City of Appleton

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

Meeting Agenda - Final-revised

Utilities Committee

Tuesday, February 25, 2020 | **5:00 PM** | **Council Chambers, 6th Floor**

1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

20-0221 Approval of the February 11, 2020 Utilities Committee Meeting Minutes.

Attachments: February 11, 2020 Utilities Committee Meeting Minutes.pdf

4. Public Hearings/Appearances

5. Action Items

20-0222 Request to calculate Stormwater Utility bill for parcel 31-1-9221-00 (7500 N. Purdy Parkway) by creating a residential area and a non-residential area as shown on the attached map.

Attachments: Stormwater Utility Bill for 7500 N. Purdy Parkway.pdf

19-1547 Request to classify 7500 N. Purdy Parkway (parcel 31-1-9221-00) as commercial for stormwater billing purposes.

Attachments: Memo 311922100.pdf
2019-10-22 MEU Holdings - Letter to Sue Olson.pdf

Legislative History

10/22/19	Utilities Committee	held
	This item will be held until the November 12, 2019 Utilities Committee meeting.	
11/12/19	Utilities Committee	held
	This item will be held until the December 10. 2019 Utilities Committee Meeting.	
1/14/20	Utilities Committee	held
	This item will be held until a future Utilities Committee Meeting.	

20-0231 Approve 2019 Annual Stormwater Report to WDNR

Attachments: 2019 MS4 Annual report to UC w attachments.pdf

20-0242 Award single source 2020E Spartan Drive Stormwater Ponds and Roadway Construction Related Services Contract to Brown & Caldwell, in an amount not to exceed $43,900.

Attachments: Brown Caldwell 2020E Spartan Ponds and Roadway CRS Contract Util Memo F

20-0266 Approve Updates to Municipal Code Chapter 20, Article VII, Illicit Discharges and Connections, specifically:
a. Section 20-401 relating to definitions
b. Section 20-412 relating to allowed discharges
c. Section 20-423 relating to requirement to prevent, control and reduce stormwater pollutants by the use of best management practices
d. Section 20-433 relating to Notice of Violation

Attachments: 2020 IDDE Ord Update Util Memo.pdf
2020 IDDE Ordinance changes.pdf

20-0307 Approve proposed modifications to Municipal Code Chapter 20, Article II - Water Utility.

Attachments: Municipal Code - Water Utility.pdf

20-0306 Approve proposed modifications to the Water Leak Policy.

Attachments: Water Leak Policy.pdf

20-0269 Award of Single Source Contract with NES Ecological Services for 2020 Wetland Delineation Services in an amount not to exceed $22,778.55.

Attachments: 2020F Wetland Delineations Contract Award Memo Util Cmte final 02-18-2020.p

20-0263 Award Engineering Services Contract for the Ridgeway Tower Recoating Project to Strand Associates, Inc., in the amount of $41,900 and a 10% contingency of $4,200 for a project total not to exceed $46,100.

Attachments: Ridgeway Tower Engineering Award 0219-20.pdf

6. Information Items

20-0226 Utilis Satellite Leak Detection Program.

Attachments: Utilis Satellite Leak Detection Program.pdf

20-0227 AquaDuoscope Measuring Method Program.

Attachments: AquaDuoscope Measuring Method Program.pdf

20-0228 National League of Cities Service Line Warranty Program.

Attachments: National League of Cities Service Line Warranty Program.pdf

20-0274 Postponement of projects due to bid prices above our 2020 Budget.

Attachments: Postponement of Projects.pdf

20-0229 2019 Water Main Break History.

Attachments: 2019 Water Main Break History.pdf

20-0230 Monthly Reports for January 2020:
- Water Distribution and Meter Team Monthly Report

Attachments: Water Main Breaks January 2020.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 - Final
Utilities Committee

Tuesday, February 11, 2020 | **5:00 PM** | **Council Chambers, 6th Floor**

1. Call meeting to order

Alderperson Meltzer called the Utilities Committee Meeting to order at 5:00 p.m.

2. Roll call of membership

Present: 4 - Meltzer, Firkus, Fenton and Otis

Excused: 1 - Reed

3. Approval of minutes from previous meeting

20-0106 Approval of the January 14, 2020 Utilities Committee Meeting Minutes.

Attachments: January 14, 2020 Utilities Committee Meeting Minutes.pdf

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

Aye: 4 - Meltzer, Firkus, Fenton and Otis

Excused: 1 - Reed

4. Public Hearings/Appearances

5. Action Items

20-0175 Approve second amendment to the 2019J Stormwater Consulting Services Contract for Phase 1 Final Design and Construction documents and Construction Related Services (CRS) for Spartan Drive with Brown and Caldwell (BC) in an amount not to exceed $10,548.

Attachments: 2019J Spartan BC Second Amendment Memo.pdf

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

Aye: 4 - Meltzer, Firkus, Fenton and Otis

Excused: 1 - Reed

6. Information Items

20-0174 Change order No. 1 for Unit AA-19, Bear Creek Culvert & Spartan / Sommers Retaining Wall.

Attachments: AA-19 Change Order One.pdf

This item was presented.

20-0176 Change Order #3 to Classic Coatings Company contract as part of the Lindbergh Standpipe Recoat Project totaling $7,600 resulting in a decrease in contract cost from $693,850 to $687,795.

Attachments: Change Order 3 Lindbergh Recoat Project.pdf

This item was presented.

20-0107 Monthly Reports for October, November, and December 2019
- Wastewater Treatment Plant Synopsis and Receiving Station Revenue Report
- Water Treatment Facility Synopsis
- Water Distribution and Meter Team Monthly Report - December

Attachments: 2019 Q4 Wastewater Synopsis.pdf
2019 Q4 Water Synopsis.pdf
Water Main Breaks December 2019.pdf

The reports were reviewed.

7. Adjournment

Fenton moved, seconded by Otis, that the Utilities Committee Meeting be adjourned at 5:10 p.m. Roll Call. Motion carried by the following vote:

Aye: 4 - Meltzer, Firkus, Fenton and Otis

Excused: 1 - Reed

MEMO

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

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works PAV

DATE: February 20, 2020

SUBJECT: **Request to calculate Stormwater Utility bill for parcel 31-1-9221-00 (7500 N. Purdy Parkway) by creating a residential area and non-residential area as shown on the attached map.**

City staff has met with the legal representative of 7500 N. Purdy Parkway several times over the past few months in order to determine an equitable means of calculating the Stormwater Utility bill for this property. This parcel is not your typical residential property as you can see from the attached map. We have reached a mutually agreeable resolution to arrive at a reasonable and fair ERU calculation for this particular parcel as well the limited number of other unique parcels with similar characteristics.

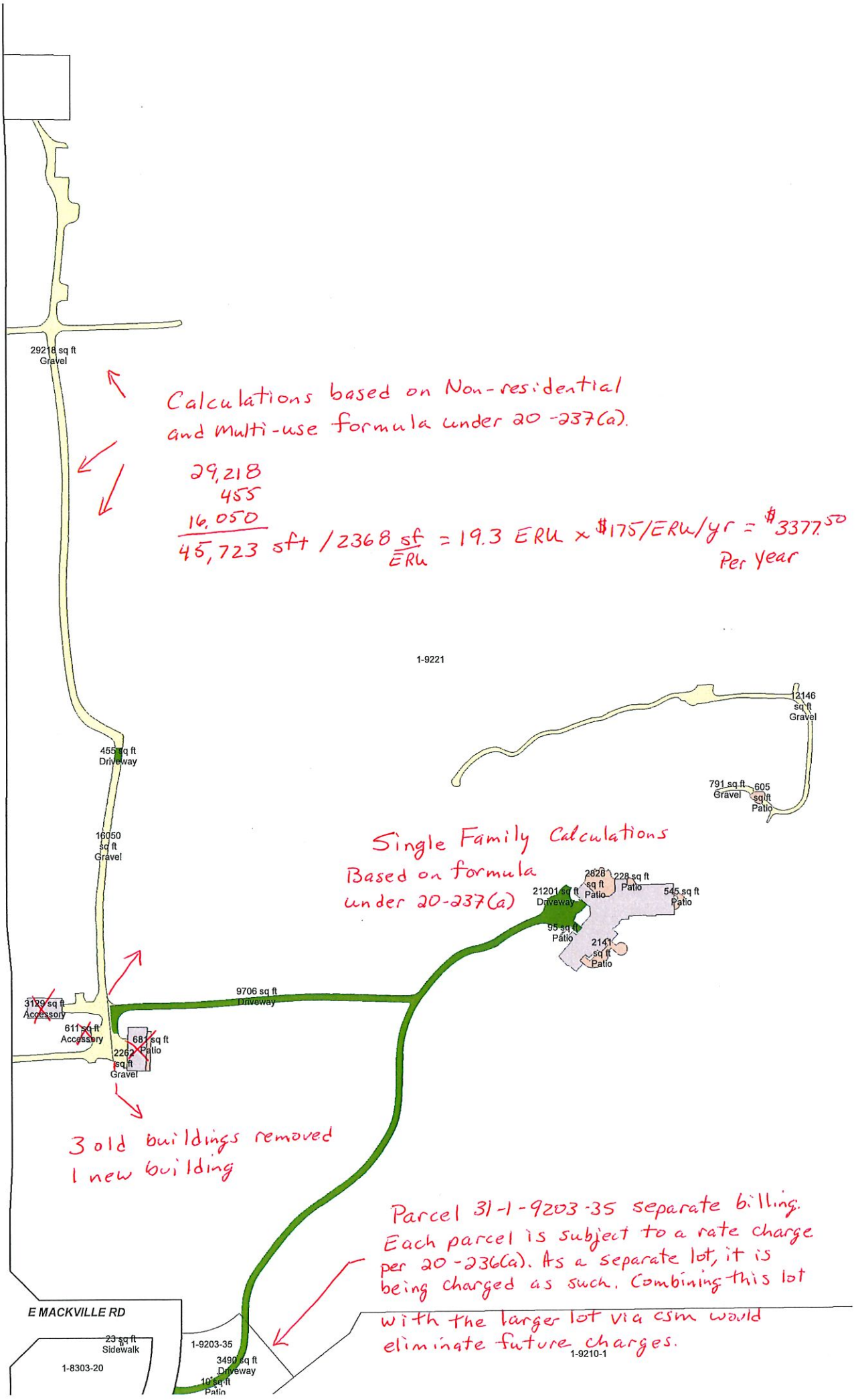
After much discussion, staff believes that dividing the parcel into a residential area (1 ERU) and a non-residential area (19.3 ERUs), strictly for the limited purpose of calculating total ERUs in this unique situation, is a fair and equitable way to calculate the Stormwater Utility bill. As the Stormwater Utility Rate changes and/or the amount of impervious area changes, the billing for this parcel will be recalculated using the Council approved methodology.

If the Common Council approves this recommendation for recalculating the Stormwater Utility bill for this parcel, then staff will bring back the following other unique parcels for reconsideration based on using the same methodology:

- 203 S. State Street
- 1935 E. John Street
- 6600 N. Ballard Road
- 8711 N. French Road
- 2435 E. Edgewood Drive

Therefore, we recommend that the Stormwater Utility bill for parcel 31-1-9221-00 be split into one residential unit (1 ERU) and 19.3 ERUs of non-residential units ($3,377.50 per year) based on the current Stormwater ERU Rate of $175/ERU, for a total of $3,552,50.

Attachment


29218 sq ft Gravel
Calculations based on Non-residential and multi-use formula under 20-237(a).
29,218
455
16,050
45,723 sft / 2368 sf/ERU = 19.3 ERU x $175/ERU/yr = $3377.50 Per Year
1-9221
2146 sq ft Gravel
455 sq ft Driveway
791 sq ft Gravel
605 sq ft Patio
16050 sq ft Gravel
Single Family Calculations Based on formula under 20-237(a)
2828 sq ft Patio
228 sq ft Patio
21201 sq ft Driveway
545 sq ft Patio
95 sq ft Patio
2141 sq ft Patio
9706 sq ft Driveway
3129 sq ft Accessory
611 sq ft Accessory
681 sq ft Patio
2262 sq ft Gravel
3 old buildings removed
1 new building
Parcel 31-1-9203-35 separate billing. Each parcel is subject to a rate charge per 20-236(a). As a separate lot, it is being charged as such. Combining this lot with the larger lot via csm would eliminate future charges.
E MACKVILLE RD
23 sq ft Sidewalk
1-8303-20
1-9203-35
3490 sq ft Driveway
10 sq ft Patio
1-9210-1

Department of Public Works – Engineering Division

MEMO

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works
Sue Olson, Staff Engineer

DATE: October 15, 2019

RE: Request to classify 7500 N. Purdy Parkway (parcel 31-1-9221-00) as commercial for stormwater billing purposes

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This site is a large parcel on the north side of Apple Hill Farms with an Assessor land use code for single family and a secondary use code of crop production. In addition to the single family home, the parcel has a lengthy private road, private trail, and multiple accessory buildings, including a barn with restrooms.

Under the single family classification this parcel is 1 ERU for $175 per year. Under the commercial classification, this parcel is 53.0 ERU for $9,275.00 per year. The site is 1.3% impervious.

There are three water meters/accounts on this parcel, one is residential and two are commercial. This site also met the Wisconsin Department of Natural Resources requirements for a single family development with enough connected impervious to require a stormwater management plan and permit.

Staff recommends classifying this parcel as commercial for stormwater billing purposes.

WILLOW BROOK CT

N BALLARD RD

1-9221

1-9220

N BALLARD RD

1-9221

MACKVILLE RD

E MACKVILLE RD

N PURDY PKWY

1-8303-20

1-9203-34

1-9203-35

1-9210-1

von Briesen
von Briesen & Roper, s.c. | Attorneys at Law
TAGLaw International Lawyers

Michael P. Carlton
Direct Telephone
414-287-1217
mcarlton@vonbriesen.com

October 22, 2019

Via Email and Hand Delivery
Ms. Sue Olson, P.E.
Project Engineer
City of Appleton
Department of Public Works
Engineering Division
100 N. Appleton Street
Appleton, WI 54911

Re: Stormwater Billing for Parcel 31-1-9221-0 located at 7500 N. Purdy Parkway (the "Property")

Dear Ms. Olson:

We represent MEU Holdings, LLC with respect to your October 10, 2019, letter proposing to increase the stormwater assessment on the above-referenced single family residential Property from $175 per year to $9,275 per year. I understand from your letter that this matter will be discussed at a meeting of the Utilities Committee at 5 p.m. today, October 22, 2019. We ask that this letter be made part of the record for the Committee.

Although our analysis is ongoing, there are several points about which the Utilities Committee should be aware:

1) As acknowledged in the City's October 10, 2019 letter, this is a "residential property", defined in Section 20-229 of the Appleton City Ordinances to mean "developed exclusively for residential purposes including, but not limited to, single family homes . . . ." The Property certainly is a property developed exclusively for residential purposes, containing a single family home and authorized accessory buildings, private road and other amenities. Neither the size of the Property nor the amenities present on the Property change its residential character. Nor is there any commercial aspect of this parcel, though that term appears not to be defined in the stormwater ordinances.

2) To the extent that portions of the Property are agricultural in character, we note that "Agricultural Facilities and Practices" are exempt from the Stormwater Rules. Section 20-311(a)(2).

3) Even if the Property or any portion of it were somehow considered to be non-residential, Section 20-236(b)(2) of the City's Ordinances provides that the calculation of the ERU charge should be based upon the amount of "impervious area contributing to surface water runoff", not

total lot area. The actual impervious area on this property is only a very small fraction of the total lot area, a fraction which we expect upon further analysis will be less than the approximately 125,000 square feet which forms the basis of the City's proposed ERU charge.

4) The impervious areas on the Property appear to contribute virtually nothing to the City's stormwater, in large part precisely because of the large amounts of pervious undeveloped, agricultural and forest areas which surround almost of all of the impervious areas on the Property. As a practical matter, the Property is responsible for little, if any, stormwater runoff.

We are not aware of any basis in State law or the City's Ordinances to reclassify the residential Property containing a home as "commercial" or any other non-residential use, and we ask that the Utilities Committee deny the proposed reclassification. If the Utilities Committee believes that this matter warrants further substantive discussion, then we ask that the Utilities Committee defer any possible reclassification of the Property as commercial for stormwater billing purposes, as proposed in your letter, to permit us to continue our review of this matter and, if necessary, hire a stormwater engineering consultant to assist us. In the meantime, we would be pleased to meet with Engineering Division staff to explore a possible resolution of this matter.

Thank you for your consideration.

Sincerely,

von BRIESEN & ROPER, s.c.

