adopt ordinance language based on approved scenario (May 9)
- Finance Committee review/ approve revised special assessment policy to reflect new ordinance language (June 13)

What's next for Appleton?



2018 - Proposed Program

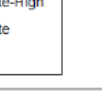
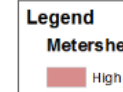
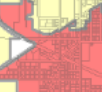
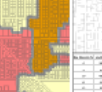
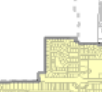
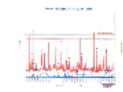
Analysis and Investigation

- Incorporate new procedure into existing CIP
- Determine all impacts
- Plan and budget accordingly

2019 - Implement New Policy/ Program

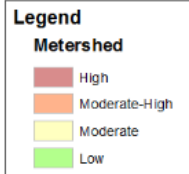
- Apply to street and sewer projects
- Evaluate program impact

City of Appleton I/I Overall Sewer Basin Ratings 2012 - 2016



City of Appleton
Water Services Department
2012-2016 Flow Monitoring I/I Quantification
Overall Priority Ratings

2012-2016 Flow Monitoring I/I Quantification
Overall Priority Ratings



2012-2016 Flow Monitoring I/I Quantification
Overall Priority Ratings



July 2016

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Some examples:
City of Duluth
City of Duluth, Minnesota
The City of Duluth, Minnesota, is a city in the state of Minnesota. It is located on the shore of Lake Superior and is the largest city in the state. The city is known for its beautiful scenery and its rich history. It is a great place to visit and live.

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City of Duluth
City of Duluth, Minnesota
The City of Duluth, Minnesota, is a city in the state of Minnesota. It is located on the shore of Lake Superior and is the largest city in the state. The city is known for its beautiful scenery and its rich history. It is a great place to visit and live.



City of Appleton

Sewer Investigation Project

Utility Committee Update

March 21, 2017

Program Results: 2012 through 2016

- Monitoring/ Analysis
- Dyed Water Testing
- Benefits and Conclusions

Next Steps for Appleton

- Continue sewer system maintenance programs
- Consider lateral repair and replacement policy changes

R.A. Smith National

*Beyond Surveying
and Engineering*

WATER SUMMARY FOR FEBRUARY 2017

Work done by Construction Maintenance				
	<u>Feb 16</u>	<u>Feb 17</u>	<u>YTD 16</u>	<u>YTD 17</u>
Hydrants repaired	1	2	1	3
Hydrants replaced	1	0	2	0
Hydrant leaks	1	0	1	0
Valves replaced	0	0	0	0
Valves tested & inspected	123	293	162	442
Valves Rebuilt	0	0	0	0
Valve boxes repaired	1	3	6	3
Curb boxes repaired	2	11	6	13
Curb boxes replaced	6	0	6	0
Lead or galvanized replaced	0	0	0	0
New services 1"	0	0	0	0
New services >1"	0	0	0	0
Water main breaks	7	10	16	28
Joint leaks repaired	0	0	0	1
Water quality	0	0	0	1
Service leaks (City side)	0	0	1	0
Work done by Meter Service Team				
	<u>Feb 16</u>	<u>Feb 17</u>	<u>YTD 16</u>	<u>YTD 17</u>
New accounts set with 3/4" or 1"	6	4	8	13
New accounts set with larger meter	0	0	1	1
Meters tested	815	825	1400	1529
Meters failed	70	22	149	52
Meters stalled	0	0	0	0
Service calls	165	132	257	292
Final readings	213	205	434	434
Read meters - no reading	0	0	0	0
New meters installed	823	857	1436	1612
Exception meters inspected	0	0	0	0
Exception meters removed	0	0	0	0
Service leaks found	6	3	9	8
Cross connection inspections	764	832	1358	1553

**WATER MAIN BREAK/JOINT LEAK REPORT FEBRUARY
2017**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
Summit Street/ 150' s/o College Avenue	221778	CIP	8"	1966	1/64" crack	5 hours	18,993	\$115.53
Cedarwood Drive/ Weimer Street	221905	CIP	8"	1971	1/16" crack	3 hours	45,584	\$277.28
1925 N. Linwood Avenue	221906	CIP	8"	1961	1/32" crack	2 days	364,672	\$2,218.26
Summit Street/ 93' s/o College Avenue	221937	CIP	8"	1966	1/64" X 16" split	1 day	54,446	\$331.19
317 N. Appleton Street	222093	CIP	6"	1913	1/64" crack	8 hours	22,792	\$138.64
Summit Street/ Packard Street	222120	CIP	6"	1928	1/4" crack	8 hours	317,914	\$1,933.84
1009 W. Oklahoma Street	222158	CIP	8"	1938	1/32" crack & 1" hole	6 hours	106,363	\$646.99
1903 N. Harriman Street	222228	CIP	6"	1939	1/16" crack	4 hours	45,584	\$277.28

***Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.

**WATER MAIN BREAK/JOINT LEAK REPORT FEBRUARY
2017**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
Appleton Street/ Glendale Avenue	222303	CIP	6"	1945	1/16" and 1/256" crack	1/16"=2 days & 1/256"=46 days	1,333,332	\$8,110.51
617 N. Superior Street	222601	CIP	6"	?	1/8" crack	4 hours	91,168	\$554.56
								\$0.00
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								\$0.00
								\$0.00
								\$0.00
								\$0.00

**Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.

WATER MAIN BREAK/Joint LEAK DATA LOG FEBRUARY 2017

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
Summit Street/ 150' s/o College Avenue	Local	Asphalt	Minor	Yes 175' away	2/1/2017 4:00 a.m. Wednesday	Fixed during normal work hours.
Cedarwood Drive/ Weimar Street	Local	Concrete	Minor	Yes 4' away	2/2/2017 4:00 a.m. Thursday	Fixed right away due to service outages.
1925 N. Linwood Avenue	Collector	Concrete	Minor	Yes 50' away	2/2/2017 7:30 a.m. Thursday	Fixed right away due to ice build up and service outages. Resident reported his sump pump had been running for two days.
Summit Street/ 93' s/o College Avenue	Local	Asphalt	Minor	Yes 90' away	2/3/2017 6:00 a.m. Friday	Fixed during normal work hours. The ice was thick enough to indicate it had been running for at least 24 hours.
317 N. Appleton Street	Arterial	Concrete	Minor	Yes 100' away	2/9/2017 2:00 a.m. Thursday	Fixed right away due to location and the potential for property and utility damage.
Summit Street/ Packard Street	Local	Asphalt	Major	Yes 25' away	2/9/2017 5:00 p.m. Thursday	Fixed right away due to property damage and water loss.

**WATER MAIN BREAK/Joint LEAK DATA LOG FEBRUARY
2017**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
1009 W. Oklahoma Street	Local	Asphalt	Major	Yes 70' away	2/12/2017 5:30 p.m. Sunday	Fixed right away due to water loss and the potential for property damage.
1903 N. Harriman Street	Local	Asphalt	Minor	Yes 350' away	2/14/2017 5:00 a.m. Tuesday	Fixed during normal work hours.
Appleton Street/ Glendale Avenue	Collector	Concrete	Minor	Yes 25' away	2/16/2017 11:00 a.m. Thursday	Fixed right away. Found by Sewer Crew during routine cleaning. We have heard noise here for two years and have not been able to pinpoint the leak. We believe this leak is the cause of that noise.
617 N. Superior Street	Local	Concrete	Major	Yes 100' away	2/24/2017 10:00 a.m. Friday	Fixed during normal work hours.