



# City of Appleton

100 North Appleton Street  
Appleton, WI 54911-4799  
[www.appleton.org](http://www.appleton.org)

## Meeting Agenda - Final Utilities Committee

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Tuesday, April 24, 2018

5:00 PM

Council Chambers, 6th Floor

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1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

[18-0475](#) Approval of the March 27, 2018 Utilities Committee Meeting Minutes.

**Attachments:** [March 27, 2018 Utilities Committee Meeting Minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

[18-0419](#) Confirm the following:

- Elect Vice-Chair
- Designate a "Contact Person" who can answer specific questions about agenda items
- Set Utilities Committee Meeting date and time

[18-0476](#) Award Unit F-18, Sewer Cleaning & Televising to Green Bay Pipe & TV, LLC in an amount not to exceed \$247,500.

**Attachments:** [Unit F-18.pdf](#)

[18-0495](#) Request to sole source contract to Patrick Engineering for a contract fee of \$130,000 and a contingency of 10% for professional services needed to complete the Wastewater Electrical Distribution Upgrades Phase 2 for a contract not to exceed \$143,000.

**Attachments:** [2018 Electrical Distribution System Upgrades Design PH 2.pdf](#)

6. **Information Items**

[18-0582](#) 2018 Sustainability Annual Update

**Attachments:** [2018 Sustainability Annual Update.pdf](#)

[18-0477](#) 2018 Water Treatment Facility Power Generation Test

**Attachments:** [2018 WPPI Test and Payment.pdf](#)

[18-0478](#) Anaerobic Digester Seed Sludge to New Water - Project Completion

[18-0492](#) Lead Service Update

[18-0552](#) Monthly Reports for January, February, March 2018  
- Wastewater Treatment Plant Synopsis and Receiving Station Revenue Report  
- Water Treatment Facility Synopsis  
- Water Distribution and Meter Team Monthly Report - March

**Attachments:** [2018 AWWTP Q1 Synopsis.pdf](#)  
[2018 AWTF Q1 Synopsis.pdf](#)  
[Water Meter Team Reports March.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.*



# City of Appleton

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## Meeting Minutes Utilities Committee

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Tuesday, March 27, 2018

5:00 PM

Council Chambers, 6th Floor

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1. Call meeting to order

*Chairperson Dannecker called the Utilities Committee meeting to order at 5:00 p.m.*

2. Roll call of membership

**Present:** 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

3. Approval of minutes from previous meeting

[18-0418](#)

Approval of the March 13, 2018 Utilities Committee Meeting Minutes.

**Attachments:** [March 13, 2018 Utilities Committee Meeting Minutes.pdf](#)

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

4. Public Hearings/Appearances

5. Action Items

[18-0422](#)

Approve Stormwater Management Alternative 1 for the urbanization of Evergreen Drive and Alvin Street.

**Attachments:** [Evergreen Alvin Select Alternative UC memo.pdf](#)  
[Evergreen Alvin Alts 1.pdf](#)

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

[18-0423](#)

Sole Source Purchase of Flight Scrapers to Evoqua Water Technologies for a cost of \$35,100.

**Attachments:** [utilities memo - DAF Flights 03-19-18.pdf](#)

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

## 6. Information Items

[18-0420](#)

One and Two Family Stormwater Credit Summary

**Attachments:** [Stormwater Credit Summary.pdf](#)

*This item was presented.*

[18-0421](#)

Monthly Reports for February 2018:

- Water Distribution and Meter Team Monthly Report

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

*This item was presented.*

## 7. Adjournment

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Dvorachek

**CITY OF APPLETON**  
**Department of Public Works**  
**MEMORANDUM**

**TO:** ☐ Finance Committee  
☐ Municipal Services Committee  
☒ Utilities Committee

**cc:** City Clerk  
Contract File

**SUBJECT:** Anticipated Award and/or Award of Contract

**ANTICIPATED AWARD**

The Department of Public Works is planning to award \_\_\_\_\_

Committee Date: \_\_\_\_\_

Council Date: \_\_\_\_\_

\*\*\*\*\* AND / OR \*\*\*\*\*

**AWARD OF CONTRACT**

The Department of Public Works recommends that F-18, Sanitary and Storm Sewer  
Cleaning & Televising

Be awarded to: Name: Green Bay Pipe & TV, LLC

Address: 1100 Columbia Avenue

Green Bay, WI 54303

In the amount of \_\_\_\_\_ with a contingency of \_\_\_\_\_

**\*\* OR \*\*** in the amount Not To Exceed \$247,500.00

Budget: \$247,500.00

Estimate: \$250,000.00

Committee Date: 4/10/18

Council Date: 4/18/18

**CITY OF APPLETON**  
**Contract Funding Form**

TO: Finance Department

FROM: Chad Weyenberg

DATE: 04/03/18

SUBJECT: Funding for Contract:

<u>F-18</u>	<u>Sanitary &amp; Storm Sewer Cleaning and Televising</u>
Unit No.	Description

AWARD DATE: 4/18/18 (Council Date)

AWARD TO: Green Bay Pipe & TV, LLC

1100 Columbia Avenue

Green Bay, WI 54303

Funding for the project will be as follows:

Item No.	Account No.	Account Description	Contract Amount	Contingency	Total
1.	<u>5427.6404.3213</u>	<u>Sanitary</u>	<u>\$160,000.00</u>	<u>None</u>	<u>\$160,000.00</u>
2.	<u>5222.6404.3037</u>	<u>Storm</u>	<u>\$87,500.00</u>	<u>None</u>	<u>\$87,500.00</u>
3.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
4.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
5.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
6.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
7.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
8.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
		<b>TOTAL</b>	<u>\$247,500.00</u>	<u> </u>	<u>\$247,500.00</u>

Public Works

Finance Department

cc: Project File

# SANITARY & STORM SEWER CLEANING & TELEVISION

Unit F-18

April 2, 2018

## BID TABULATION

ITEM	DESCRIPTION	Quantity	Units	Green Bay Pipe & TV, LLC		Northern Pipe, Inc		Speedy Clean Drain & Sewer		Diversified Infrastructure	
				Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
1.	Sanitary Sewer Cleaning	225,000	lin. ft.	\$0.32	\$72,000.00	\$0.40	\$90,000.00	\$0.70	\$157,500.00	\$0.90	\$202,500.00
2.	Sanitary Sewer Televising	225,000	lin. ft.	\$0.31	\$69,750.00	\$0.38	\$85,500.00	\$0.60	\$135,000.00	\$0.75	\$168,750.00
3.	Storm Sewer Cleaning	115,000	lin. ft.	\$0.32	\$36,800.00	\$0.45	\$51,750.00	\$0.70	\$80,500.00	\$0.90	\$103,500.00
4.	Storm Sewer Televising	115,000	lin. ft.	\$0.32	\$36,800.00	\$0.38	\$43,700.00	\$0.60	\$69,000.00	\$0.75	\$86,250.00
5.	6" Sanitary or Storm Sewer Cleaning	1,000	lin. ft.	\$0.35	\$350.00	\$0.42	\$420.00	\$0.70	\$700.00	\$0.90	\$900.00
6.	6" Sanitary or Storm Sewer Televising	1,000	lin. ft.	\$0.35	\$350.00	\$0.42	\$420.00	\$0.60	\$600.00	\$0.75	\$750.00
7.	Lateral Televising (Storm or Sanitary)	60	each	\$125.00	\$7,500.00	\$175.00	\$10,500.00	\$98.00	\$5,880.00	\$195.00	\$11,700.00
8.	Stormceptor Cleaning & Inspection	1	each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$2,440.00	\$2,440.00	\$3,625.00	\$3,625.00
				\$224,550.00		\$283,290.00		\$451,620.00		\$577,975.00	



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

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**PARKS, RECREATION & FACILITIES  
MANAGEMENT**

**Dean R. Gazza, Director**

1819 East Witzke Boulevard

Appleton, Wisconsin 54911-8401

(920) 832-5572 FAX (920) 993-3103

Email - [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org)

**To:** Utilities Committee

**From:** Dean R. Gazza, Director of Parks, Recreation and Facilities Management

**Date:** April 10, 2018

**Re:** Action: Request to sole source contract to Patrick Engineering for a contract fee of \$130,000 and a contingency of 10% for professional services needed to complete the Wastewater Electrical Distribution Upgrades Phase 2 for a contract not to exceed \$143,000.

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This memo is a request to sole source a contract to Patrick Engineering to fully design and create construction documents for the Wastewater Electrical Distribution Upgrades Phase 2 project. In moving forward with Phase 2 of the Electrical Distribution Project Patrick Engineering provided a detailed proposal of the work that is proposed with a competitive project fee of \$130,000 which equates to a project fee of just 7.6%. The Phase 1 project fee was 7.7%, which remains competitive.

The 2018 Capital Improvement budget allocated monies to perform engineering services for the Wastewater Plant Electrical Distribution Phase 2 Engineering. This will be the second construction phase of a multi-phase project to upgrade the aging electrical distribution equipment. Most of the equipment is over 40 years old and is at the end of its estimated and useful life.

In 2016 we solicited proposals from professional consulting firms to create an electrical distribution system feasibility analysis and master plan for the Wastewater Treatment Plant. Through the selection process, Patrick Engineering was awarded the contract. Then again in 2017 we solicited proposals from professional consulting firms to fully design, create construction documents, and construction administration services. Through the selection process, Patrick Engineering was awarded the contract.

Patrick Engineering has as unsurpassed knowledge of the current electrical system from the two previous projects and the design work completed to date. Based upon Patrick Engineering's previous experience along with the proposals and selection process from the two previous years, we are requesting sole sourcing Wastewater Electrical Distribution Upgrades Phase 2 professional services to Patrick Engineering in the amount of \$130,000 with a contingency of 10% only to be utilized as needed. We believe that our choice of Patrick Engineering will ensure that the investment is fully maximized based on their past work and continued continuity throughout a highly complex and technical project.

Please feel free to contact me at 832-5572 with any questions, or by email at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org).