Michael P. Carlton

MPC:sev
33853181_2.DOCX

Submittal of Annual Reports and other Compliance Documents for Municipal Separate Storm Sewer System (MS4) Permits

NOTE: Missing or incomplete fields are highlighted at the bottom of each page. You may save, close and return to your draft permit as often as necessary to complete your application. After 120 days your draft is **deleted.**

Reporting Information

Will you be completing the Annual Report or other submittal type? (•) **Annual Report** ( ) **Other**

Project Name:	City of Appleton 2019 MS4 Annual Report
County:	Outagamie
Municipality:	Appleton City
Permit Number:	S050075
Facility Number:	31098
Reporting Year:	2019

Is this submittal also satisfying an Urban Nonpoint Source Grant funded deliverable? ( ) **Yes** (•) **No**

Required Attachments and Supplemental Information

Please complete the contents of each tab to submit your MS4 permit compliance document. The information included in this checklist is necessary for a complete submittal. A complete and detailed submittal will help us review about your MS4 permit document. To help us make a decision in the shortest amount of time possible, the following information must be submitted:

Annual Report

- Review related web site and instructions for Municipal storm water permit eReporting [Exit Form]
- Complete all required fields on the annual report form and upload required attachments
- Attach the following other supporting documents as appropriate using the attachments tab above
  - Public Education and Outreach Annual Report Summary
  - Public Involvement and Participation Annual Report Summary
  - Illicit Discharge Detection and Elimination Annual Report Summary
  - Construction Site Pollution Control Annual Report Summary
  - Post-Construction Storm Water Management Annual Report Summary
  - Pollution Prevention Annual Report Summary
    - Leaf and Yard Waste Management
    - Municipal Facility (BMP) Inspection Report
    - Municipal Property SWPPP
    - Municipally Property Inspection Report
    - Winter Road Maintenance
  - Storm Sewer Map Annual Report Attachment
  - Storm Water Quality Management Annual Report Attachment
  - TMDL Attachment
  - Storm Water Consortium/Group Report

- Municipal Cooperation Attachment
- Other Annual Report Attachment

- Attach the following permit compliance documents as appropriate using the attachments tab above

  - Storm Water Management Program *(S050075-03 general permittees shall have a written storm water management program that describes in detail how the permittee intends to comply with the permit requirements for each minimum control measure. Updated programs are due to the department by March 31, 2021.)*
    - Public Education and Outreach Program
    - Public Involvement and Participation Program
    - Illicit Discharge Detection and Elimination Program
    - Construction Site Pollutant Control Program
    - Post-Construction Storm Water Management Program
    - Pollution Prevention Program
      - Municipal Storm Water Management Facility (BMP) Inventory *(S050075-03 general permittees 2.6.1 - inventory due to the department by March 31, 2021.)*
      - Municipal Storm Water Management Facility (BMP) Inspection and Maintenance Plan *(S050075-03 general permittees 2.6.2 – document due to the department by March 31, 2021.)*

- Sign and Submit form

Do not close your work until you SAVE.

Form 3400-224 (08/19)

Municipal Contact Information- Complete

Notice: Pursuant to s. NR 216.07(8), Wis. Adm. Code, an owner or operator of a Municipal Separate Storm Sewer System (MS4) is required to submit an annual report to the Department of Natural Resources (Department) by March 31 of each year to report on activities for the previous calendar year ("reporting year"). This form is being provided by the Department for the user's convenience for reporting on activities undertaken in each reporting year of the permit term. Personal information collected will be used for administrative purposes and may be provided to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].
Note: Compliance items must be submitted using the Attachments tab.

Municipality Information

Name of Municipality	Appleton City
Facility ID # or (FIN):	31098
Updated Information:	☐ Check to update mailing address information
Mailing Address:	100 North Appleton Street
Mailing Address 2:	
City:	Appleton
State:	Wisconsin
Zip Code:	54911 xxxxx or xxxxx-xxxx

Primary Municipal Contact Person (Authorized Representative for MS4 Permit)

The "Authorized Representative" or "Authorized Municipal Contact" includes the municipal official that was charged with compliance and oversight of the permit conditions, and has signature authority for submitting permit documents to the Department (i.e., Mayor, Municipal Administrator, Director of Public Works, City Engineer).

☐ Select to ***create new*** primary contact

First Name:	Paula
Last Name:	Vandehey

☐ Select to ***update*** current contact information

Title:	DPW Director
Mailing Address:	100 N. Appleton Street
Mailing Address 2:	
City:	Appleton
State:	WI
Zip Code:	54911 xxxxx or xxxxx-xxxx
Phone Number:	920-832-6474 Ext: xxx-xxx-xxxx
Email:	paula.vandehey@appleton.org

Additional Contacts Information (Optional)

☐ I&E Program
☐ IDDE Program

Individual with responsibility for: (Check all that apply)	☐ IDDE Response Procedure Manual ☐ Municipal-wide Water Quality Plan ☐ Ordinances ☐ Pollution Prevention Program ☐ Post-Construction Program ☑ Winter roadway maintenance

First Name:	Nate
Last Name:	Loper
Title:	Deputy DPW Director
Mailing Address:	2625 E Glendale Ave
Mailing Address 2:	
City:	Appleton
State:	WI
Zip Code:	54911 xxxxx or xxxxx-xxxx
Phone Number:	920-832-5804 Ext: xxx-xxx-xxxx
Email:	nathan.loper@appleton.org

1. Does the municipality rely on another entity to satisfy some of the permit requirements? If yes, enter entity name (government, consultant, group/organization).

◉ Yes ○ No

☑ Public Education and Outreach: Northeast Wisconsin Stormwater Consortium and Fox Wolf Watershed Alliance

☑ Public Involvement and Participation: Northeast Wisconsin Stormwater Consortium and Fox Wolf Watershed Alliance

☑ Illicit Discharge Detection and Elimination: OMNNI Associates

☐ Construction Site Pollutant Control:

☑ Post-Construction Storm Water Management: Brown and Caldwell and raSmith

☐ Pollution Prevention

2. Has there been any changes to the municipality's participation in group efforts towards permit compliances (i.e., the municipality has added or dropped consortium membership)?

○ Yes ◉ No

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7.

Form 3400-224 (08/19)

Minimum Control Measures- Section 1 : Complete

1. Public Education and Outreach

a. Complete the following information on Public Education and Outreach Activities related to storm water. Select the Mechanism that best describes how the topic message was conveyed to your population. Use the **Add Activity** to add multiple Mechanisms. For Quantity, choose the range for the number of Mechanisms chosen (i.e., number of workshops, events).

Topic: Detection and elimination of illicit discharges

Mechanism	Quantity (optional)	Est. People Reached (optional)	Regional Effort? (optional)
Active distribution of print media (mailings, newsletters, etc)	1 - 9	100 +	○ Yes ◉ No
Direct one-on-one communication	10 - 19	10 - 19	○ Yes ◉ No
Informational booth at event	1 - 9	100 +	◉ Yes ○ No
Targeted group training (contractors, consultants, etc.)	1 - 9	10 - 19	○ Yes ◉ No
Other	1 - 9	20 - 49	○ Yes ◉ No

Select all applicable audiences targeted for this topic.

☐ Contractors ☑ General Public ☑ Public Employees ☑ Residential ☐ School Groups
☑ Business ☐ Developers ☐ Industries ☐ Other:

Topic: Management of materials that may cause storm water pollution from automobiles, pet waste, household hazardous waste and household practices

Mechanism	Quantity (optional)	Est. People Reached (optional)	Regional Effort? (optional)
Active distribution of print media (mailings, newsletters, etc)	1 - 9	100 +	○ Yes ◉ No
Passive print media (brochures at front desk, posters, etc.)	1 - 9	100 +	○ Yes ◉ No
Informational booth at event	1 - 9	100 +	◉ Yes ○ No
Educational activities (School presentations, summer camps, etc)	1 - 9	20 - 49	○ Yes ◉ No
Other	1 - 9	20 - 49	○ Yes ◉ No
Educational activities (School presentations, summer camps, etc)	10 - 19	100 +	◉ Yes ○ No

Select all applicable audiences targeted for this topic.

☐ Contractors ☐ General Public ☐ Public Employees ☑ Residential ☑ School Groups
☐ Business ☐ Developers ☐ Industries ☐ Other:

Topic: Beneficial onsite reuse of leaves and grass clippings/proper use of lawn and garden fertilizers and pesticides

Mechanism	Quantity (optional)	Est. People Reached (optional)	Regional Effort? (optional)
Active distribution of print media (mailings, newsletters, etc)	1 - 9	100 +	○ Yes ◉ No
Passive print media (brochures at front desk, posters, etc.)	1 - 9	100 +	○ Yes ◉ No
Informational booth at event	1 - 9	100 +	◉ Yes ○ No
Educational activities (School presentations, summer camps, etc)	10 - 19	100 +	◉ Yes ○ No
Other	1 - 9	20 - 49	○ Yes ◉ No
Educational activities (School presentations, summer camps, etc)	1 - 9	20 - 49	○ Yes ◉ No

Select all applicable audiences targeted for this topic.

☐ Contractors ☑ General Public ☐ Public Employees ☐ Residential ☑ School Groups
☐ Business ☐ Developers ☐ Industries ☐ Other:

Topic: Management of stream banks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways

Mechanism	Quantity (optional)	Est. People Reached (optional)	Regional Effort? (optional)
Educational activities (School presentations, summer camps, etc)	1 - 9	100 +	◉ Yes ○ No
Educational activities (School presentations, summer camps, etc)	1 - 9	20 - 49	○ Yes ◉ No
Other	1 - 9	100 +	◉ Yes ○ No

Select all applicable audiences targeted for this topic.

☐ Contractors ☑ General Public ☐ Public Employees ☑ Residential ☑ School Groups
☐ Business ☐ Developers ☐ Industries ☐ Other:

Topic: Infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks

Mechanism	Quantity (optional)	Est. People Reached (optional)	Regional Effort? (optional)

Other	1 - 9	20 - 49	○ Yes ◉ No

Select all applicable audiences targeted for this topic.
☐ Contractors ☐ General Public ☐ Public Employees ☑ Residential ☐ School Groups
☐ Business ☐ Developers ☐ Industries ☐ Other:

Topic: Inform and where appropriate educate those responsible for the design, installation, and maintenance of construction site erosion control practices and storm water management facilities on how to design, install and maintain the practices

Mechanism	Quantity (optional)	Est. People Reached (optional)	Regional Effort? (optional)
Direct one-on-one communication	20 - 49	20 - 49	○ Yes ◉ No
Other	100 +	20 - 49	○ Yes ◉ No
Workshops	1 - 9	100 +	◉ Yes ○ No

Select all applicable audiences targeted for this topic.
☑ Contractors ☐ General Public ☑ Public Employees ☐ Residential ☐ School Groups
☐ Business ☑ Developers ☐ Industries ☑ Other:
Design consultants

Topic: Identify businesses and activities that may pose a storm water contamination concern, and where appropriate, educate specific audiences on methods of storm water pollution prevention

Mechanism	Quantity (optional)	Est. People Reached (optional)	Regional Effort? (optional)
Targeted group training (contractors, consultants, etc.)	1 - 9	10 - 19	○ Yes ◉ No

Select all applicable audiences targeted for this topic.
☑ Contractors ☐ General Public ☐ Public Employees ☐ Residential ☐ School Groups
☐ Business ☐ Developers ☐ Industries ☐ Other:

Topic: Promote environmentally sensitive land development designs by developers and designers, including green infrastructure and low impact development

Mechanism	Quantity (optional)	Est. People Reached (optional)	Regional Effort? (optional)
Direct one-on-one communication	1 - 9	1 - 9	○ Yes ◉ No
Workshops	1 - 9	100 +	◉ Yes ○ No

Select all applicable audiences targeted for this topic.
☐ Contractors ☐ General Public ☑ Public Employees ☐ Residential ☐ School Groups
☐ Business ☑ Developers ☐ Industries ☐ Other:

Topic: Other (describe):			
Mechanism	**Quantity** (optional)	**Est. People Reached** (optional)	**Regional Effort?** (optional)
Select...	Select...	Select...	○ Yes ○ No

Select all applicable audiences targeted for this topic.

☐ Contractors ☐ General Public ☐ Public Employees ☐ Residential ☐ School Groups
☐ Business ☐ Developers ☐ Industries ☐ Other:

b. Brief Public Education and Outreach program information for inclusion in the Annual Report. If your response exceeds the 250 character limit, attach supplemental information on the attachments page.

Continued to implement previous plan and prepared new program for 2019-2023. Presented to Utilities Committee in Nov 2019 and sent to DNR in January 2020. Active member of NEWSC and support FWWA activities.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (08/19)

Minimum Control Measures - Section 2 : Complete

2. Public Involvement and Participation

a. Complete the following information on Public Education and Outreach Activities related to storm water. Select the mechanism that best describes how the topic message was conveyed to your population. Use the Add Activity to add multiple mechanisms. For Quantity, choose the range for number Mechanisms chosen (i.e., number of workshops, events).

Topic: Storm Water Management Plan and/or updates			
Mechanism	**Quantity** (optional)	**Est. People Reached** (optional)	**Regional Effort?** (optional)
Government Event (Public Hearing, Council Meeting, etc)	1 - 9	20 - 49	○ Yes ◉ No

Select all applicable participants targeted for this topic.

☐ Contractors ☑ General Public ☐ Public Employees ☐ Residential ☐ School Groups
☐ Business ☐ Developers ☐ Industries ☑ Other: Elected Officials

Topic: Storm water related ordinance and/or updates			
Mechanism	**Quantity** (optional)	**Est. People Reached** (optional)	**Regional Effort?** (optional)
None	Select...	Select...	○ Yes ○ No

Select all applicable participants targeted for this topic.

☐ Contractors ☐ General Public ☐ Public Employees ☐ Residential ☐ School Groups
☐ Business ☐ Developers ☐ Industries ☐ Other:

Topic: MS4 Annual Report			
Mechanism	**Quantity** (optional)	**Est. People Reached** (optional)	**Regional Effort?** (optional)
Government Event (Public Hearing, Council Meeting, etc)	1 - 9	20 - 49	○ Yes ◉ No

Select all applicable participants targeted for this topic.

☐ Contractors ☑ General Public ☐ Public Employees ☐ Residential ☐ School Groups
☐ Business ☐ Developers ☐ Industries ☑ Other:
Elected Officials

Topic: Volunteer Opportunities			
Mechanism	**Quantity** (optional)	**Est. People Reached** (optional)	**Regional Effort?** (optional)
Clean-up events	1 - 9	100 +	◉ Yes ○ No

Select all applicable participants targeted for this topic.

☐ Contractors ☑ General Public ☑ Public Employees ☑ Residential ☑ School Groups
☑ Business ☐ Developers ☐ Industries ☐ Other:

Topic: Other (describe) :			
Mechanism	**Quantity** (optional)	**Est. People Reached** (optional)	**Regional Effort?** (optional)
Select...	Select...	Select...	○ Yes ○ No

Select all applicable participants targeted for this topic .

☐ Contractors ☐ General Public ☐ Public Employees ☐ Residential ☐ School Groups
☐ Business ☐ Developers ☐ Industries ☐ Other:

b. Brief Public Involvement and Participation program information for inclusion in the Annual Report. If your response exceeds the 250 character limit, attach supplemental information on the

attachments page.

Continued to implement previous program and prepare new program for 2019-2023. New program submitted to DNR in January 2020. Support NEWSC/FWWA activities as much as possible.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (09/19)

Minimum Control Measures - Section 3 : Complete

3. Illicit Discharge Detection and Elimination

a. How many total outfalls does the municipality have?	276	☐ Unsure
b. How many outfalls did the municipality evaluate as part of their routine ongoing field screening program?	75	☐ Unsure
c. From the municipality's routine screening, how many were confirmed illicit discharges?	18	☐ Unsure
d. How many illicit discharge complaints did the municipality receive?	10	☐ Unsure
e. From the complaint received, how many were confirmed illicit discharges?	10	☐ Unsure
f. How many of the identified illicit discharges did the municipality eliminate in the reporting year? (If the sum of 3.c. and 3.e. does not equal 3.f., please explain below.)	11	☐ Unsure

g. How many of the following enforcement mechanisms did the municipality use to enforce its illicit discharge ordinance? Check all that apply and enter the number of each used in the reporting year. ☐ Unsure

☑ Verbal Warning	24
☑ Written Warning (including email)	3
☑ Notice of Violation	1
☐ Civil Penalty/ Citation	

Additional Information:

h. Brief Illicit Discharge Detection and Elimination program information for inclusion in the Annual Report. If your response exceeds the 250 character limit, attach supplemental information on the attachments page.

Chlorine/conductivity not easily eliminated likely road salt. Field screening by OMNNI. Inspections Div main contact. 2020 Program update. Unique program for disadvantaged youth with ADI/Riverview Gardens/City to clean downtown cigs/trash/inlets.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (08/19)

Minimum Control Measures - Section 4 : Complete

4. Construction Site Pollutant Control

a. How many total construction sites were active at any point in the reporting year? 55 ☐ Unsure

b. How many construction sites did the municipality issue permits for in the reporting year? 99 ☐ Unsure

c. Do the above numbers include sites <1 acre? ◉ Yes ○ No ○ Unsure

d. How many erosion control inspections did the municipality complete in the reporting year? 486 ☐ Unsure

e. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that apply and enter the number of each used in the reporting year. ☐ Unsure

☐ No Authority	
☑ Verbal Warning	143
☑ Written Warning (including email)	25
☑ Notice of Violation	0
☑ Civil Penalty/ Citation	0
☑ Stop Work Order	0
☐ Forfeiture of Deposit	
☐ Other - Describe below	

f. Brief Construction Site Pollutant Control program information for inclusion in the Annual Report . If your response exceeds the 250 character limit, attach supplemental information on the attachments page.

Program and ordinance updated in early 2020. Erosion Control Inspector in Inspections Division of Public Works is responsible for plan review, inspections, and documentation.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (08/19)

Minimum Control Measures - Section 5 : Complete

5. Post-Construction Storm Water Management

a. How many sites with new structural storm water management facilities* have received local approval ? 7 ☐ Unsure

*Engineered and constructed systems that are designed to provide storm water quality control such as wet detention ponds, constructed wetlands, infiltration basins, grassed swales, permeable pavement, catch basin sumps, etc.

b. How many privately owned storm water management facilities were inspected in the reporting year ? 8 ☐ Unsure

Inspections completed by private land owners should be included in the reported number.

c. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that apply and enter the number of each used in the reporting year. ☐ Unsure

☐ No Authority	
☑ Verbal Warning	0
☑ Written Warning (including email)	0
☑ Notice of Violation	1
☑ Civil Penalty/ Citation	0
☐ Forfeiture of Deposit	
☑ Complete Maintenance	0
☑ Bill Responsible Party	0
☐ Other - Describe below	

d. Brief Post-Construction Storm Water Management program information for inclusion in the Annual Report . If your response exceeds the 250 character limit, attach supplemental information on the attachments page.

Program and ordinance updates planned in 2020. Engineering Division of Public Works responsible for program. Plan review contracted to Brown & Caldwell and raSmith. Residential ponds taken over by City for maintenance.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (08/19)

Minimum Control Measures - Section 6 : Complete

6. Pollution Prevention

Storm Water Management Facility Inspections (ponds, biofilters, etc.) ☐ Not Applicable

a. Enter the total number of municipally owned or operated structural storm water management facilities ? 137 ☐ Unsure

b. How many new municipally owned storm water management facilities were installed in the reporting year ? 5 ☐ Unsure

c. How many municipally owned storm water management facilities were inspected in the reporting year? 137 ☐ Unsure

d. What elements are looked at during inspections (250 character limit)?

Sed depth, erosion, inlet/outlet structures, vegetation, bank stability, trash

e. How many of these facilities required maintenance? 75 ☐ Unsure

Public Works Yards & Other Municipally Owned Properties (SWPPP Plan Review) ☐ Not Applicable

f. How many inspections of municipal properties have been conducted in the reporting year? 43 ☐ Unsure

g. Have amendments to the SWPPPs been made? ◉ Yes ○ No ○ Unsure

h. If yes, describe what changes have been made (200 character limit):

Request for No Exposure for Fire Station 1 and complete update of Fire Station 6 plan.

Collection Services - *Street Sweeping / Cleaning Program* ☐ Not Applicable

i. Did the municipality conduct street sweeping/cleaning during the reporting year? ◉ Yes ○ No ○ Unsure

j. If known, how many tons of material was removed? 1177 ☐ Unsure

k. Does the municipality have a low hazard exemption for this material? ○ Yes ◉ No

l. If street cleaning is identified as a storm water best management practice in the pollutant loading analysis, was street cleaning completed at the assumed frequency?

○ Yes

◉ No - Explain major storm in July -August

○ Not Applicable

Collection Services - *Catch Basin Sump Cleaning Program* ☐ Not Applicable

m. Did the municipality conduct catch basin sump cleaning during the reporting year? ◉ Yes ○ No ○ Unsure

n. How many catch basin sumps were cleaned in the reporting year? 32 ☐ Unsure

o. If known, how many tons of material was collected? 147 ☐ Unsure

p. Does the municipality have a low hazard exemption for this material? ○ Yes ◉ No

q. If catch basin sump cleaning is identified as a storm water best management practice in the pollutant loading analysis, was cleaning completed at the assumed frequency?

○ Yes

◉ No - Explain 100% Inspected annually, clean as needed

○ Not Applicable

Collection Services - *Leaf Collection Program* ☐ Not Applicable

r. Does the municipality conduct curbside leaf collection? ◉ Yes ○ No ○ Unsure

s. Does the municipality notify homeowners about pickup? ◉ Yes ○ No ○ Unsure

t. Where are the residents directed to store the leaves for collection?

☐ Pile on terrace ☑ Pile in street ☐ Bags on terrace ☐ Unsure

☑ Other - Describe pile on terrace on 4 lane/collector streets

u. What is the frequency of collection?

weekly 4 cycles thru city

v. Is collection followed by street sweeping/cleaning? ◉ Yes ○ No ○ Unsure

Winter Road Management ☐ Not Applicable

*Note: We are requesting information that goes beyond the reporting year, answer the best you can.

w. How many lane-miles of roadway is the municipality responsible for doing snow and ice control? 696 ☐ Unsure

x. Provide amount of de-icing products used by month last winter season?

Solids (tons) (ex. sand, or salt-sand)

Product	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*
Salt	0	160	679	2,025	2,105	169

Liquids (gallons) (ex. brine)

	Oct	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*
Brine	0	8098	6584	22,478	12,736	2,155

y. Was salt applying machinery calibrated in the reporting year? ◉ Yes ○ No ○ Unsure

z. Have municipal personnel attended salt reduction strategy training in the reporting year? ◉ Yes ○ No ○ Unsure

If yes, describe what training was provided (250 character limit):

DPW Snow and Ice Training (October- 55 staff) including salt reduction and APWA Winter Maintenance (August- 1 person)

When: August and October How many attended: 56

Internal (Staff) Education & Communication

aa . Has training or education been held for municipal or other personnel involved in implementing each of the pollution prevention program elements ? ○ Yes ◉ No ○ Unsure

If yes, describe what training was provided (250 character limit):

BMP Maintenance covered at monthly Stormwater Workgroup. Snow and Ice annual training see z. above. Green Infrastructure at FWWA. Other training to be formalized in 2020.

When: How many attended:

ab. Describe how the municipality has kept the following local officials and municipal staff aware of the municipal storm water discharge permit programs and its requirements.

Elected Officials

Presentations to Utilities Committee in September (permit overview) and November (2.1 and 2.2)

Municipal Officials

Same as elected officials

Appropriate Staff (such as operators, Department heads, and those that interact with public)

Monthly staff and workgroup meetings. Q&A books in Operations vehicles

ac. Brief Pollution Prevention program information for inclusion in the Annual Report . If your response exceeds the 250 character limit, attach supplemental information on the attachments page.

PP Program is the Operations Division of Public Works with support from Engineering. Nutrient Management is under Facilities Dept. New staff at all levels. Program update in 2020.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (08/19)

Minimum Control Measures - Section 7 : Complete

7. Storm Sewer System Map

a. Did the municipality update their storm sewer map this year? ◉ Yes ○ No ○ Unsure

If yes, check the areas the map items that got updated or changed:

- ☑ Storm water treatment facilities
- ☑ Storm pipes
- ☐ Vegetated swales
- ☑ Outfalls
- ☑ Other - Describe below

Industrial sites updated and split for No Exposure and Permit Issued

b. Brief Storm Sewer System Map information for inclusion in the Annual Report. If your response exceeds the 250 character limit, attach supplemental information on the attachments page.

See attached.

Missing Information

Do not close your work until you SAVE.

Form 3400-224 (08/19)

Final Evaluation - Complete

Fiscal Analysis

Complete the fiscal analysis table provided below. For municipalities that do not break out funding into permit program elements, please enter the monetary amount to your best estimate of what funding may be going towards these programs.

Annual Expenditure Reporting Year	**Budget** Reporting Year	**Budget** Upcoming Year	**Source of Funds**
Element: Public Education and Outreach			
11,907	8,000	8,000	Storm water utility
Element: Public Involvement and Participation			
3,728	5,000	5,000	Storm water utility
Element: Illicit Discharge Detection and Elimination			
15,936	15,000	20,000	Storm water utility
Element: Construction Site Pollutant Control			
108,444	108,317	107,719	Storm water utility
Element: Post-Construction Storm Water Management			
100,819	82,800	85,000	Storm water utility
Element: Pollution Prevention			
1,160,795	1,404,251	1,503,567	Storm water utility
Element: Storm Water Quality Management			
640,585	967,300	651,571	Storm water utility
Element: Storm Sewer System Map			
1,600	1,600	1,600	Storm water utility

Other (describe)

annual fee to DNR and annual report preparation			
12,158	10,000	11,000	Storm water utility

Please provide a justification for a "0" entered in the Fiscal Analysis

Water Quality

a: Were there any known water quality improvements in the receiving waters to which the municipality's storm sewer system directly discharges to?

◉ Yes ○ No ○ Unsure If Yes, explain below:

Completion of Leona Pond and WisDOT 441 Pond

b : Were there any known water quality degradation in the receiving waters to which the municipality's storm sewer system directly discharges to?

◉ Yes ○ No ○ Unsure If Yes, explain below:

Large fuel spill from gas station at Wisconsin Ave and Ballard Road

c: Have any of the receiving waters that the municipality discharges to been added to the impaired waters list during the reporting year?

○ Yes ◉ No ○ Unsure

d: Has the municipality evaluated their storm water practices to reduce the pollutants of concern?

○ Yes ◉ No ○ Unsure

Total Maximum Daily Loads (TMDLs)

The permittee Appleton City is subject to the following approved TMDLs: Lower Fox River Basin and Lower Green Bay

Select one option below. Th e permittee intends to comply with the following permit requirement to show progress towards meeting the (Appendix A) TMDL:

☐ Request department concurrence that they are currently meeting the TMDL pollutant reductions in all applicable reachsheds (A.2).

☐ Demonstrate that they will meet the TMDL pollutant reductions in all applicable reachsheds by October 31, 2023 (A.4).

☐ Follow the TMDL Compliance Plan which received Department concurrence prior to April 30, 2019 (A.3.1).

☐ Participate in an approved Adaptive Management Project (A.3.2).

☑ Submit a TMDL Implementation Plan describing planned progress over current permit term by October 31, 2021 (A.5). Do you intend to select A.5.2 or A.5.3 to meet this permit requirement?

- ☐ A.5.2 – Additional 20% Total Suspended Solids (TSS), 10% Total Phosphorus (TP) reduction from current ch. NR 151, Wis. Adm. Code, standards
- ☑ A.5.3 – Optimize measures

Additional Information

Based on the municipality's storm water program evaluation, describe any proposed changes to the municipality's storm water program. If your response exceeds the 250 character limit, attach supplemental information on the attachments page.

City-wide SWMP will be updated in 2020-2021 with grant from DNR. Selection of A.5.3 is premature, but required to complete this form.

Missing Information

Do not close your work until you SAVE.

Form 3400-224 (08/19)

Requests for Assistance on Understanding Permit Programs

Would the municipality like the Department to contact them about providing more information on understanding any of the Municipal Separate Storm Sewer Permit programs?

Please select all that apply:

- ☐ Public Education and Outreach
- ☐ Public Involvement and Participation
- ☐ Illicit Discharge Detection and Elimination
- ☐ Construction Site Pollutant Control
- ☐ Post-Construction Storm Water Management
- ☐ Pollution Prevention
- ☐ Storm Water Quality Management
- ☐ Storm Sewer System Map
- ☐ Water Quality Concerns
- ☐ Compliance Schedule Items Due
- ☐ MS4 Program Evaluation

Do not close your work until you **SAVE.**

Required Attachments and Supplemental Information

Any other MS4 program information for inclusion in the Annual Report may be attached on here. Use the Add Additional Attachments to add multiple documents.

Upload Required Attachments (15 MB per file limit) - Help reduce file size and trouble shoot file uploads
*Required Item

Note: To replace an existing file, use the 'Click here to attach file ' link or press the to delete an item.

Municipal Facility SWPPP

File Attachment — FireSta6SWPPPNov2019clean.pdf

Storm Sewer System Map

File Attachment — 2019MS4MapUpdates.pdf

Attach - Other Supporting Documents

AR_IP

File Attachment — 2019PublicParticipationplanfor2019AnnualReport.pdf

AR_EO

File Attachment — 2019IEforannualreport.pdf

AR_IDDE

File Attachment — 2019IDDEReportFile2toDNR.pdf

AR_IDDE

File Attachment — 2019IDDEReportFile1toDNR.pdf

AR_BMPInspSum

File Attachment — StormwaterInspectMaintenanceList2019EOY.pdf

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

Attach - Permit Compliance Documents

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

Missing Information

Draft and Share PDF Report with Municipality's Governing Body.

Press the button below to create a PDF. The PDF will be sent to the email address associated with the WAMS ID that is signed in. After the annual report has been approved by the governing body, you will have to come back to the MS4 eReporting system to submit the report to the DNR.

Draft and Share PDF Report with Municipality's Governing Body

Do not close your work until you **SAVE.**

Sign and Submit Your Application

Steps to Complete the signature process

1. Read and Accept the Terms and Conditions
2. Press the Submit and Send to the DNR button

NOTE: For security purposes all email correspondence will be sent to the address you used when registering your WAMS ID. This may be a different email than that provided in the application. For information on your WAMS account click HERE .

Terms and Conditions

Certification: I hereby certify that I am an authorized representative of the municipality covered under Appleton City MS4 Permit for which this annual report or other compliance document is being submitted, and that the information contained in this submittal and all attachments were gathered and prepared under my direction or supervision. Based on my inquiry of the person or persons under my direction or supervision involved in the preparation of this document, to the best of my knowledge, the information is true, accurate, and complete. I further certify that the municipality's governing body or delegated representatives have reviewed or been apprised of the contents of this annual report. I understand that Wisconsin law provides severe penalties for submitting false information.

Signee (must check current role prior to accepting terms and conditions)

○ Authorized municipal contact using WAMS ID.

○ Delegation of Signature Authority (Form 3400-220) for agent signing on the behalf of the authorized municipal contact.

○ Agent seeking to share this item with authorized municipal contact (authorized municipal contact must get WAMS id and complete signature).

Name:	
Title:	

Authorized Signature.

☐ I accept the above terms and conditions.

After providing the final authorized signature, the system will send an email to the authorized party and any agents. This email will include a copy to the final read only version of this application.

January 2020

2019 CITY OF APPLETON PUBLIC EDUCATION AND OUTREACH PLAN

	TOPIC	TARGET AUDIENCE	PLANNED ACTIVITY	MECHANISM		PRIMARY LEAD		COMPLETED ACTIVITY FOR ANNUAL REPORT
				ACTIVE	PASSIVE	CITY	NEWSC	
1								
2	1. Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer system.	1. Residents	2. DPW Newsletter		X	X		DPW Newsletter mailed September 2019
3			6. Stormwater Credit Policy Pledge Supporter		X	X		23 approved pledge supporters
4			10. One-on-one communication	X		X		discuss throughout the year in response to reported discharges (10 per Inspections)
5			11. NEWSC Exhibiting	X			X	See NEWSC report
6								
7		2. City Staff - Engineering	13. Group Training	X		X		Discussed at monthly staff meeting December 4, 2019
8								
9		3. Businesses	10. One-on-One communication	X		X		discuss throughout the year in response to reported discharges
10								1
1								
2	2. Inform and educate the public about the proper management of materials that may cause stormwater pollution from sources including automobiles, pet waste, household hazardous waste and household practices.	1. Residents	2. DPW Newsletter		X	X		DPW Newsletter mailed September 2019
3			3. NEWSC Posters		X	X		Posted in various City parks
4			6. Stormwater Credit Policy Pledge Supporter		X	X		23 approved pledge supporters
5			11. NEWSC Exhibiting	X			X	See NEWSC report
6								
7		2. Students	14. NEWSC school presentations	X			X	See NEWSC report
8			15. Summer Camp	X		X		8 weeks, 24-28 campers per week
9								
10								1
1								
2	3. Promote beneficial onsite reuse of leaves and grass clippings and proper use use of lawn and garden fertilizers and pesticides.	1. Residents	2. City DPW newsletter		X	X		DPW Newsletter mailed September 2019
3			3. NEWSC posters		X	X		Posted in various City parks
4			6. Stormwater Credit Policy Pledge Supporter		X	X		23 approved pledge supporters
5			11. NEWSC Exhibiting	X			X	See NEWSC report
6								
7		2. Students	14. NEWSC school presentations	X			X	See NEWSC report
8			15. Summer Camp	X		X		Contracted with FWWA for 8 weeks, 24-28 campers per week
9								
10								1
1								
2	4. Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.	1. Residents	16. River cleanup	X			X	See NEWSC report
3								
4		2. Students	14. NEWSC school presentation	X			X	See NEWSC report
5			15. Summer Camp	X		X		Contracted with FWWA for 8 weeks, 24-28 campers per week
6								
7								
8								
9								
10								1
1								
2	5. Promote infiltration of residential stormwater runoff from rooftop downspouts, driveways, and sidewalks.	1. Residents	6. Stormwater Credit Policy Pledge Supporter		X	X		23 approved pledge supporters
3								
4								
5								
6								
7								
8								
9								
10								1

January 2020

2019 CITY OF APPLETON PUBLIC EDUCATION AND OUTREACH PLAN

	TOPIC	TARGET AUDIENCE	PLANNED ACTIVITY	MECHANISM		PRIMARY LEAD		COMPLETED ACTIVITY FOR ANNUAL REPORT
				ACTIVE	PASSIVE	CITY	NEWSC	
1								
2		1. Design consultants	10. One-on-one communication	X		X		ESC Inspector in the field throughout the year
3								SW & ESC discussed for private and DPW projects throughout year
4	6. Inform and educate those responsible for the design, installation, and maintenance of construction site practices and stormwater management facilities on how to design, install, and maintain the practices.	2. Contractors	12. Pre-submittal and	X		X		
5			Pre-construction meetings					ESC discussed at DPW pre-construction meetings
6		3. City staff						
7			18. FWWA Watershed Conference	X			X	Sponsored and on planning committee
8								Several City staff attended conference
9			19. Plan review	X		X		ESC and SWM plan review verbal and written discussion
10								1
1								
2	7. Identify businesses and activities that may pose a stormwater contamination concern, and educate those specific audiences on methods of stormwater pollution prevention.	1. Lawn Care companies	1. Mailings		X	X		Letters and ordinance langauge mailed October 4, 2019
3								specifically addressing cut grass left in the gutter
4								
5								
6								
7								1
1								
2		1. Owners/Developers	10. One-on-one communication	X		X		Discuss individual projects throughout the year
3								
4	8. Promote environmentally sensitive land development designs by developers and designers, including green infrastructre and low impact development.							
5		2. Designers	10. One-on-one communication	X		X		Discuss individual projects during the year
6			18. FWWA Watershed Conference	X			X	Sponsored and on planning committee
7								
8								
9								
10								1