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**PARKS, RECREATION & FACILITIES  
MANAGEMENT**

**Dean R. Gazza, Director**

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(920) 832-5572 FAX (920) 993-3103  
Email - [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org)

**To:** Alderpersons

**From:** Dean R. Gazza, Director of Parks, Recreation and Facilities Management

**Date:** April 26, 2018

**Re:** 2018 Sustainability Annual Update

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The City of Appleton completed numerous sustainability initiatives during this past year including updating the Sustainability Plan, adopting a Health in all Policies Ordinance, approving Sustainability Resolution #21-R-17, adopting the updated Comprehensive Plan, developing a Trail Master Plan and updating the downtown parking study.

All of these initiatives have significant impacts on Sustainability throughout the City of Appleton. These initiatives and many more are captured and reported within the attached documents below.

- 2018 Update - City of Appleton Sustainability Plan (Creating a Sustainable City)
- 2017 Green Tier Legacy Community Annual Report
- 2017 Green Tier Legacy Community Sustainable Strategies Scoresheet
- 2018 Sustainability Summit Memo

As a Green Tier Legacy Community we remain proactive in our commitment to sustainability. In the Sustainability Strategies Scoresheet we improved our overall score from 362 to 382 for 2017. Adopting the Health in all Policies Ordinance, obtaining Silver Level certification by the League of American Bicyclists and becoming a Bird City were the main reasons for this increase in overall score. Please refer to the 2017 GTLC Annual Report for a full list of achievements during 2017. Note that this past week the City of Appleton was recognized as one of the Greenest Cities by Insurify whom looked at vehicles in regards to how our citizens choose to drive, the vehicles they choose and how they drive them recognizing that we have a appreciably lower average household carbon footprint.

Last, please find a memo summarizing the attendance at the 2018 Sustainability Summit. In addition, we are currently in the process of dedicating a Sustainability link on the City of Appleton web site with the attachment above.

Please feel free to contact me at 832-5572 with any questions, or by email at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org).



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**PARKS, RECREATION & FACILITIES  
MANAGEMENT**

**Dean R. Gazza, Director**

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(920) 832-5572 FAX (920) 993-3103  
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**To:** Alderpersons

**From:** Dean R. Gazza, Director of Parks, Recreation and Facilities Management

**Date:** April 16, 2018

**Re:** 2018 Sustainability Summit and Exposition

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The 2018 Sustainability Summit and Exposition was held on April 11-12 at the Milwaukee Area Technical College. This year's theme was "Moving Toward a Sustainable Economy – Engaging our Future Leaders."

Both days were kicked off by local leaders including Mayor Tom Barrett, City of Milwaukee and Chris Abele, Milwaukee County Executive. Both talked about their support for Sustainability within their organizations and shared their political viewpoints.

A variety of breakout sessions were held throughout the two days also. Though not always specific to cities, they all provided many transferable themes and ideas for any organization. The programs I attended included:

- Living, Learning, Leading: Why Sustainability Matters to Colleges & Universities in Milwaukee.
- GreenPath: Stewardship at Miller Park
- Towards a World Class Eco-City: How Milwaukee's Local Governments Support Sustainability
- Finding Your Sustainability Style – A Storytelling Session
- Disclosure Effect: Evidence from Public Building Energy Consumption
- Intelligent Economic Growth: Making the Case for a Sustainable Economy
- Sustainable Business Operations in Practice
- Energy Technologies Update



The main takeaway that I was left with and proud to say is that the City of Appleton is doing more than most organizations. There is a lot of talk and not as much action for many organizations.

I jotted down a couple quotes that I felt mirror the City of Appleton's approach:

"Carbon emission reduction is not our mission. We have a mission statement for the college. Instead our focus is on how much energy does it take to accomplish our mission and how do we reduce that". – Kate Nelson, Chief Sustainability Officer, University of Wisconsin – Milwaukee

"Sustainability is driven into our core. It's not a side pet project. It comes from leadership and says who we are. It doesn't have to have sustainability in its title to be sustainable". – Ginny Routhe, Sustainability Manager, Milwaukee Area Technical College

I wanted to learn more about what others were doing in the area of renewable energy, so I am especially interested in any emerging trends. The use of solar panels continues to be of interest, but it was stated that incentives are minimal or non-existent, thus finding it hard to justify the investment in many cases. In regards to wind, there is not a return on investment and the sentiment was that in a public setting the use of public money could not be justified. One speaker noted that when someone wants to install solar panels, he first asks them if their lighting, insulation and windows, etc. have been upgraded; noting that everyone wants to do the most noticeable projects over what make the most common sense!

With regard to the topic of Global Warming or Climate Change, there continues to be debate, but what was agreed upon was that the population of the earth is currently around 7.5 billion people and will grow to about 11.2 billion by 2110. In regards to how countries are responding, the United States is not implementing various technologies or policies at the level some are. One speaker shared his disappointment over the EPA rollbacks at the federal level and recent changes at the state level including the elimination of Energy Star in the most recent state budget.

Last, I was able to talk to various vendors and other attendants about their initiatives specifically with regard to using technologies to reduce energy consumption. In addition, I connected with a past colleague from The Wisconsin Association of Energy Engineers who inquired about the City of Appleton hosting a meeting at the Wastewater Plant this upcoming July.

Overall, the conference was beneficial. I was disappointed that we were the only City and/or County in attendance other than Milwaukee. Much of the focus was on Energy Reduction, whereas Sustainability is much broader including transportation, health, food supply, economic development, water, stormwater, green spaces, etc. Hopefully, this will be expanded in the future at this conference.

Please feel free to contact me at 832-5572 with any questions, or by email at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org).



# Creating A Sustainable City

A Master Plan to Move the City of Appleton Towards Sustainability

2018 Update

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## SECTION 1:

### Introduction — The Issue.

From concerns over climate change, to drought-related water shortages, to air quality, society faces serious environmental issues locally, regionally, nationally and globally. These issues will affect the quality of life today and for generations to come.

There is a growing body of evidence that a shift in human behavior is necessary to counter the tides of over-consumption and environmental degradation; and work for a better future for ourselves, our children and the numerous species that share our planet. Our existing economic systems, agricultural systems and automobile-oriented infrastructure are inherently unsustainable.

#### DEPENDENCE ON NON-RENEWABLE RESOURCES

Our economy and lifestyle is dependent on vast supplies of non-renewable resources, primarily derived from fossil fuels. As these resources are consumed, they will become increasingly scarce and more expensive, thus increasing operating budgets and affecting the quantity and quality of services provided. We must plan for this eventuality to prevent a crisis in supply vs. demand. In addition, reducing our dependence on non-renewable fossil fuels reduces greenhouse gases and gives us greater energy independence.

#### OVER & EXCESSIVE USE OF NATURAL RESOURCES

We are using some renewable resources faster than nature can replenish them. Examples of this are consumption of water, lumber, wood and paper products, over fishing and soil depletion. Over-consumption of some renewable resources potentially could cause damage and collapse of some ecosystems.

#### POLLUTION

Unintended by-products of manufacturing, consumption, and combustion of resources end up in our air, water, soil, and food. Many of these by-products are toxic. Material from consumption is left over as "waste" and buried in landfills. This leads to numerous negative impacts, including consumption of valuable land for landfills, pollution of that land and associated lands and waters with potentially toxic materials, and removal of resources (such as carbon and nitrogen) from natural cycles. Our existing economic systems, built environments and cultures are inherently unsustainable. Achieving sustainability in contemporary times will require a major paradigm shift, essentially reversing long-standing trends of consumption and traditional development, and changing our philosophies and behaviors.

## SECTION 2:

### What is Sustainability?

Sustainability is a broad term that generally means a community or society lives within the means of what the Earth can provide over a long term. When a process is sustainable, it can be carried out over and over without negative effects on the environment or without high costs. The definition of Sustainability for the purposes of this Master Plan is:

“Sustainability meets the needs of the present without compromising the ability of future generations to meet their own needs.”

— United Nations World Commission on Environment and Development.



A sustainable society does not rely extensively on non-renewable resources as a basis for its economy. A sustainable society reduces consumption of renewable resources to levels that can be replenished by nature.

The “Triple Bottom Line” is a common theme for decision-making in a sustainable society. The Triple Bottom Line refers to the consideration of economic stability, environmental sustainability and social equity aspects of a particular decision.

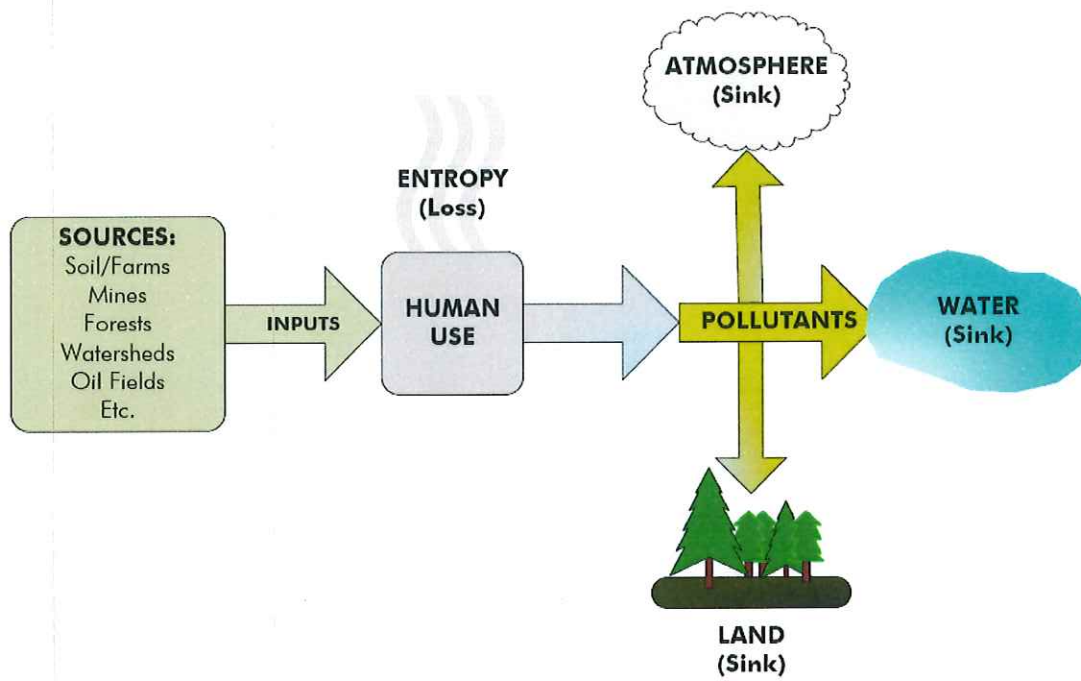
A sustainable society uses non-toxic and/or biodegradable materials and products and develops “cradle-to-cradle” processes to replace “cradle-to-grave” conventional processes of post-industrial society.