							8	Completed topics
	Passive Mechanisms		Active Mechanisms		Number of topics required		6	
	1. Mailing	0	10. One-on-One communication	1				
	2. Newsletter	1	11. NEWSC Exhibiting	1				
	3. NEWSC Posters	1	12. Meetings	1				
	4. Website	0	13. Group Training	1				
	5. Signage	0	14. Presentations	1				
	6. Stormwater Credit Policy Pledge Supporter	1	15. Summer Camp	1				
			16. River Cleanup	1				
	Total Passive Mechanisms Used	3	17. Utilities Committee Meeting	1				
			18. Workshops/Conferences	1				
			19. Plan review	1				
	Key:			0				
	1= used during the year		Total Active Mechanisms used	10				
	0= not used during the year							
			Required Active Mechanisms	2				

January 2020

SECTION 2.2 PUBLIC INVOLVEMENT AND PARTICIPATION

ACTIVITY	2019 Planned	2019 Completed	2020
Annual Report Due to WDNR March 31 each year	Target Participants: General Public Elected Officials Delivery Mechanism: Committee agenda on website Utilities Committee Agenda Item Common Council meeting Date: March	 March 8, 2019 March 12, 2019 March 20, 2019 	Target Participants: General Public Elected Officials Delivery Mechanism: Committee agenda on website Utilities Committee meeting Common Council meeting Date: March
Stormwater Management Program Proprosed City-wide Plan Update in 2020-2021	Target Participants: General Public Elected Officials Delivery Mechanism: Committee agenda on website Utilities Committee Presentation Common Council meeting Date: once per year	Presented new MS4 Permit overview to Utilities Committee September 24, 2019 Presented Public Education and Public Participation Programs to Utilities Committee November 12, 2019 4 days prior to committee meeting See above 8 days after committee meeting See above	Target Participants: General Public Elected Officials School District Developers Other City Departments Delivery Mechanism: Committee agenda on website Utilities Committee Presentation Common Council meeting Stakeholder Presentations Stakeholder meetings City staff meetings Date: throughout the year
Ordinance Updates Erosion and Sediment Control Illicit Discharges Post-Construccttion Stormwater Management	Target Participants: General Public Elected Officials Design Consultants Developers Contractors Delivery Mechanism: Committee agenda on website Utilities Committee Presentation Common Council meeting Date: As needed	No ordinance updates in 2019	Target Participants: General Public Elected Officials Design Consultants Developers Contractors Delivery Mechanism: Committee agenda on website Utilities Committee Presentation Common Council meeting Date: As needed
Volunteer Activity	Target Participants: General Public City Staff Delivery Mechanism: Sponsor FWWA Cleanup Post Sign-up for City staff Date: Spring	 Contributed $2500 to event Posted Event Flyer at DPW Eng and Operations April 27, 2019	Target Participants: General Public City Staff Delivery Mechanism: Sponsor FWWA Cleanup Post Sign-up for City staff Date: Spring

Department of Public Works – Engineering Division

MEMO

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works
Pete Neuberger, Staff Engineer

DATE: February 18, 2020

RE: Award single source 2020E Spartan Drive Stormwater Ponds and Roadway Construction Related Services Contract to Brown & Caldwell, in an amount not to exceed $43,900.

The Department of Public Works staff recommends award of the referenced contract using a single-source quote from the pond's design engineer, Brown & Caldwell, in an amount not to exceed $43,900 (budget $50,000). Project scope is as follows:

Brown & Caldwell will provide the following services, on an as-needed basis, during project construction in 2020:

- Review shop drawings and other contractor submittals for project components designed by Brown & Caldwell.
- Participate in the preconstruction conference with contractor and attend regular project update meetings with City staff.
- Assist the City in answering design questions from contractor during construction.
- Assist the City in considering and developing potential change orders.
- Update the XP-SWMM model and WinSLAMM model for pond and storm sewer, based on as-built information.
- Calculate as-built earthwork quantities for payment using City survey data.

DPW staff are pleased with the professional services rendered by Brown & Caldwell during the design and bidding of this project. Brown & Caldwell developed all the pond plans and earthwork models and are uniquely qualified to deliver the requested services cost effectively. Therefore, DPW is requesting this single source contract with Brown & Caldwell. The requested contract is consistent with the consultant construction related services item in the DPW Stormwater capital budget.

Department of Public Works – Engineering Division

MEMO

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works
Sue Olson, Staff Engineer

DATE: February 17, 2020

RE: Approve updates to Municipal Code Chapter 20, Article VII, Illicit Discharges and Connections, specifically:

a. Section 20-401 relating to definitions
b. Section 20-412 relating to allowed discharges
c. Section 20-423 relating to requirement to prevent, control and reduce stormwater pollutants by the use of best management practices
d. Section 20-433 relating to Notice of Violation

The Department of Public Works requests approval of updates to Municipal Code Sections 20-401, 20-412, 20-423 and 20-433. Strike and bold language of the proposed updates is shown on the attached document. The proposed changes are required per WPDES Permit No. WI-S050075-3, which was issued May 1, 2019.

The primary updates include definition changes, replacing the term "Best Management Practice" with "Stormwater Management Practice", and allowing case-by-case determinations of significant sources of pollution. These changes will not impact staff efforts to administer the ordinance.

ADOPTED:
PUBLISHED:
Office of the City Clerk

XX-20

AN ORDINANCE AMENDING SECTION 20-401 OF CHAPTER 20 OF THE MUNICIPAL CODE OF THE CITY OF APPLETON, RELATING TO DEFINITIONS.
(Utilities Committee – XX-XX-XX (Date))

The Common Council of the City of Appleton does ordain as follows:

Section 1: That Section 20-401 of Chapter 20 of the Municipal Code of the City of Appleton, relating to definitions, is hereby amended to read as follows:

Sec. 20-401. Definitions.

For the purposes of this ordinance, the following shall mean:

Authorized enforcement agency. City of Appleton Director of Public Works and/or designees thereof.

~~***Best Management Practices (BMPs)***. Structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or other pollutants carried in runoff to waters of the state.~~

Contaminated stormwater. Stormwater that comes into contact with material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts or industrial machinery in the source areas listed in NR 216 (effective August 1, 2004).

Department (DNR). The Wisconsin Department of Natural Resources.

Discharge. As defined in Wisconsin Statute 283 (November 1, 2005 or as subsequently amended), when used without qualification includes a discharge of any pollutant.

Discharge of pollutants. As defined in Wisconsin Statute 283 (November 1, 2005), means any addition of any pollutant to the waters of the state from any point source.

Hazardous materials/substance. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

~~***Illicit discharge***. Any discharge to a municipal separate storm sewer system or waters of the state that is not composed entirely of stormwater except discharges authorized by a WPDES permit or other discharge not requiring a WPDES permit such as landscape irrigation, individual residential car washing, fire fighting, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, flows from riparian habitats and wetlands, and similar discharges.~~

Illicit connections. An illicit connection is defined as either of the following:

(1) Any drain or conveyance, whether on the surface or subsurface, that allows an illicit discharge to enter the MS4 or waters of the state including, but not limited to, any conveyances that allow any non-stormwater discharge including sewage, process wastewater, or wash water to enter the MS4 and any connections to the MS4 from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or,

(2) Any drain or conveyance connected from a commercial or industrial land use to the MS4 which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Illicit discharge. Any discharge to a municipal separate storm sewer system or waters of the state that is not composed entirely of stormwater, except discharges authorized by a WPDES permit or other discharge not requiring a WPDES permit such as landscape irrigation, individual residential car washing, fire fighting, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, flows from riparian habitats and wetlands, and similar discharges.

Industrial activity. Activities subject to WPDES Industrial Permits per NR 216 (effective August 1, 2004) and Wisconsin Statute 283 (November 1, 2005).

Municipality. Any city, town, village, county, county utility district, town sanitary district, town utility district, school district or metropolitan sewage district, the Wisconsin Department of Transportation or any other public entity created pursuant to law and having authority to collect, treat or dispose of sewage, industrial wastes, stormwater or other wastes.

Municipal Separate Storm Sewer System (MS4). As defined in Wisconsin Administrative Code NR 216 (effective August 1, 2004), means a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all the following criteria:

(1) Owned or operated by a municipality.

(2) Designed or used for collecting or conveying stormwater.

(3) Which is not a combined sewer conveying both sanitary and stormwater.

(4) Which is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.

Non-stormwater discharge. Any discharge to the MS4 that is not composed entirely of stormwater.

Owner. Any person holding fee title, an easement or other interest in property.

Outfall. The point at which stormwater is discharged to waters of the state or to a storm sewer or to an adjacent municipality.

Person. An individual, owner, operator, corporation, partnership, association, municipality, interstate agency, state agency or federal agency.

Pollutant. As defined in Wisconsin Statute 283 (November 1, 2005), means any dredged spoil, solid waste, incinerator residue, sewage, garbage, refuse, oil, sewage sludge, munitions, chemical wastes, biological materials, radioactive substance, heat, wrecked or discarded equipment, rock, sand, cellar dirt, yard waste and industrial, municipal and agricultural waste discharged into water.

Pollution. As defined in Wisconsin Statute 283 (November 1, 2005), means any man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of water.

Pollution prevention. Taking measures to eliminate or reduce pollution.

Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks.

Stormwater. Runoff from precipitation including rain, snow, ice melt or similar water that moves on the land surface.

Stormwater Management Plan/Stormwater Pollution Prevention Plan. A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to Stormwater, MS4s, and/or waters of the State to the Maximum Extent Practicable.

Stormwater Management Practices (SMPs). Structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or other pollutants carried in runoff to waters of the state.

Wastewater. Any water or other liquid, other than uncontaminated stormwater, discharged from a property.

Watercourse. A natural or artificial channel through which water flows. These channels include: all blue and dashed blue lines on the USGS quadrangle maps, all channels shown on the soils maps in the NRCS soils map for Outagamie, Winnebago and Calumet Counties, all channels identified on the site, and new channels that are created as part of a development. The term watercourse includes waters of the state as herein defined.

Waters of the state. As defined in Wisconsin Statute 283 (November 1, 2005), means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface water or groundwater, natural or artificial, public or private within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person.

Wisconsin Pollutant Discharge Elimination System (WPDES) Stormwater Discharge Permit. A Wisconsin pollutant discharge elimination system permit issued pursuant to Wisconsin Statute 283 (November 1, 2005).

Section 2: This ordinance shall be in full force and effect from and after its passage and publication.

Dated: _____

_____ _____

Timothy M. Hanna, Mayor Kami Lynch, City Clerk

ADOPTED:
PUBLISHED:
Office of the City Clerk

XX-20

AN ORDINANCE AMENDING SECTION 20-412 OF CHAPTER 20 OF THE MUNICIPAL CODE OF THE CITY OF APPLETON, RELATING TO ALLOWED DISCHARGES.

(Utilities Committee – XX-XX-XX (Date))

The Common Council of the City of Appleton does ordain as follows:

Section 1: That Section 20-412 of Chapter 20 of the Municipal Code of the City of Appleton, relating to allowed discharges, is hereby amended to read as follows:

Sec. 20-412. Allowed discharges.

(a) ~~Water line flushing, irrigation~~Irrigation, diverted stream flows, ground waters, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, springs, water from crawl space pumps, footing drains, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges.

(b) Discharges or flow from firefighting, and other discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety.

(c) Discharges associated with dye testing, provided verbal notification is given to the authorized enforcement agency and the Department of Natural Resources a minimum of three (3) days prior to the time of the test.

(d) Any non-stormwater discharge permitted under an WPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Wisconsin Department of Natural Resources. Any person subject to such an WPDES stormwater discharge permit shall comply with all provisions of such permit.

(e) Notwithstanding (a) – (d), the occurrence of a discharge listed above may be considered an illicit discharge on a case-by-case basis if the permittee or the Department identifies it as a significant source of a pollutant to waters of the state.

Section 2: This ordinance shall be in full force and effect from and after its passage and publication.

Dated: _____

_____ _____

Timothy M. Hanna, Mayor Kami Lynch, City Clerk

ADOPTED:
PUBLISHED:
Office of the City Clerk

XX-20

AN ORDINANCE AMENDING SECTION 20-423 OF CHAPTER 20 OF THE MUNICIPAL CODE OF THE CITY OF APPLETON, RELATING TO REQUIREMENT TO PREVENT, CONTROL AND REDUCE STORMWATER POLLUTANTS BY THE USE OF ~~BEST~~ STORMWATER MANAGEMENT PRACTICES.

(Utilities Committee – XX-XX-XX (Date))

The Common Council of the City of Appleton does ordain as follows:

Section 1: That Section 20-423 of Chapter 20 of the Municipal Code of the City of Appleton, relating to requirement to prevent, control and reduce stormwater pollutants by the use of best management practices, is hereby amended to read as follows:

Sec. 20-423. Requirement to prevent, control and reduce stormwater pollutants by the use of ~~best~~ stormwater management practices.

The owner or operator of any activity, operation, or property which may cause or contribute to pollution or contamination of stormwater, the MS4, watercourses, or waters of the State shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the MS4 or watercourses through the use of structural and non-structural ~~BMPs~~SMPs. Further, any person responsible for a property or premise, that is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural ~~BMPs~~ SMPs to prevent the further discharge of pollutants to the MS4. Compliance with all terms and conditions of a valid WPDES permit authorizing the discharge of stormwater associated with industrial activity, shall be deemed compliance with the provisions of this section. These ~~BMPs~~ SMPs shall be part of a Stormwater Management Plan (SWMP)/Stormwater Pollution Prevention Plan (SWPPP) as necessary for compliance.

Section 2: This ordinance shall be in full force and effect from and after its passage and publication.

Dated: _____

Timothy M. Hanna, Mayor

Kami Lynch, City Clerk

ADOPTED:
PUBLISHED:
Office of the City Clerk

XX-20

AN ORDINANCE AMENDING SECTION 20-433 OF CHAPTER 20 OF THE MUNICIPAL CODE OF THE CITY OF APPLETON, RELATING TO NOTICE OF VIOLATION.

(Utilities Committee – XX-XX-XX (Date))

The Common Council of the City of Appleton does ordain as follows:

Section 1: That Section 20-433 of Chapter 20 of the Municipal Code of the City of Appleton, relating to notice of violation, is hereby amended to read as follows:

Sec. 20-433. Notice of violation.

(a) Whenever the authorized enforcement agency finds that a person has violated a prohibition or failed to meet a requirement of this ordinance, the authorized enforcement agency may order compliance by written notice of violation to the responsible person.

(b) The Notice of Violation shall contain:

(1) The name and address of the alleged violator;

(2) The address when available or a description of the building, structure or land upon which the violation is occurring, or has occurred;

(3) A statement specifying the nature of the violation;

(4) A description of the remedial measures necessary to restore compliance with this ordinance and a time schedule for the completion of such remedial action;

(5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;

(6) A statement that the determination of violation may be appealed to the authorized enforcement agency by filing a written notice of appeal within three (3) days of service of notice of violation; and

(7) A statement specifying that, should the violator fail to restore compliance within the established time schedule, the work will be done by a

designated governmental agency or contractor and the expense thereof shall be charged to the violator.

(~~b~~c) Such notice may require without limitation:

(1) The performance of monitoring, analyses, and reporting;

(2) The elimination of illicit connections or discharges;

(3) That violating discharges, practices, or operations shall cease and desist;

(4) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;

(5) Payment of a fine to cover administrative and remediation costs; and

(6) The implementation of ~~BMPs~~SMPs.

Section 2: This ordinance shall be in full force and effect from and after its passage and publication.

Dated: _____

_____ _____

Timothy M. Hanna, Mayor Kami Lynch, City Clerk

ARTICLE II. WATER UTILITY

Sec. 20-31. Penalty for violation of article.

Any person who shall violate any provision of this article shall be subject to a penalty as provided in §1-16.
(Code 1965, §12.11)

Sec. 20-32. Service limits.

(a) The limits of utility service for other than the providing of wholesale water in unincorporated areas outside the corporate limits of the City are as on file in the City Clerk's office.

(b) This section delineates the area within which retail service will be provided, and the City Water Utility shall have no obligation to serve beyond the area so delineated.
(Code 1965, §12.12)

Sec. 20-33. Meters and access to premises.

(a) Authorized employees of the Water Utility shall have free access to any premises supplied with water, at proper times, to inspect and ascertain the condition of the meters and fixtures, or for reading meters, and no owner or occupant shall refuse such employees such access. The Water Utility shall have the right to enter any premises to remove the meter for the purpose of examination and test after first notifying the owner or occupant, and may shut off the water from the premises where free access is prevented.

(b) Remote reading devices may be installed on or in all structures supplied with water by the Water Utility. The remote reading device shall be located ~~on the outside of the~~ within or on the structure in such a way that it can be serviced and ~~read from a paved walkway accessible year-round and kept free of ice and snow.~~ communicated with effectively. The remote reading device may not be obstructed ~~by shrubs or obstacles~~ and shall be at a readable height. Original installation shall be at the cost of the Water Utility, but any cost of defacing, vandalism or any other damage shall be charged to the owner or occupant. Water service may be discontinued for failure to comply with the requirements of this subsection.

(c) The owner of any structure supplied with water shall provide a location of adequate size for installation of a water meter. Such location shall be adequately ventilated and shall not be a manhole, pit, vault, or other confined space as defined by the Wisconsin Department of ~~Industry, Labor and Human Relations (DILHR)~~, or the U.S. Department of Labor Occupational Safety and Health Administration (OSHA). The owner of any meter pit or vault considered a confined space (by definition) shall be required to conform with this section at such time as any piping of structural modifications or repairs are made to the structure, within ninety (90) days of a determination that the structure is ~~a level 2~~ confined space as defined by ~~DILHR or OSHA or by January 1, 1997, whichever is sooner.~~ Any additional costs incurred with reading or servicing a water meter is a confined space, including but not limited to, dewatering and confined space entry procedures, shall be billed to the customer.
(Code 1965, §12.08; Ord 133-91, §1, 11-20-91)
Cross reference(s) – Supervision of sewer and water services, §4-267; specifications for Water Utility use in mobile home parks, §11-75; hydrant requirements in mobile home parks §11-76.

Sec. 20-34. Authority to discontinue service.

The Water Utility shall discontinue water service on any premises where the water charge remains unpaid thirty (30) days after a statement is rendered. Where such service is discontinued, a connection charge shall be paid before service is rendered.
(Code 1965, §12.06)

Sec. 20-35. Adoption of state public safety requirements.

The provisions of Wisconsin Administrative Code, PSC 185.37(4), regarding public safety involving water, are hereby adopted by reference.

Sec. 20-36. Fluoridation of water.

The Appleton Water Treatment Facility shall introduce into water being distributed in the water supply system of the City, and include the cost in the determination of water rates. The levels of fluoride in the water supply shall be set to correspond to the lower end of the recommended range as promulgated by the United States Department of Health and Human Services, and approved by the Wisconsin Department of Natural Resources.
(Code 1965, §12.09; Ord 67-95, §1, 5-17-95 ; Ord 198-11, §1, 9-13-11)

Sec. 20-37. Tampering with equipment.

No person, without the written authority of the Water Utility manager, shall operate any valve connected with the street or supply main, or break or tamper with any seal of the water meter in service, or open any fire hydrant connected with the distribution system, whether the hydrant is the property of the City or has been placed by an owner for his own protection, except for purposes of extinguishing fire only, or wantonly injure or impair such equipment.
(Code 1965, §12.04)
Cross reference(s) – Citation for violation of certain ordinances, §1-17, schedule of deposits for citation, §1-18.

Sec. 20-38. Unauthorized connection.

(a) No person not authorized in writing by the Water Utility Manager shall tap or make any connection with any water main or distribution plan belonging to or part of the municipal water utility plant of the city.

(b) The water shall be shut off from such unauthorized tap or connection until inspection thereof has been made and any forfeiture imposed for such offense paid. Such person shall be liable for all water estimated by the Water Utility Manager to have been consumed or to have passed through such connection from the date when the connection was made up to the time such connection or tap was discovered. Charges shall be assessed against the property where the unauthorized tap was made and assessed as a special tax.
(Code 1965, §12.05)
Cross reference(s) – Citation for violation of certain ordinances, §1-17; schedule of deposits for citation, §1-18.

Sec. 20-39. Leakage in water pipes.

Where a leak develops in the water pipe between the curb box and the meter, the Water Utility shall serve a written demand upon the property owner to repair the pipe within twenty-four (24) hours, and in the event of failure so to do the water service to the property shall be discontinued.
(Code 1965, §12.07)
Cross reference(s) – Citation for violation of certain ordinances, §1-17; schedule of deposits for citation, §1-18.

Sec. 20-40. Use of sprinklers.

No owner or occupant of any lot or premises served by the Water Utility shall suffer, permit or allow the sprinkling of a lawn, garden or premises with water from the Water Utility servicing such lot or premises except between 5:00 p.m. and 8:00 p.m. on even-numbered days on lots and premises having even-numbered house and building numbers, and no owner or occupant shall suffer, permit or allow sprinkling of a lawn, garden or premises except between 5:00 p.m. and 8:00 p.m. on odd-numbered days on lots and premises having odd-numbered house and building numbers. The provisions of this section shall be in effect only upon proclamation of the Mayor.
(Code 1965, §12.10)
Cross reference(s) – Citation for violation of certain ordinances, §1-17; schedule of deposits for citation, §1-18.

Sec. 20-41. Cross connections.

(a) ***Definition.*** A cross connection shall be defined as any physical connection or arrangement between two (2) otherwise separate systems, one (1) of which contains potable water from the City Water Utility, and the other containing water from a private source, water of unknown or questionable safety, or steam, gases or chemicals, whereby there may be a flow from one system to the other, the direction of flow depending on the pressure differential between the two (2) systems.

(b) ***Cross connections prohibited.*** No person shall establish or permit to be established or maintain or permit to be maintained any cross connection. No interconnection shall be established whereby potable water from a private, auxiliary or emergency water supply other than the regular public water supply of the City may enter the supply or distribution system of the City, unless such private, auxiliary or emergency water supply and the method of connection and use of such supply shall have been approved by the City Water Utility and by the State Department of Natural Resources in accordance with Wisconsin Administrative Code, §NR 111.25(3).

(c) ***Inspections.*** In accordance with the Cross Connection Prevention Policy and its inspection requirements for different types of properties, it shall be the duty of the City Water Utility to inspect, to cause inspections to be made or require the submission of inspections reports from all properties serviced by the public water system where cross connection with the public water system is deemed possible. The frequency of inspections and reinspection, based on potential health hazards involved, shall be as established by the City Water Utility and as approved by the State Department of Natural Resources. Upon inspection, if a potential cross connection involving a health hazard exists, the City Water Utility's inspector or authorized representative may order that an approved cross connection control device be installed for containment from the public water system.

(d) ***Right of entry.*** Upon presentation of credentials, the representative of the Water Utility shall have the right to request entry at any reasonable time to examine any property served by a connection to the public water system of the City for cross connections. If entry is refused, such representative shall obtain a special inspection warrant under W.S.A. §66.0119. On request, the owner, lessee or occupant of any property so served shall furnish to the inspection agency any pertinent information regarding the piping system on such property.

(e) ***Authority to discontinue service.*** The Water Utility is hereby authorized and directed to discontinue water service to any property wherein any connection in violation of this section exists, and to take such other precautionary measures deemed necessary to eliminate any danger of contamination of the public water system. Water service shall be discontinued only after reasonable notice and opportunity for hearing under W.S.A. Chapter 68, except as provided in subsection (f) of this section. Water service to such property shall not be restored until the cross

"...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: February 4, 2020

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. Private lead service lines shall be fully replaced and not just repaired.

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 had an active water customer portal account prior to the leak event.
3. 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.
4. The meter shall be tested by Water Utility personnel and witnessed by the customer at the Water Utility test lab.
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 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.
7. Customer shall provide documentation that plumbing or appliance at point of water leak has been repaired.
8. Customer shall provide a written request to the Water Utility for a bill adjustment, explaining the details of the loss, justification for the water bill adjustment and the date the property was last occupied or inspected by the owner. 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 Public Works and Finance Director, or their designee, will jointly determine if 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 the neglect or carelessness of the owner, agent or tenant. Any credit(s) issued will be per PSC Regulations.

Department of Public Works – Engineering Division

MEMO

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works
Pete Neuberger, Staff Engineer

DATE: February 18, 2020

RE: Award of Single Source Contract with NES Ecological Services for 2020 Wetland Delineation Services in an Amount Not to Exceed $22,778.55.

The Department of Public Works is requesting approval to single source contract with NES Ecological Services, a Division of Robert E Lee & Associates, Inc. (NES) for 2020 Wetland Delineations in an amount not to exceed $22,778.55.

CURRENT AUTHORIZATION

In February 2019, DPW issued a request for proposals (RFP) for Wetland Delineation Consulting Services. After evaluating the proposals, DPW recommended contract award to NES at the March 12, 2019, Utilities Committee. The committee authorized DPW to contract with NES for 2019 Wetland Delineations, in an amount not to exceed $30,000. The award memo stated DPW anticipated a multi-year contract extension through 2023, subject to Utilities Committee authorization each year and satisfactory performance by the consultant.

REASON FOR REQUEST

The request is made for the following reasons:

- Throughout 2019, NES has strongly validated the results of the initial RFP evaluation by cost-effectively providing a very high level of expertise and customer service. Furthermore, because the primary staff person at NES is a WDNR Assured Wetland Delineator, the results of their work do not require a WDNR review and concurrence process. Avoiding this additional step has proved valuable for keeping projects on schedule and avoiding uncertainty.
- The 2019 proposal from NES identified a suggested annual labor and equipment unit price increase of approximately 3% each year throughout the anticipated 5-year period. The 2020 NES proposal includes a unit price increase of approximately 3.1%. DPW staff consider the request reasonable for providing continued cost-effective services.

CONTRACT SCOPE

As DPW and other departments implement their 5-year CIP, they must occasionally investigate potential wetlands to remain compliant with State and Federal wetland regulations. For 2020, several project sites have been identified. Cost estimate and responsible department are identified in the project list below:

- Lightning-to-French Corridor (Public Works - $6,876)
- Prospect Avenue Storm Outfall (Public Works - $2,266)
- Miscellaneous Stormwater Management Allowance (Public Works - $4,124)
- Memorial Park Trail (Facilities & Construction Mgt - $2,075)
- Future NW Industrial Park (Community and Economic Development - $7,437)

DPW staff anticipate contracting with NES for 2021-2023 wetlands delineations, subject to Utilities Committee and Common Council approval at the appropriate times.

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

Department of Utilities
Water Treatment Facility
2281 Manitowoc Rd.
Menasha, WI 54952
920-997-4200 tel.
920-997-3240 fax

TO: Chairperson Vered Meltzer and Members of the Utilities Committee

FROM: Chris Shaw, Utilities Director

DATE: February 19, 2020

RE: ***Award Engineering Services Contract for the Ridgeway Tower Recoating Project to Strand Associates, Inc., in the amount of $41,900 and a 10% contingency of $4,200 for a project total not to exceed $46,100***

BACKGROUND:

The Appleton Water Utility includes the 300,000 gallon Ridgeway Water Tower. To date, the tank has had little maintenance other than scheduled cleanings and inspections. During the 2015 regulatory inspection it was noted that a number of maintenance items needed to be attended to preserve the asset. To prevent the spread of corrosion, the report also included a recommendation to have the tank interior and exterior recoated.

Invitations for professional services proposals were sent to three engineering firms. The firms were selected for their project familiarity and project team members that had a history of similar water industry project work. All three engineering firms submitted proposals.

An evaluation team completed their review of the three proposals and scored their results. Of the submitted proposals, the evaluation team unanimously found that the Strand proposal had scored the highest by providing a proposal that best met the City's needs. Furthermore, the team found that the Strand firm had provided the least cost proposal. Historically, the evaluation team completes a value evaluation exercise to provide whether or not the additional costs for a particular proposal are worth justifying. This process was not necessary as Strand provided the highest value score at the least cost.

In terms of project familiarity, the Strand Associates team has recently been the project engineer on the construction of the 1.0 MG Glendale Tower and the 2019 recoating project at Lindbergh.

COMPANY	QUOTE	SCORE	VALUE
Dixon Engineering	$76,132		
Strand Associates	$41,900		
McMahon	$45,100		

*DNP – Did Not Propose

RECOMMENDATION:

I recommend Award Engineering Services Contract for the Ridgeway Tower Recoating Project to Strand Associates, Inc., in the amount of $41,900 and a 10% contingency of $4,200 for a project total not to exceed $46,100

If you have any questions regarding this project please contact me, Chris Shaw, at ph: 832-5945.

MEMO

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

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works PAV

DATE: February 13, 2020

SUBJECT: **Utilis Satellite Leak Detection System.**

The City of Appleton's current nonrevenue water (or "lost water") is approximately 15% costing the city hundreds of thousands of dollars annually. Staff has worked diligently to try to identify unmetered and water leak locations through traditional boots on the ground monitoring. To aid in this work, the City Council approved the purchase of a water correlator as part of the 2020 Water Utility Budget.

Recently, the City of Green Bay and New Braunfels, Texas tested a new program using satellite radar remote survey technology to pre-locate likely leak locations. (See attached articles). Based on the success of those two communities, city staff and several neighboring communities attended a webinar on the Utilis Satellite Detection System.

Following the webinar, the following communities expressed interest in moving forward with a joint contract with Utilis for satellite leak detection:

City of Appleton – 378 miles of watermain
Village of Fox Crossing – 140 miles of watermain
Town of Grand Chute – 125 miles of watermain
City of Kaukauna – 101 miles of watermain
Town of Greenville – 81 miles of watermain
Village of Little Chute – 58 miles of watermain
Village of Kimberly – 32 miles of watermain

By joining forces, we can reduce the price per mile of watermain surveyed. All of these communities fall within the 1300 square mile footprint limitation of the satellite imagery.

The City of Appleton's share of the project is less than $30,000. Because we just became aware of this new technology, we did not include funds for this service in our 2020 Water Utility Budget. However, we feel very strongly that this is an opportunity we want to take advantage of. Therefore, we will be requesting special consideration carryover at a future Finance Committee meeting.

Attachments

https://doi.org/10.1002/opfl.1306

Jessica Green is a maintenance planner at New Braunfels Utilities (www.nbutexas.com), New Braunfels, Texas. Paul Gagliardo is an independent consultant working with Utilis (www.utiliscorp.com), San Diego.

Through its approach to reducing real water losses, a small Texas utility demonstrates how it uses technology, innovation, and smart planning to benefit itself and its customers.

BY JESSICA GREEN AND PAUL GAGLIARDO

SATELLITE DATA COMPLEMENT TRADITIONAL LEAK DETECTION AND REPAIR PROGRAMS

NEW BRAUNFELS, TEXAS, is located in the greater San Antonio area. When the city's water utility, New Braunfels Utilities (NBU), decided to cut its nonrevenue water (NRW) losses in 2014, it embarked on a five-year zone-leak monitoring program using various technologies to conduct a full-system, traditional boots-on-the-ground zone monitoring survey between 2014 and 2018.

In 2018, NBU served a population of 84,200 through 39,060 service connections. An average of 13.3 mgd was supplied to the system, with a net sales volume of 10.9 mgd. This equated to an NRW volume of 2.4 mgd, or 18 percent. As detailed in AWWA's Manual of Water Supply Practices M36, *Water Audits and Loss Control Programs* (www.awwa.org/M36), NRW is defined as the total of real losses, or system leakage; apparent losses, such as meter inaccuracies and unauthorized consumption; and unbilled authorized consumption, such as system flushing and firefighting flows. Total NRW loss is modest, but the cost of producing water is high. Thus, reducing real water losses significantly helps the utility's bottom line.

In 2019, NBU tested a new program using satellite radar remote survey technology to pre-locate likely leaks to determine the technical efficacy and value of this option. To monitor its entire network on an ongoing basis, NBU contracted with Utilis, a San Diego–based company that uses synthetic aperture radar satellite data and a proprietary algorithm to specifically identify areas with soil moisture at a depth underground that often signifies drinking water leaks from pipes. This information was provided to the utility to complement its existing leak detection and repair program.

PHOTOGRAPHS: UTILIS

2020 © American Water Works Association

Out-of-this-world technology helps Green Bay spot leaking water pipes

By Sarah Thomsen | Posted: Fri 3:25 PM, Dec 13, 2019 | Updated: Fri 5:03 PM, Dec 13, 2019

GREEN BAY, Wis. (WBAY) - Technology used to find water on Mars is doing the same thing now in Green Bay.

But here, it's being used to detect water leaks, hoping to spot and repair them before they turn into water main breaks or major problems in neighborhoods.

The out-of-this-world technology is helping save rate payers water and money.

Somewhere in the sky, far beyond what the eye can see, a satellite is floating in space, originally created to search for water on the Red Planet.

Now it's busy finding potential water leaks citywide in Green Bay's 130-year-old pipes.

"They're saying we're around 30 million gallons of water that we saved by the 57 leaks we repaired this year," says Green Bay Water Utility general manager Nancy Quirk.

The satellite started doing flyovers back in March using electromagnetic signals and a lot of high-tech science to detect where treated drinking water was leaking into soil.

It can find leaks up to 10 feet underground.

A map scattered with orange dots shows 207 hot spots -- 11 percent of the city's system -- identifying potential leaks.

"We then sent crews out to each one of these areas, and they put their equipment on hydrants and valves and did what they call a correlation. They find out where the leak was," explains Quirk.

The utility's crews found 57 actual leaks on hydrants, valves, pipes and water mains.

They were leaks the utility had no idea existed.

"These leaks had not come up. It was a slow leak. Our engineer, operations manager, told us there was one that was a crack on a 16-inch pipe that we were able to repair before it blew up," says Quirk.

She and her team of engineers heard about the Utilis Satellite Leak Detection system at a conference, and after crunching numbers realized it would cost about half as much as their old detection system.