In a “cradle-to-grave” process, materials are moved in a linear fashion rather than through one of nature’s endless cycling and recycling processes. The linear process moves materials that support life from their sources through human consumption that ultimately pollute the sinks (atmosphere, rivers, lakes, ocean, and landscape). Eventually, this one-way process also depletes and destroys the natural landscape on which it depends.

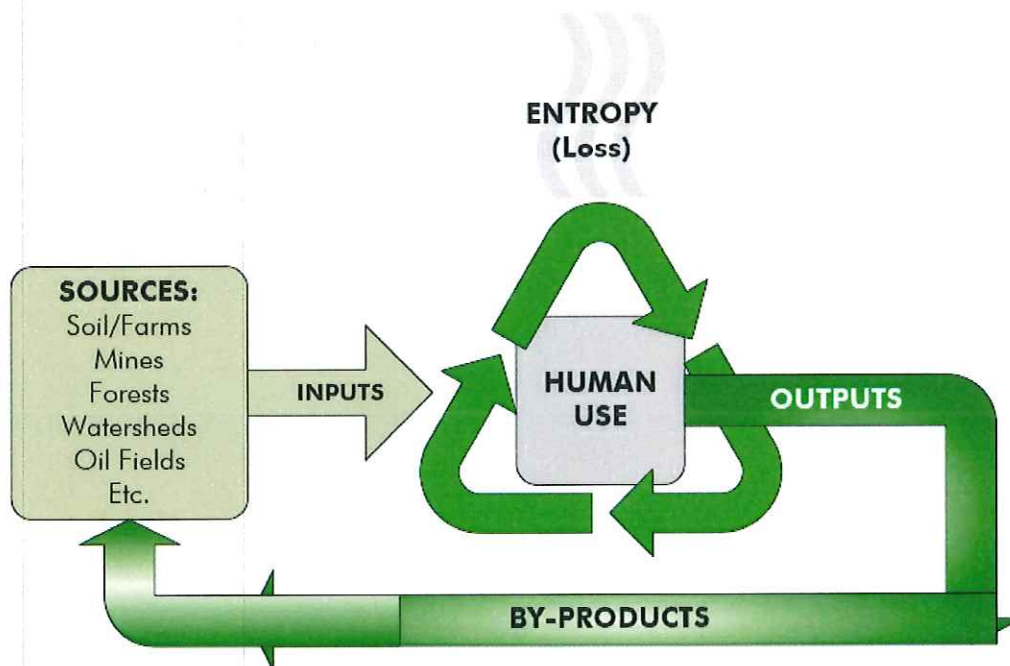
A sustainable or “cradle-to-cradle” process is one that is continually self-renewing. Linear one-way processes must be replaced by cyclic flows, continually regenerating materials that support life. The two diagrams on the next page graphically represent the “cradle-to-grave” and the “cradle-to-cradle” concepts.



## "CRADLE-TO-GRAVE"



## CRADLE-TO-CRADLE"



## SECTION 3:

### Creating a Sustainable City

#### Why a Sustainability Master Plan?

As a major landowner, employer, building manager, fleet operator, utility owner and operator, consumer of goods and services, and service provider, the City of Appleton has both the opportunity and the capacity to bring about significant improvements in environmental quality in and around the region.

By integrating environmentally sustainable practices into City policies, procedures, operations, and fostering collaboration across City government, the City's Sustainability Master Plan- *Creating a Sustainable City*, will work to protect and enhance the quality of life for present and future generations in the City of Appleton. Leading by example, the Sustainability Master Plan promotes responsible management and effective stewardship of the City's built and natural environments; transforming the City of Appleton into a model government agency that is clean, healthy, resource-efficient, and environmentally conscientious.

What are some things the City can do?

- Practice "Conservation"
- Practice "Restorative Redevelopment"
- Increase the resource efficiency of City facilities.
- Reduce pollution from City vehicles.
- Build and Buy Green.
- Work towards reducing Greenhouse Gas Emissions.
- Reduce the City's use of pesticides.
- Protect and restore the City's Urban Waterways.
- Promote Environmental Stewardship.
- Encourage City employees to drive less.
- Improve and optimize Transportation/Multimodal Infrastructure.
- Improve and expand the City's Green Infrastructure.

Moving towards sustainability will require a new consciousness and commitment to do things differently. It will require the City to: (1) develop new programs and/- or change existing programs, (2) establish new priorities, (3) commit resources to sustainable causes, and (4) collaborate with other jurisdictions within the region to achieve sustainability.

The strategy for moving the City of Appleton toward sustainability focuses first on changes the City has control over. The City has the most control over its internal operations. In addition, the City has jurisdiction over changes to the built environment (land use, infrastructure, and building materials and systems through permitting) within its boundaries.

The Sustainability Master Plan is intended to be a means for creating a sustainable community, not an end. The plan is a roadmap to guide future operational and policy decisions. To proceed in a sensible way to change long-standing environmental practices, it is necessary to develop focus areas, goals, and targets to be achieved.

This Master Plan (Plan) provides the policy framework for how the City will operate in a sustainable manner over the next generation. This Plan also has the potential to:

- Increase local and regional job production, thus keeping money in the Appleton regional economy;

- Reduce health care costs, and
- Create public/private partnerships.

The City's Goals and Targets are common to many municipalities within the State, thus having a clearly stated intent the City will be able to create these partnerships to implement this plan.

## SECTION 4:

### How to Read this Document.

The Sustainability Master Plan is meant to serve as a operating framework for the City of Appleton to ensure sustainability concerns are incorporated into the City's decision-making processes.

The Focus Areas, Goals, and Targets are based on the following Operating Principles:

1. The City will include fiscal responsibility and environmental sustainability in its decision-making processes.
2. The City of Appleton intends to conduct its business in a way that increases the sustainability of this and future generations.
3. The City will use its jurisdiction over the built environment (land use, infrastructure, and building permits) to improve the sustainability of the City.
4. The City will adopt a General Plan that contains key sustainability policies and practices, and recognizes direction provided by this Plan.
5. The City will be a leader and advocate for sustainability efforts at the regional, state, and federal level.

Sustainability for the City of Appleton has been separated into ten Focus Areas. This Plan are comprised of one-page summaries of each Focus Area. Each summary page includes:

Background: Why the City should be concerned about the Focus Category.

Goals: A concise description of the City's objectives that reflects the City's values regarding sustainability.

Targets: Measureable and achievable targets will ultimately be developed to correspond to each Goal. Progress by year is listed annually. When feasible, targets will indicate "the measure" of what improvements has occurred.

Note: This plan does not covert energy savings and/or improvements to CFC's. Though this can be a means of measuring reductions in carbon gas emissions, the conversion factors are arbitrary and estimated. For the purposes of this plan measurements utilized are those than can be accurately accounted such as therms, kWh's, miles, etc.

References:

This sustainability plan is not intended to duplicate the myriad of sustainable efforts City-Wide. Please reference these additional documents for additional resources outlining the comprehensive umbrella of the City's sustainable goals and achievements.

1. City of Appleton Comprehensive Plan
2. City of Appleton Trail Master Plan
3. Health in all Policies Ordinance
4. Parking Study
5. Complete Streets Policy
6. Methane Gas Utilization Plan
7. City of Appleton Strategic Plan
8. Departmental Strategic Plans

# 1. Energy Independence

**Background:** The United States is dependent on foreign oil; the country imports 60% of its supply and that percentage increases each year. World demand for oil continues to increase each year. Oil supplies are finite and at some point will decline. These facts could eventually translate into a worldwide shortage of gasoline and diesel fuels, negatively affecting the federal trade deficit, harming local job creation, and increasing national security concerns. In addition, the use of carbon based fossil fuels creates greenhouse gas emissions.

It is estimated that it will take many years to transition from a fossil fuel economy to a renewable fuels economy. This time lag between the demands and supply of fuel technology and availability could create challenging market conditions. A gradual transition towards renewable energy is prudent, recognizing that technological advances in renewable energy sources are encouraging.

The City must continue to support more sustainable land use patterns such as transit-oriented development (TOD), green building design, energy efficiency, alternative transportation options and the use of renewable energy sources for both public and private developments and support local and regional job creation through development of renewable energy production facilities.

## **Goals:**

1. Significantly reduce the use of fossil fuels.
2. Improve the availability of locally and regionally produced renewable energy.
3. Improve overall energy efficiency.
4. Reduce peak electrical demand.
5. Replace or renovate obsolete systems, structures, etc. that conflict with this sustainability plan (buildings, facilities, systems, vehicles fleets, etc.).
6. Encourage and recruit green technology companies to locate in the City.

## **Targets:**

1. Reduce energy consumption (electricity, natural gas, motor fuels) of City facilities on a unit basis to a level lower than the year before.

## **Actions:**

1. Remain and actively participate as a WI Green Tier Legacy Community.

Green Tier Legacy Communities demonstrate leadership in improving the economy, the environment and the quality of life in their communities. Moving forward, we will be continuously working to increase the number of municipalities participating in this innovative program.

1000 Friends of Wisconsin announced the formation of the Charter in December 2010. It was signed by the DNR; 1000 Friends of Wisconsin; League of Wisconsin Municipalities; Municipal Environmental Group – Wastewater; Center on Wisconsin Strategy and Wisconsin Energy Conservation Corp. They aligned their efforts in support of Sustainable Community development.