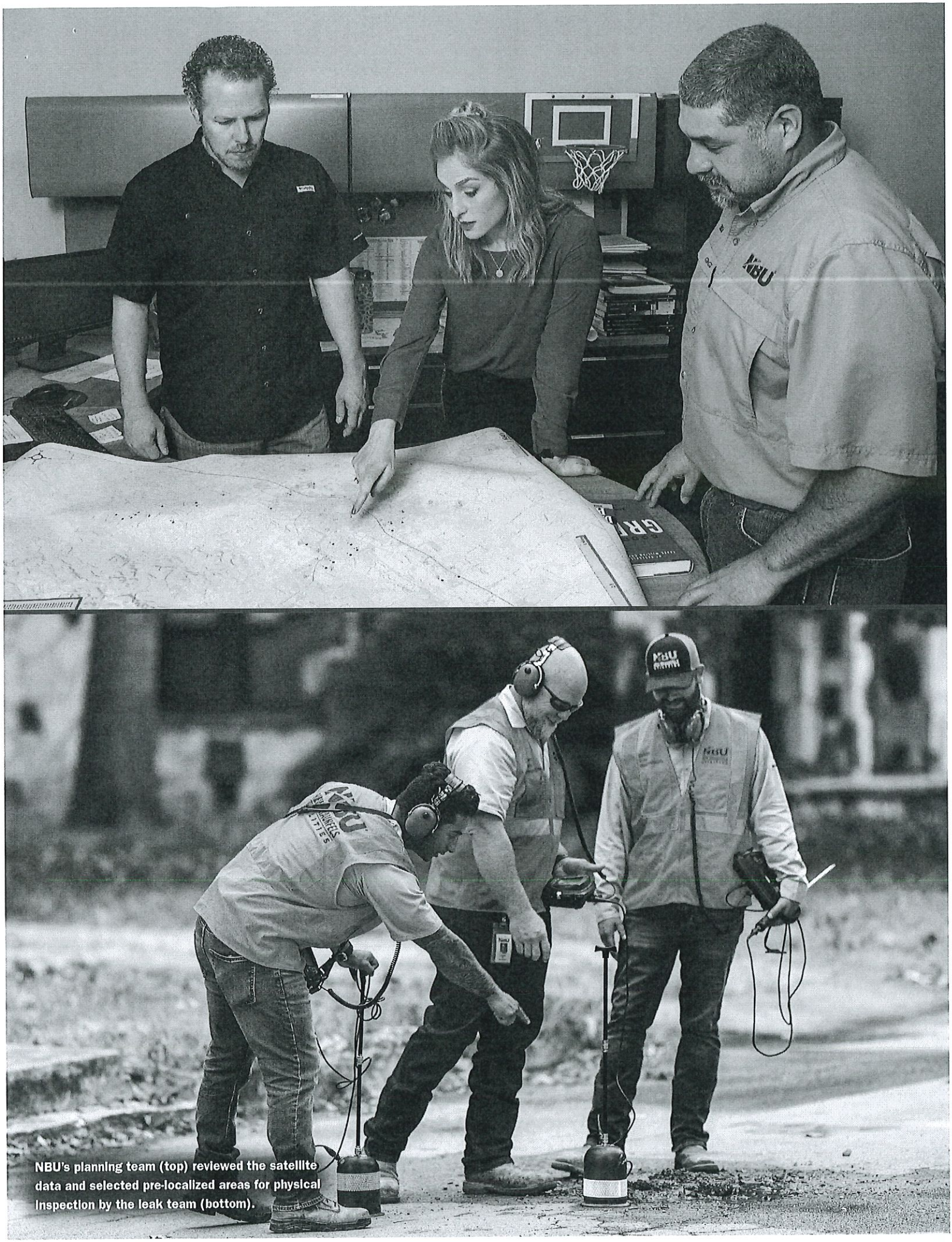
That system used to only check 20 percent of the city each year.

This checks the whole city.

"We found leaks in pipes that could potentially have been worse if conditions like the winter came," says Quirk. "We will still have main breaks, but we've minimized the amount we'll have because we proactively repaired this summer and fall."

The system is only looking for leaks in the city's pipes, not individual homes, but it did lead to finding leaks in a few residences, too. It's up to the homeowners to fix those problems.

Quirk says other communities, including Ashwaubenon and Howard, are interested or already trying the system, too.



NBU's planning team (top) reviewed the satellite data and selected pre-localized areas for physical inspection by the leak team (bottom).

TRADITIONAL ZONE MONITORING SURVEY

As shown in Figure 1, NBU's water system consists of 573 miles of water mains and has a service territory of 88 mi^2, located in Comal and Guadalupe counties. As part of its traditional zone monitoring survey, 20 percent of the system mileage was systematically and manually inspected each year. Acoustic loggers were installed in various locations for a week to search for background leaks, acoustic signals were analyzed at each location, and NBU staff was dispatched to find the leaks. The acoustic loggers were then moved to another location, and the process was repeated. This five-year effort yielded 178 leaks, or about 35 leaks per year. One leak was found for every 3.2 miles inspected. Over the course of the program, it was able to identify 0.14 leaks per crew day. A dedicated staff of three full-time line technicians, plus supervisory oversight and planning support, was assigned to this effort.

To use these results to determine the technology's value, a cost-per-leak-found metric was calculated. NBU provided cost and resource information for the 2018 traditional leak detection effort. Sixteen leaks were found in 249 days of inspection. The crew, supervisor, and equipment costs were calculated to be $910 per day on the basis of actual budget figures. NBU had purchased 120 moveable loggers at $1,000 each, for a total logger cost of $120,000. During the five-year program, the annual cost of logger equipment was $24,000. Additionally, the cost of a truck roll and crew, ground microphones, and correlators was budgeted at $28,600 per year. The cost to NBU of finding one leak during 2018 was $14,160 (Table 1).

Table 1. NBU Fiscal Year 2018 Zone Monitoring Analysis

The cost to NBU of finding one leak during 2018 was $14,160.

Parameter	Value
Annual equipment cost	$28,600
Annual logger capital cost	$24,000
Cost per crew day	$910
Crew days per year	249
Annual labor cost	$173,350
Total annual cost	$225,950
Leaks found	16
Cost per leak found	$14,160

SATELLITE PRE-LOCATING PROGRAM

Before executing the satellite pre-locating program, NBU organized and tested the workflow so the utility could analyze the results from a technical and value perspective. The following process was used for four service events:

- Contract to provide four satellite images of the NBU service area, spread throughout the year.
- Inspect all location points of interest provided by the satellite imagery for leaks using NBU staff and traditional handheld acoustic monitoring and correlating equipment within a two-month period (Figure 2).
- Follow best practices of field leak inspection methods.
- Identify and repair all leaks found, calculate leakage rate during repair, and estimate the historical duration of the leak.
- Collect and codify all leak information.

As a result of this rigorous process, data were available to determine the satellite imagery's effectiveness in identifying likely leak locations from space. It was also

Figure 1. NBU's Service Area

NBU's service area covers 88 mi^2, making a satellite-based leak detection program an appealing addition to the utility's traditional leak detection efforts.

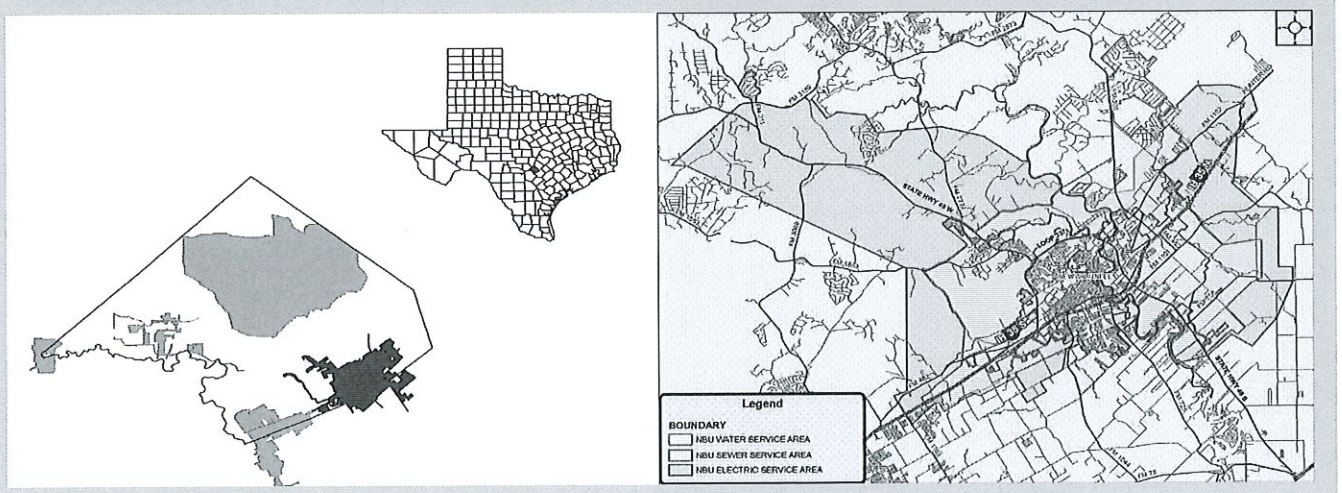


FIGURE 1: WIKIMEDIA COMMONS, NEW BRAUNFELS UTILITIES

2020 © American Water Works Association

Overall, the satellite program in 2019 found 14 times the leaks (229) the traditional program did in 2018 (16).

Table 2. Satellite Imagery Performance Results, Fiscal Year 2019

Data were available to determine satellite imagery's effectiveness in identifying likely leak locations from space.

	Points of Interest	Number of Leaks	Number of Days	Points of Interest Inspected Per Day	Total Miles Inspected	Leaks Per Day	Leaks Per Mile	Miles Inspected Per Day
Total	816	229	56	14.6	176	4.1	1.3	3.1

possible to assess the value and return on investment when using the process to find leaks and reduce NRW. Table 2 shows the performance metrics from the four satellite images and subsequent field leak inspection activities. After collecting and analyzing each of the four satellite images, the maintenance planner directed the leak crew to inspect certain areas identified as likely leak locations. A total of 14 crew days were allocated to conduct field inspection for each of the four images. Crew days are defined as nominal eight-hour work days for the three line technicians.

The primary value performance metric is leaks per crew day found. The more leaks found per day in the field, the better the return on investment of physical and fiscal resources. As can be seen from Table 2, the cumulative service program achieved more than four leaks per day found.

A secondary metric is leaks per mile physically inspected. This shows the technical ability of the satellite imagery to identify likely leak locations and the ability of the field crew to correlate the actual leak location. As shown in Table 2, 1.3 leaks per mile inspected were found during the program.

NBU's cost to find one leak during the satellite program was calculated to be $678. The total cost of service was $155,400, and 229 leaks were found. This assumes the cost for a crew day was $990. Crew costs were calculated on the basis of actual NBU budget allocation of labor and equipment costs. All of the other variables were defined by the actual costs and results. Table 3 contains the key parameters used in these calculations.

Table 4 compares the performance of the legacy program with the satellite pre-location program.

A return-on-investment calculation can be performed to determine the overall value of finding and repairing leaks. The accuracy of this metric relies on calculating the cost to find a leak, the marginal cost of water purchase and production, and the estimation of the size and duration of the leak. The cost of water purchase and production is calculated to be $4.52 per 1,000 gallons.

LEAK ASSESSMENT

There are two main components in determining the value of lost water because of a leak: leak flow rate and leak duration. Both are difficult to accurately define. NBU solved this challenge by determining the leak type when it's uncovered and estimating the leak flow rate when it's repaired. The leaks are classified as customer side or NBU side.

In this study of the satellite pre-location program, the customer-side leaks were estimated to average 0.17 gpm on the basis of the typical size of break and local system pressure. The calculated leak volumes from NBU-side leaks averaged 8.7 gpm. Some of the leaks were easily fixed during the field inspection by tightening fittings on meters or valves. These leaks were set at a zero leak rate.

The NBU-side leaks are either identifiable or unidentifiable. NBU created these definitions to localize the added value of the satellite program to the utility's particular system setting. Unidentifiable leaks are those that are determined impossible to find with traditional methods. These types might be leaks in rural areas, with no connections, that aren't typically visited or leaks occurring in rocky soil, where they're never expected to surface.

Figure 2. Project Dashboard

A dashboard shows points of interest (POI) and field inspection results.

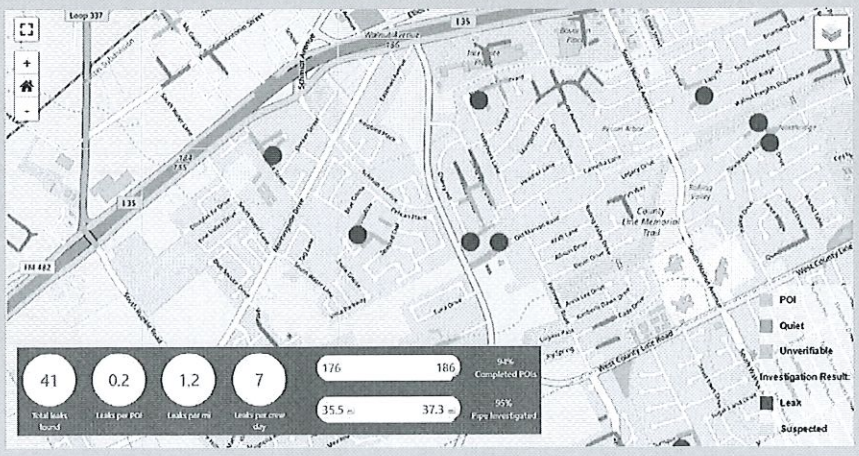


FIGURE 2: UTILIS

2020 © American Water Works Association

Table 3. Satellite Cost Per Leak Found

NBU's cost to find one leak during the satellite program was calculated to be $678.

Parameter	Value
Cost of satellite service	$100,000
Cost of leak crew	$155,400 (56 days at $990)
Number of leaks found	229

Table 4. Performance Comparison

A return-on-investment calculation can be performed to determine the overall value of finding and repairing leaks.

Program Type	Leaks Per Day Found	Leaks Per Mile Inspected	Miles Per Day Inspected
Fiscal Year 2018 NBU traditional	0.06	0.14	0.5
Satellite NBU average	4.1	1.3	3.1

In this study, the leak duration for identifiable leaks was set at 45 days, or 1.5 months, because the satellite surveys and subsequent field inspections were performed quarterly. Therefore, a leak's average duration, if evenly distributed during the three-month period, was half that time. For the unidentifiable leaks, the duration was pegged at 2.5 years, or 30 months. NBU historically could survey and inspect only 20 percent of the full system per year, thus taking five years to inspect the entire system. Therefore, the leak duration was set at half the five years.

To estimate the volume of water loss and thus the value of fixing the leak, the leak flow rate was multiplied by the duration defined by its designation. Of the 229 leaks identified, 128 were customer-side and 101 were NBU-side, with 36 of those deemed unidentifiable. Of the 229 leaks, 143 were deemed to have a quantifiable leak flow rate. Altogether, it was calculated that total water loss from these leaks was 50.1 million gallons. Of this total, 1.4 million gallons was due to customer-side leaks, leaving a total of 48.7 million gallons of NBU-side real water losses. This equates to a lost value to NBU of $220,120. The simple payback period is six months, as the cost of the full service (four images) is $100,000.

Another way to analyze the value of the satellite program is to calculate a benefit–cost ratio. The water value savings was calculated to be $220,100. The operating budget savings was calculated to be $146,400 on the basis of the reduction in labor and cost of a truck roll from 249 crew days to 56 crew days. Therefore, total benefit was $366,500. This equates to a 3.7 benefit–cost ratio.

COMPARING THE TWO METHODS

On the basis of the flow rate of the leaks identified in the full-service program, it was calculated that current NRW loss reduction was 225,500 gpd. The satellite program reduced the NBU NRW from 18 to 16.6 percent during the period of the work.

The satellite program was shown to be able to identify 4.1 leaks per crew day as compared with the traditional method of 0.06 leaks per day in 2018. This is a 70-times improvement in the program's efficiency. The satellite program was shown to have a 95 percent lower cost per leak found, at $678 versus $14,130 for the traditional program.

Overall, the satellite program in 2019 found 14 times the leaks (229) the traditional program did in 2018 (16). The satellite program achieved that goal using less than 25 percent of the crew labor—56 versus 249 crew days. Total labor costs were reduced from $173,350 for the traditional program to $42,900 for the satellite program. The overall operating budget impact was reduced from the traditional program in 2018 of $201,900 to $155,500 for the satellite program in 2019 (Table 5).

NBU was able to significantly reduce its nonrevenue water loss because of this program. All leaks identified were repaired according to their priority level; emergencies were fixed immediately, and the others were scheduled for repair within a week. The satellite service was a great success in terms of water conservation and an increased level of customer service. The program will be continued in this fiscal year.

Table 5. Performance and Value Metrics Comparison

NBU was able to significantly reduce its nonrevenue water loss because of the program.

Parameter	Fiscal Year 2018 Traditional Program	Fiscal Year 2019 Satellite Pre-locating Program
Leaks per day found	0.06	4.1
Number of leaks found	16	229
Cost per leak found	$14,130	$678
Crew labor days	249	56
Crew labor costs	$173,350	$42,900
Overall operating budget	$201,900	$155,500
Capital costs	$24,000	$0

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

MEMO

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works PAV

DATE: February 13, 2020

SUBJECT: **AquaDuoscope Measuring Method Program.**

The City of Appleton has been working to address Inflow and Infiltration (I/I) into our sanitary sewer system for over 30 years. All of the major cross-connections and leaking sewer mains that we are aware of have been addressed. However, the amount of clear water (I/I) getting into the sanitary sewer system continues to be significant, and at times, creates challenges at the Waste Water Treatment Plant.