Communities participating in the charter will have direct access to a Wisconsin DNR resource team that will provide technical assistance to communities and act as a single point of contact for all interactions between the community and the department. Other nongovernmental partners in the charter will also provide technical assistance to participating communities.

- 2010 - The City of Appleton became one of the first five Communities to become a Green Tier Legacy Community in Wisconsin.
- Annually – The City of Appleton attends or hosts meetings for Green Tier.
- Annually – The City of Appleton provides a report and report card to Green Tier.

2. Adopt and begin to implement a City Wide on-street bike lane plan.

- 2010 - Common Council adopted Appleton's On-Street Bike Lane Plan (September, 2010). To date 7.83 centerline miles of bike lanes were implemented.
- 2012 – Installed bike lanes on Newberry Street.
- 2012 – Installed bike routes on Packard Street.
- 2012 – Installed bike routes on State Street.
- 2012 – Approved design to “Road Diet” Ballard Road from 4 lanes to 3 lanes and add bike lanes when road reconstructed in 2013. Also added 0.83 miles of side-paths on Ashbury Drive.
- 2014 – Added 1.0 mile of new bike lanes as part of City's On-Street Bike Lane Plan.
- 2014/2015 – 1.94 centerline miles of bike lanes installed. Also added 0.67 miles of side-paths on Apple Hill Boulevard.
- 2015 – Added 2.0+ miles of new bike lanes (Badger Avenue) as part of the City's On-Street Bike Lane Plan. Also added 0.37 miles of side-paths on Newberry/Riverheath Drive.
- 2016 – Added 1.25 miles of new bike lanes (John Street) as part of the City's On-Street Bike Lane Plan
- 2017 – Added 1.27 miles of new bike lanes (Eisenhower Drive, Lawrence Street and CTH JJ) and 1.77 miles of shared use lanes (Washington Street, Drew Street, Franklin Street and Water Street) as part of the City's On-Street Bike Lane Plan. Also added 1.09 miles of side-paths on CTH JJ and Eisenhower Drive.

3. Replace all city-owned street light with LED fixtures.

- 2012 – Retrofitted 50 HPS street lights to LED lights.
- 2013 – Have 810 city-owned lights of which 280 are now LED.
- 2017 – Have 1094 city-owned lights of which 680 are now LED.
- 2017 – Worked with We Energies to convert 315 leased lights to LED.

4. Install GPS units on 100 CEA vehicles.

- 2012 – Purchased (10) additional GPS units to monitor vehicle idling and improve vehicle routing.

- 2013 – Total of 27 CEA vehicles equipped with GPS to minimize travel times.
  - 2017 – Total of 108 CEA vehicles equipped with GPS units.
5. Utilize methane expelled from the Wastewater Treatment Plant process to heat the facilities.
    - 2011 Installed (2) methane boilers and a storage tank which utilized the expelled methane as fuel to heat facilities versus the purchase of natural gas from the utility.
    - 2017 Working with engineers to analyze and design a third methane boiler.
    - 2017 Engineering an additional high efficiency turbine that will ensure a reduction of 180 kW at the facility. This will be a second high efficiency turbine installation.
  6. Reduce electrical consumption in City facilities.
    - Annually – Since 2005 have reduced kWh's by 35.4 million.
    - Annually – Manage peak demands at facilities. Facilities Management and Operations Staff have been trained.
    - Annually - Water Treatment Facility is projected to reduce electrical by 15% in 2017. The reduction is a result of the addition of the ultraviolet light process. This reduction equates to 970,000 kWh annually.
  7. Reduce natural gas consumption in City facilities.
    - Annually – Since 2005 have reduced kWh's by 1.67 million therms.
    - Annually - The water plant is expected to reduce gas usage by 27% in 2017. This equates to a reduction of 48,000 therms. This change in use is a result of the transition to the ultraviolet light process.
  8. Reduce motor fuel consumption in City facilities.
    - 2015 – Purchased new style garbage truck chassis that is more fuel efficient.
    - 2015 – Implemented an automatic idle reduction program for all heavy trucks (Class 7 & 8).
  9. Analyze alternative fuel sources for CEA fleet.
    - New vehicles purchased are E85 compatible.
    - Met with propane supplier to analyze feasibility of using propane for refuse vehicles.
    - Met with Compressed Natural Gas supplier to analyze feasibility of using CNG for CEA fleet vehicles.
  10. Evaluate opportunities for employees to work from home (Certain staff were approved to work from home).
    - 2016 –Community & Economic Development
    - 2017 – Department of Public Works

## 2. Climate Protection

**Background:** Human activities may be altering Earth's climate by emitting greenhouse gases such as carbon dioxide into the earth's atmosphere. Some believe that over the next century the earth's average temperature will increase between 2° F and 10° F. Predicted local impacts under this scenario include, but are not limited to the following:

- Heat waves will be more intense, will occur more frequently, and will be sustained for longer periods.
- Since more precipitation will fall as rain rather than snow, the risk of winter flooding may increase.