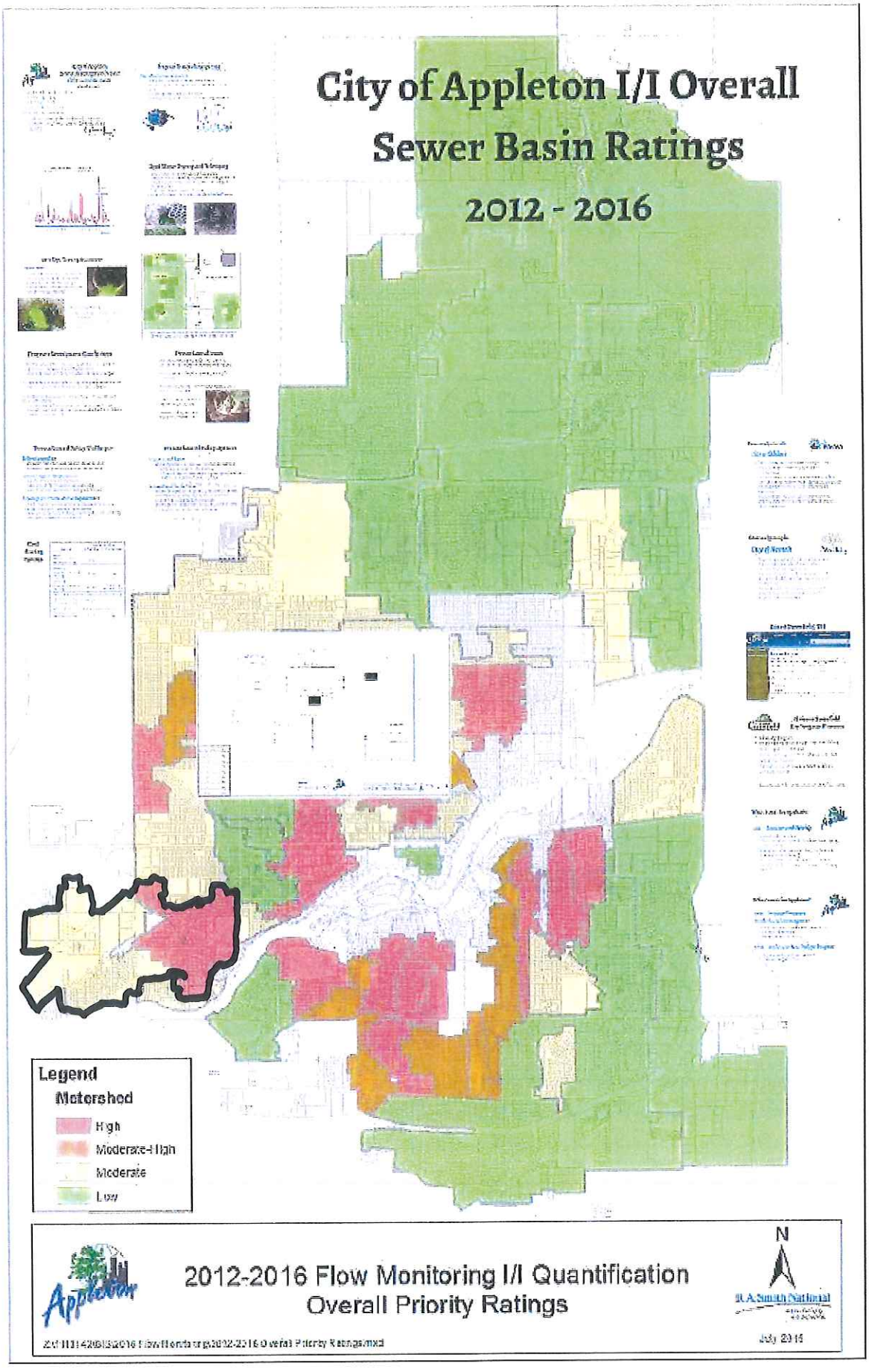
The City currently televises approximately 11% (35 miles) of our sanitary sewer system annually in an attempt to identify areas of I/I. Locations identified are then added to our 5-Year Capital Improvement Program to be addressed accordingly. Recently the City has implemented a sanitary lateral replacement program where we replace approximately 40 private laterals from the sewer main to the home.

A new technology that is now available to us is the AquaDuoscope Measuring Method Program. The company that invented this leakage detection system (Aquapriori) is located in Finland. Last year they performed their first ever demonstration project in the United States in Ashland, Wisconsin. They helped that community identify several "hot spots" which were then isolated and fixed accordingly, reducing the overall I/I in that community.

Aquapriori will be coming to Appleton this spring to use the AquaDuoscope Measuring Method on the area shown on the attached maps, which includes 11 miles of sanitary sewer main and one lift station. While here, they will train staff to continue the measuring in other areas of concern using this method.

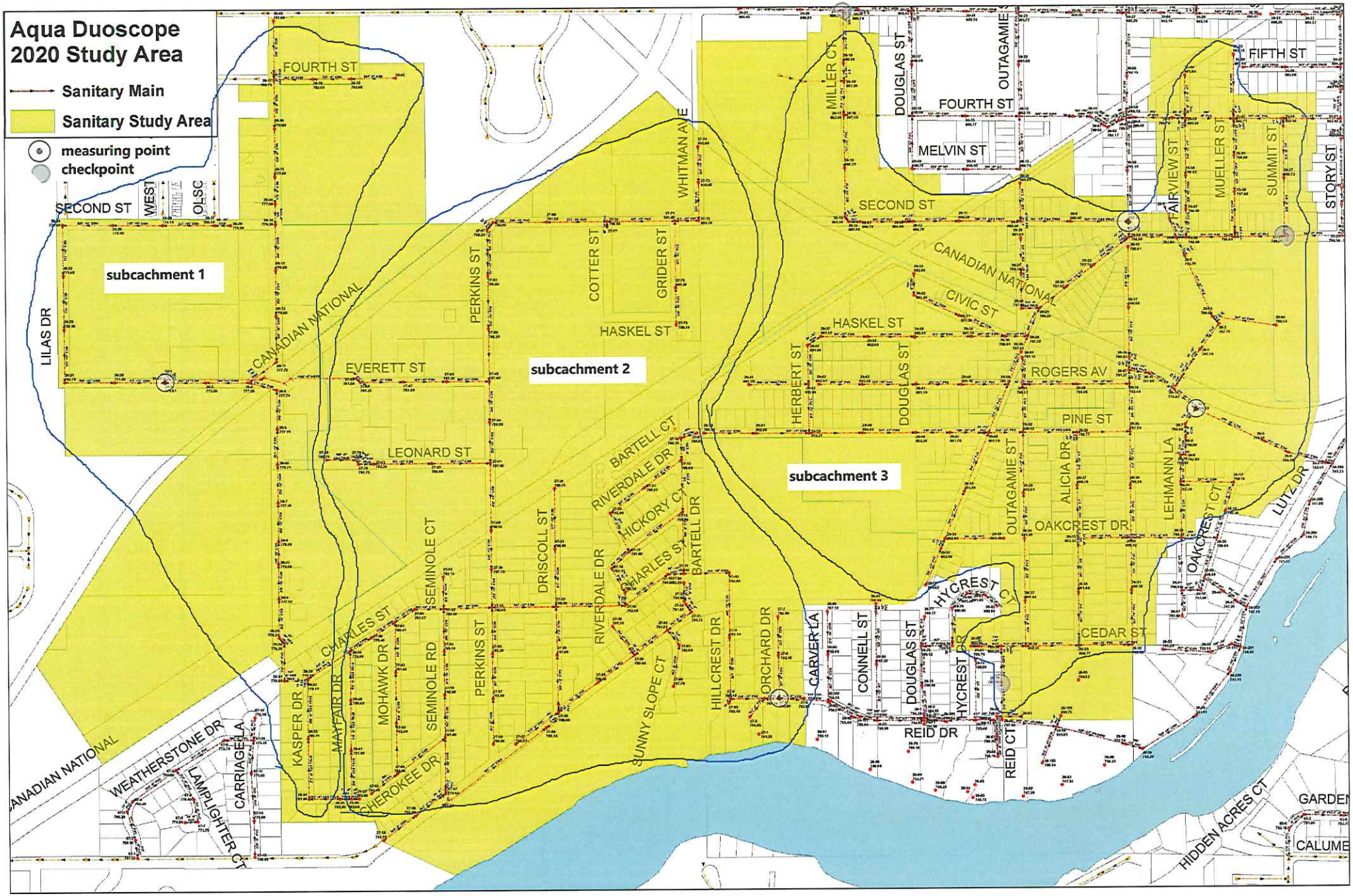
We are excited to utilize this new technology to help us identify locations of I/I, and will keep the Committee updated on what we discover.

Attachments



11 Miles

1 lift station


Aqua Duoscope
2020 Study Area
Sanitary Main
Sanitary Study Area
measuring point
checkpoint
subcachment 1
subcachment 2
subcachment 3
FOURTH ST
SECOND ST
WEST
OLSC
LILAS DR
CANADIAN NATIONAL
EVERETT ST
LEONARD ST
PERKINS ST
COTTER ST
GRIDER ST
WHITMAN AVE
HASKEL ST
BARTELL CT
RIVERDALE DR
HICKORY CT
CHARLES ST
BARTELL DR
DRISCOLL ST
SEMINOLE CT
SEMINOLE RD
MOHAWK DR
MAYFAIR DR
KASPER DR
CHEROKEE DR
SUNNY SLOPE CT
HILLCREST DR
ORCHARD DR
CARVER LA
CONNELL ST
DOUGLAS ST
HYCREST CT
HYCREST DR
REID DR
REID CT
CEDAR ST
OAKCREST DR
OAKCREST CT
LEHMANN LA
LUTZ DR
ALICIA DR
OUTAGAMIE ST
PINE ST
ROGERS AV
HERBERT ST
CIVIC ST
MILLER CT
OUTAGAMIE
MELVIN ST
FIFTH ST
FAIRVIEW ST
MUELLER ST
SUMMIT ST
STORY ST
WEATHERSTONE DR
LAMPLIGHTER CT
CARRIAGE LA
HIDDEN ACRES CT

MEMO

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

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works PAV

DATE: February 13, 2020

SUBJECT: **National League of Cities Service Line Warranty Program.**

The City of Appleton will be partnering with Service Line Warranties of America within the next few months. This program gives residents the opportunity to obtain a warranty that will provide repairs for a low monthly fee, with no deductible or service fees. The program is voluntary and at no cost to the City. A copy of the program presentation and our Marketing Agreement are attached for your information.

Benefits of the program include:

- **Helping Residents** – Program gives residents who have not set aside money to pay for an unexpected, expensive repair the opportunity to obtain a low cost warranty.
- **Local Workforce** – All repair work is performed by licensed, local plumbers.
- **Education** – Many property owners do not realize that they own the water service and laterals that serve their property. All letters sent to property owners are reviewed and approved by city staff prior to mailing, and will include the city logo so residents are aware of our partnership.

Beaver Dam recently entered into a similar arrangement with Service Line Warranties of America. (See attached article from May 14, 2019).

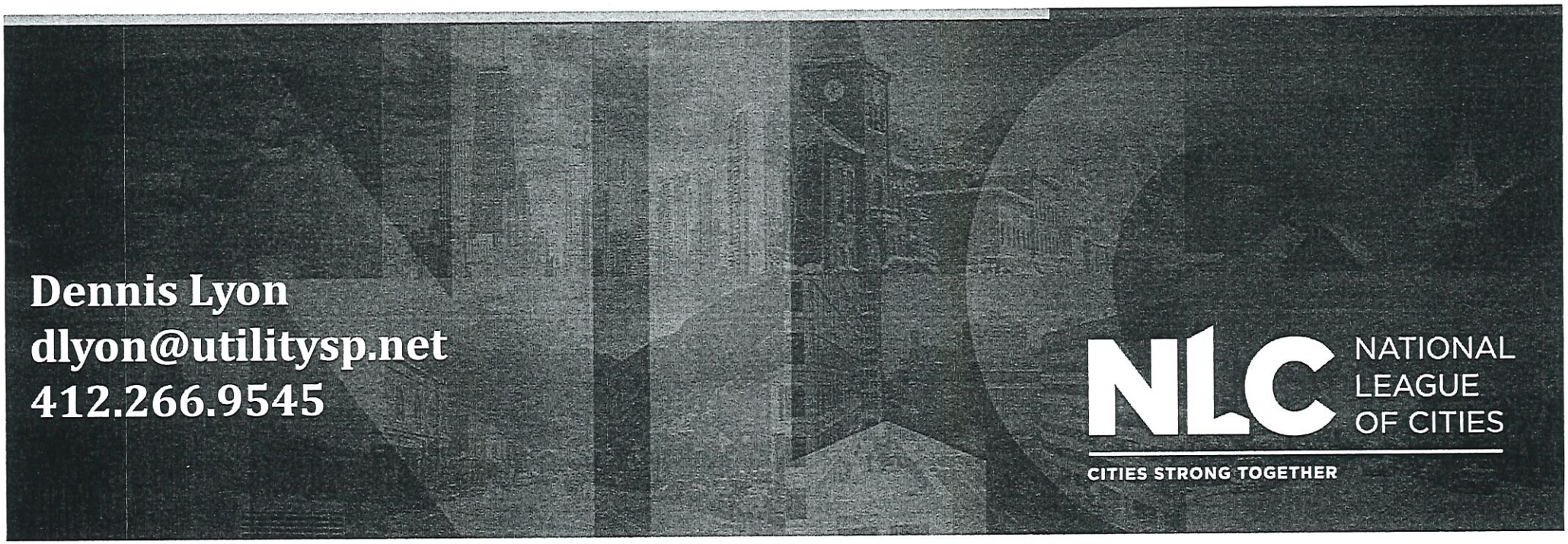
Attachments

Solutions for Aging Infrastructure

NLC Service Line Warranty Program

Administered by
Utility Service Partners, Inc
a HomeServe Company

NLC Service Line Warranty Program



NLC SAVINGS AND SOLUTIONS PROGRAMS

The NLC Service Line Warranty Program is one of seven Enterprise Programs that are offered through corporate partnerships

NLC launched its partnership with Utility Service Partners in 2010, an now there are 650+ participating municipalities and utilities

4 Wisconsin municipalities currently participate

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

AGING INFRASTRUCTURE IS PROBLEMATIC FOR CITIES & HOMEOWNERS

- Lateral lines are subjected to the same elements as public lines - ground shifting, fluctuating temperatures, tree root penetration, corrosion, and more
  - Public maintains & upgrades
  - Homeowners left behind
- Failed lines waste thousands of gallons of water, increase cost, and present an environmental hazard
- A common homeowner misconception is the municipality is responsible for maintenance of the water and sewer lines on their property, or repairs are covered by their homeowner's policy
  - Reduces wasted time, money, and resources for municipality
  - Reduces frustration for homeowner

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

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Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

FINANCIAL SHOCK – AN UNPLANNED EXPENSE

40% 4 out of 10 Americans can't afford a $400 emergency expense (and would have to sell something or take out a loan to cover it).*

59% of homeowners surveyed have had a home repair emergency in the past year

78% of homeowners surveyed believe the municipality or utility provider should educate them on responsibility and preventive measures

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

2017 IPSOS Survey of HomeServe policyholders and non-policyholders
**Federal Reserve Report on the Economic Well-Being of U.S. Households in 2017*

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

NLC SERVICE LINE WARRANTY PROGRAM BENEFITS

- Only Service Line Program endorsed by the National League of Cities and 20 State Leagues
- No cost to municipality & no public funds used; we administer completely
  - Marketing, billing, claims, customer service, contractors
- Ongoing revenue stream for municipality
- Free public awareness campaign for municipality
- Educates residents on their lateral line responsibilities
- Peace of mind – with one toll-free call a reputable plumber is dispatched
- All repairs performed to code by local licensed contractor
- Contractors undergo rigorous vetting process to ensure quality service

NLC NATIONAL LEAGUE OF CITIES
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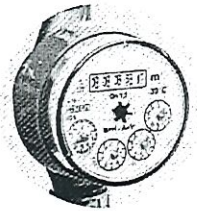
NLC Service Line Warranty Program

NLC SERVICE LINE WARRANTY PROGRAM AND WHAT IT COVERS

SEWER/SEPTIC LATERAL COVERAGE



WATER/WELL LINE COVERAGE

Homeowner repair protection for broken, cracked, or leaking pipes; tree root penetration; thawing of frozen external water lines; clog.

Coverage includes:

- Up to $8,500 coverage per repair occurrence (including public street & sidewalk cutting)
- Unlimited service calls. No service fees, deductibles, annual or lifetime limits; month to month agreement
- No pre-inspection - 30 day waiting period
- 24/7/365 availability; no forms or paperwork
- Repairs made only by licensed, local contractors

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

MARKETING APPROACH

- No Public Funds are used in marketing, distribution, or administration of the program
- Only market by direct mail, no telemarketing or door to door sales
- Limited to 3 mailing campaigns per year
- Would never mail without your review and approval of marketing material before each and every campaign
- Marketing clearly states city does not provide program & is voluntary for homeowner
- City role: logo & signature
    - Economy of scale & transparency

- Consumers can enroll one of three ways:
    - Call our toll free number provided on the mailing
    - Return the bottom of the letter in self addressed stamped envelope provided by us
    - Visiting our consumer website www.slwofa.com at any time

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

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a HomeServe Company

NLC Service Line Warranty Program

SOLUTIONS FOR MUNICIPALITIES AND THEIR HOMEOWNERS

- 650+ municipalities participating
- Currently serving over 4 million customers
- 1.34 million jobs completed over the past 3 years (1 every 49 seconds)
- Saved customers over $454 million in repair costs over the past 3 years
- 97% claim approvals
- 9 of every 10 customers surveyed have recommended the program to friends, family and neighbors

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

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a HomeServe Company

NLC Service Line Warranty Program

CURRENT WISCONSIN PARTNERS (4)

- *City of Whitewater*
- *Village of Pleasant Prairie*
- *City of Beaver Dam*
- *Delevan Lake Sanitary District*

- Over 25,800 WI residents currently enrolled in program
- Over $949,000 paid in repair costs over the last 3 years

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

Administered by
Utility Service Partners, Inc.
a HomeServe Company

NLC Service Line Warranty Program

MARKETING AGREEMENT

This MARKETING AGREEMENT ("Agreement") is entered into as of _____, 20__ ("**Effective Date**"), by and between the City of Appleton, Wisconsin ("**City**"), and Utility Service Partners Private Label, Inc. d/b/a Service Line Warranties of America ("**Company**"), herein collectively referred to singularly as "Party" and collectively as the "Parties".

RECITALS:

WHEREAS, sewer and water line laterals between the mainlines and the connection on residential private property are owned by individual residential property owners residing in the City ("**Property Owner**"); and

WHEREAS, City desires to offer Property Owners the opportunity, but not the obligation, to purchase a service plan and other similar products set forth in Exhibit A or as otherwise agreed in writing from time-to-time by the Parties (each, a "**Product**" and collectively, the "**Products**"); and

WHEREAS, Company, a subsidiary of HomeServe USA Corp., is the administrator of the National League of Cities Service Line Warranty Program and has agreed to make the Products available to Property Owners subject to the terms and conditions contained herein; and

NOW, THEREFORE, in consideration of the foregoing recitals, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and with the intent to be legally bound hereby, the Parties agree as follows:

1. **Purpose.** City hereby grants to Company the right to offer and market the Products to Property Owners subject to the terms and conditions herein.

2. **City Obligations.**

A. Grant of License. City hereby grants to Company a non-exclusive license ("**License**") to use City's name and logo or other branding ("**Marks**"), on letters, bills and marketing materials to be sent to Property Owners from time to time, and to be used in advertising (including on the Company's website), all at Company's sole cost and expense and subject to City's prior review and approval, which will not be unreasonably conditioned, delayed, or withheld. Company's use of the Marks in accordance with this Agreement will not infringe any other party's rights. City agrees that it will not extend a similar license to any competitor of Company during the Term (as defined in Section 3 below).

B. Property Owner Data. If City elects to do so, City may provide Company with Property Owner Data for use by Company in furtherance of the advertisement, marketing, and sale of the Products. Any name, service address, postal address, and any other appropriate or necessary data

for Property Owners in City is defined as "**Property Owner Data**". Property Owners Data shall be and remain City's property. For any Property Owner Data provided by City to Company, City warrants that Property Owner Data has been and will be collected in compliance with all laws, statutes, treaties, rules, codes, ordinances, regulations, permits, official guidelines, judgments, orders and interpretations ("**Applicable Laws**"); and City is permitted by Applicable Laws and by any applicable privacy policy to provide Property Owner Data to Company and to permit Company to use Property Owner Data for the purposes of this Agreement. A Property Owner who has purchased a Product is a member ("**Member**") and, following such purchase, all data in Company's control or possession relating to Members is Company's property.

3. **Term.** The term of this Agreement ("**Initial Term**") shall be for three (3) years from the Effective Date. The Agreement will automatically renew for additional one (1) year terms (each a "**Renewal Term**", and collectively with the Initial Term, the "**Term**") unless one of the Parties gives the other written notice at least ninety (90) days prior to end of the Initial Term or of a Renewal Term that the Party does not intend to renew this Agreement. In the event that Company is in material breach of this Agreement, the City may terminate this Agreement thirty (30) days after giving written notice to Company of such breach, if said breach is not cured during said thirty (30) day period. Company will be permitted to complete any marketing initiative initiated or planned prior to termination of this Agreement after which time, neither Party will have any further obligations to the other and this Agreement will terminate.

4. **Consideration.** Company shall pay City a National league of Cities membership allowance ("**NLC Allowance**") as set forth in Exhibit A. Company will pay City NLC Allowances within thirty (30) days after the date such NLC Allowance becomes payable.

5. **Confidentiality.** Each party will treat all non-public, confidential and trade secret information received from the other party as confidential, and such party shall not disclose or use such information in a manner contrary to the purposes of this Agreement. Notwithstanding the foregoing, the City shall not be liable for any disclosure of confidential information that is required to be disclosed under any applicable public records act or under court order. City shall provide notice to Company prior to any such disclosure.

6. **Code Change.** The Parties understand that the pricing of the Products and compensation provided for in this Agreement are based upon the currently applicable City, municipal or similar codes. In the event Company discovers a code change, Company shall have the ability to reassess the pricing in this Agreement.

7. **Indemnification.** The Company hereby agrees to protect, indemnify, and hold the City, its officers, employees, contractors, subcontractors, and agents (collectively or individually, "**Indemnitee**") harmless from and against any and all third party claims, damages, losses, expenses, suits, actions, decrees, judgments, awards, reasonable attorneys' fees and court costs (individually or collectively, "**Claim**"), which an Indemnitee may suffer or which may be sought against or are recovered or obtainable from an Indemnitee, as a result of or arising out of any breach of this Agreement by the Company, or any negligent or fraudulent act or omission of the

Company or its officers, employees, contractors, subcontractors, or agents in the performance of this Agreement; provided that the applicable Indemnitee notifies the Company of any such Claim within a time that does not prejudice the ability of the Company to defend against such Claim. Any Indemnitee hereunder may participate in its, his, or her own defense, but will be responsible for all costs incurred, including reasonable attorneys' fees, in connection with such participation in such defense.

8. **Notice.** Any notice required to be given hereunder shall be deemed to have been given when notice is (i) received by the Party to whom it is directed by personal service, (ii) sent by electronic mail (provided confirmation of receipt is provided by the receiving Party), or (iii) deposited as registered or certified mail, return receipt requested, with the United States Postal Service, addressed as follows:

To: City:
ATTN: Paula Vandehey
City of Appleton
100 N Appleton St
Appleton, WI 54911
Email: paula.vandehey@appleton.org
Phone: (920) 832-6474

Copy to:
City Attorney
City of Appleton
100 N Appleton St
Appleton, WI 54911
Fax: (920) 832-5962

To: Company:
ATTN: Chief Sales Officer
Utility Service Partners Private Label, Inc.
4000 Town Center Boulevard, Suite 400
Canonsburg, PA 15317
Phone: (866) 974-4801

9. **Modifications or Amendments/Entire Agreement.** Except for the list of available Products under the Agreement, which may be amended from time to time by the Parties in writing and without signature (including by email), any and all of the representations and obligations of the Parties are contained herein, and no modification, waiver or amendment of this Agreement or of any of its conditions or provisions shall be binding upon a Party unless in writing signed by that Party.

10. **Assignment.** Neither Party may assign its rights or delegate its duties under this Agreement without the prior written consent of the other Party unless such assignment or delegation is to an

affiliate or to an acquirer of all or substantially all of the assets of the transferor.

11. **Counterparts/Electronic Delivery; No Third Party Beneficiary.** This Agreement may be executed in counterparts, all such counterparts will constitute the same contract and the signature of any Party to any counterpart will be deemed a signature to, and may be appended to, any other counterpart. Executed copies hereof may be delivered by e-mail and upon receipt will be deemed originals and binding upon the Parties hereto, regardless of whether originals are delivered thereafter. Nothing expressed or implied in this Agreement is intended, or should be construed, to confer upon or give any person or entity not a party to this agreement any third-party beneficiary rights, interests, or remedies under or by reason of any term, provision, condition, undertaking, warranty, representation, or agreement contained in this Agreement.

12. **Choice of Law/Attorney Fees.** The Parties shall maintain compliance with all Applicable Laws with respect to its obligations under this Agreement. The governing law shall be the laws of the State of Wisconsin, without regard to the choice of law principles of the forum state. THE PARTIES HERETO HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT THAT MAY EXIST TO HAVE A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED UPON OR ARISING OUT OF, UNDER, OR IN ANY WAY CONNECTED WITH, THIS AGREEMENT.

13. **Incorporation of Recitals and Exhibits.** The above Recitals and Exhibit A attached hereto are incorporated by this reference and expressly made part of this Agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the day and year first written above.

CITY OF APPLETON

_____

Name:

Title:

UTILITY SERVICE PARTNERS PRIVATE LABEL, INC.

_____

Name: Michael Backus

Title: Chief Sales Officer

Exhibit A
NLC Service Line Warranty Program
City of Appleton
Term Sheet
January 16, 2020

I. Initial Term. Three years

II. License Conditions.
City logo and name on letterhead, advertising, signature line, billing and marketing materials.

III. NLC Allowance. $18,393.00 spread across the first three years of the Term, as follows:
a. Year 1 - $6,131.00
b. Year 2 - $6,131.00
c. Year 3 - $6,131.00
Payment of the NLC Allowance for each year is subject to approval and mailing of the first campaign for that year and, following the first year, City's timely approval of all marketing materials for the prior year.

IV. Products.
a. External water service line plan (initially, $5.25 per month)
b. External sewer/septic line plan (initially, $7.25 per month)
c. Interior plumbing and drainage plan (initially, $9.49 per month)
Company may adjust the foregoing Product fees; provided, that any such adjustment shall not exceed $.50 per month in any 12-month period, unless otherwise agreed by the Parties in writing.

V. Scope of Coverage.
a. External water service line plan:
- Property Owner responsibility: From the curb stop to the external wall of the home.
- Covers thawing of frozen external water lines.
- Covers well service lines if applicable.
b. External sewer/septic line plan:
- Property Owner responsibility: From the external wall of the home to the main.
- Covers septic lines if applicable.
c. Interior plumbing and drainage plan:
- Water supply pipes and drainage pipes within the interior of the home.

VI. Marketing Campaigns. Company shall have the right to conduct up to three campaigns per year, comprised of up to six mailings and such other channels as may be mutually agreed. Initially, Company anticipates offering the Interior plumbing and drainage plan Product via in-bound channels only.

CHRIS HIGGINS chiggins@wiscnews.com May 14, 2019

SUBSCRIBE NOW! $5 FOR 5 MONTHS

Daily Citizen archives

A company is offering protection for Beaver Dam homeowners who may need an expensive repair.

The city of Beaver Dam has partnered with Service Line Warranties of America, which offers a warranty program for homeowners who have to replace a service line like a sewer lateral, as determined by the city. The policies could cover the private portion of the laterals and the internal plumbing. Homeowners would have different options to select and will soon receive flyers with information. The Service Line website lists plans at about $5 to $10 per month.

Minnema said the warranty, which is optional, can provide peace of mind for a homeowner. The city does not provide financial assistance to someone who needs to make required repairs to a private system. And such repairs are not usually covered by a basic homeowner insurance plan. Service Line is not the only firm to offer such services, but the city struck a marketing agreement with the company this year that does not involve the use of public funds.

If hit with a required repair, a homeowner could find their own contractor or use a city contractor and receive a bill. Bills from the city could be paid in full or in annual installments with interest. Property owners would receive information about grants available to help them pay for the cost, such as government programs that provide funds to low-income owners for property maintenance.

According to John Kitzie, the CEO of HomeServe, the parent company for Service Line, the plan would cover the cost of the repair and use reputable local contractors to complete the job.

"Many homeowners do not know that damage to the service lines on their property is their responsibility to repair," said Rob Minnema, the director of utilities for the city.

Late last year, the Beaver Dam Common Council approved changes that would require homeowners to replace water and sewer laterals at their expense if found to be necessary due to leaks or other problems. The idea was to address concerns with water quality and standards.

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

MEMO

TO: Finance Committee
Municipal Services Committee
Utilities Committee

FROM: Paula Vandehey, Director of Public Works PAV

DATE: February 20, 2020

SUBJECT: **Postponement of projects due to bid prices above our 2020 Budget.**

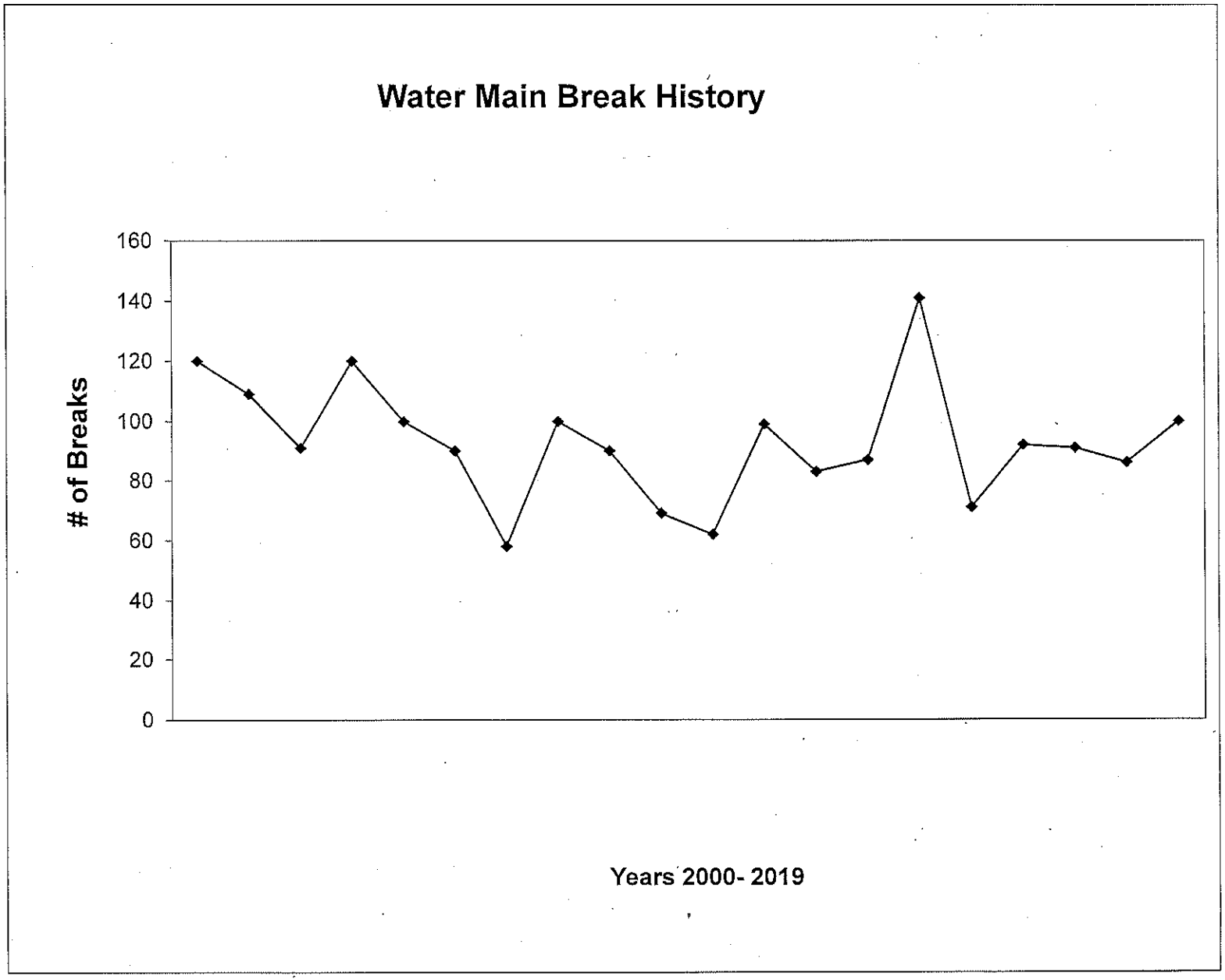
As the Department of Public Works has been bidding out our underground utility projects (sanitary sewer, storm sewer and watermain) the bid prices are coming in over our 2020 budget, especially the watermain unit prices. In discussions with the Finance Department, we have decided to postpone the following underground utility projects from 2020 and re-budget for them in 2021:

- Jackson Street from Calumet Street to Fremont Street
- Madison Street from Calumet Street to Taft Avenue
- Minor Street from Meade Street to Rankin Street
- Easement east of Riverview Lane from River Road to Bouten Street

By postponing the underground utility work from 2020 to 2021, we are also pushing the corresponding street paving projects from 2021 to 2022.

Please feel free to contact me if you have any questions regarding these program changes.

YEAR	BREAKS
2000	120
2001	109
2002	91
2003	120
2004	100
2005	90
2006	58
2007	100
2008	90
2009	69
2010	62
2011	99
2012	83
2013	87
2014	141
2015	71
2016	92
2017	91
2018	86
2019	100
TOTAL =	1859
Average :	**93.0**



WATER MAIN BREAK/JOINT LEAK REPORT JANUARY 2020

YEARLY WATER MAIN BREAK COMPARISON

JAN 19	JAN 20	YTD 19	YTD 20
12	11	12	11

LOCATION	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
501 E. Roeland Ave.	265345	CIP	8"	1960	8" Split	36 hrs	37,445	$227.67
5 Briarcliff Ct.	265742	CIP	8"	1964	1/32" Crack	24 hrs	172,979	$1,051.71
Benoit & Spencer	265796	CIP	6"	1929	6" Hole	4 hrs	1,320,898	$8,031.06
619 S. Mathias St.	265797	CIP	8"	1963	1/8" Crack	12 hrs	403,676	$2,454.35
225 S. Telulah Ave	265869	CIP	4"	1927	1/8" Crack	6 hrs	54,700	$332.58
707 E. McKinley St.	265902	CIP	6"	1947	1/8" Crack	3 hrs	58,819	$357.62
508 W. Summer St.	265944	CIP	6"	1923	1/16" Crack	4 hrs	47,574	$289.25
Lindbergh & Locust	266109	CIP	12"	1963	1/16" Crack	4 hrs	79,478	$483.23

**Water Loss is calculated at the residential rate of $6.08 per 1000 gallons.

WATER MAIN BREAK/JOINT LEAK REPORT JANUARY 2020

LOCATION	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
909 E. Harrison St.	266206	CIP	6"	1946	1/16" Crack	4 hrs	40,772	$247.89
400 Block N. Oneida St.	266419	CIP	6"	1935	1/8" Crack	4 hrs	70,618	$429.36
Crestview & Canterbury	266499	CIP	8"	1966	1/64" Crack	7 days	638,176	$3,880.11

**Water Loss is calculated at the residential rate of $6.08 per 1000 gallons.