We are already committed to addressing climate change, however, the sooner we act, and the more we do, the better the outcome. The City has greatest control over its own operations, however, there is potential for the greatest emissions reductions through the City's jurisdiction over the built environment. Furthermore, by providing a positive example of what can be accomplished, the City may influence other jurisdictions to achieve their own climate protection goals. However, the second leg of the "Triple Bottom Line", economic stability must be considered when determining the voracity at which climate impacting decisions are made.

### **Goals:**

1. Reduce Greenhouse Gas Emissions through Goals, Targets and Actions as outlined in the other (9) Focus Areas of this plan.



### 3. Air Quality

**Background:** Air quality is a major environmental health issue for Appleton, particularly in the summer when an inversion layer traps pollutants close to the ground. Vehicles and other mobile sources powered by combustion (such as lawnmowers) cause 70% of our air pollution. Although ozone in the upper atmosphere protects us from harmful ultraviolet rays, at the ground level it is an irritant that causes the eyes to burn, and it can damage lung tissue. Other problematic air pollutants include carbon monoxide, hydrocarbons, sulfur dioxide, and oxides of nitrogen (NOx).

The air quality in the Appleton region has likely improved in the last decade due to cleaner cars, reformulated gasoline, vapor recovery systems on gasoline dispensers, and state and federal regulations for solvents in paints and other consumer products. However, in the future the combined impact of more people, more cars, and more hot days due to global warming will make meeting air quality standards a greater challenge.

It is expected that our community will continue to grow. If present trends continue, residents will drive many more miles annually and spend more time in their cars, which will have a negative effect on air quality. In addition, the increase in energy demand accompanying projected population increases will create the demand for additional power plants; this will further threaten our air quality.

#### **Goals:**

1. Encourage City Employees to drive Internal Combustion Engine (ICE) powered vehicles less and engage in clean air practices.
2. Utilize fuels that are friendly to the environment.

#### **Targets:**

1. Reduce sulfur levels in diesel and gasoline fuels, concurrent with using advanced emission controls on all buses and fleets to reduce particulate matter and smog-forming emissions from those fleets when economically feasible.
2. Reduce vehicle idle times and consider efficiencies in operation of equipment utilizing gasoline fuels.
  - Annual - Employees are trained on taking direct routes to work sites.
  - Annual - Mowing is limited to areas that are high in early and late season.
  - Annual - Workers and equipment have been stationed closer to work sites and work out of three different sites reducing fuel consumption and emissions.
  - 2015 – Implemented an automatic idle reduction program for all heavy trucks (Class 7&8).

#### **Actions:**

1. Increase the quantity of bike paths, bike storage, etc.
  - 2010 – Common Council adopted Appleton's On-Street Bike Lane Plan (September, 2010).

To date 7.83 centerline miles of bike lanes were implemented.

- 2011 - Added fenced area for employees to park bikes within the Blue Ramp.
- 2012 – Installed bike lanes on Newberry Street.
- 2012 – Installed bike routes on Packard Street.
- 2012 – Installed bike routes on State Street.
- 2012 – Approved design to “Road Diet” Ballard Road from 4 lanes to 3 lanes and add bike lanes when road reconstructed in 2013.
- 2013 - Added Apple Hill Trail (0.75 miles)
- 2013 – Installed bike posts as part of the Houdini Park Project. Working with Lawrence University students to design and fabricate bike posts to be installed in Soldier Square and Library parking lot.
- 2014 – Added 1.0 mile of new bike lanes as part of City’s On-Street Bike Lane Plan.
- 2014/2015 – 1.94 centerline miles of bike lanes installed.
- 2015 – Added 2.0+ miles of new bike lanes as part of the City’s On-Street Bike Lane Plan.
- 2016 - Added Bike Fix-It Station at Library. Donated by ADI and Fox Cities Cycling Association.
- 2016 – Added 1.25 miles of new bike lanes as part of the City’s On-Street Bike Lane Plan (John Street).
- 2016 – Adopted a Complete Streets Policy in July, 2016.
- 2016 – Created the Fox Trot Trail connecting downtown to the riverfront.
- 2017 - Acquired (3) Train Trestles to covert to trails. Two will be connecting trails.

2. Install additional sidewalk to provide alternative means of transportation resulting in less creation of carbon dioxide emissions.

- 2012 – Reconstructed/repared \$600,000 of sidewalk to maintain our walkable community.
- 2012 - Total of 0.5 mile of new sidewalk added.
- 2013 - Total of 1.0 mile of new sidewalk added.
- 2014 – Total of 3.0 miles of sidewalks added along Apple Hill Boulevard, Meade Street, Plank Road and Richmond Street.
- 2014 - Implemented City’s new Sidewalk Poetry Program
- 2015 - Total of 1.0 mile of new sidewalk added along Glendale Avenue and other locations.
- 2015 - Implemented second year of City’s new Sidewalk Poetry Program
- 2016 - Implemented third year of City’s new Sidewalk Poetry Program
- 2016 - Pedestrian improvements constructed along Midway Road.
- 2016 - Constructed Jackman Street stairs connecting Prospect Avenue to Water Street.
- 2016 - Completed Downtown Mobility Study approved by Council in August, 2016.
- 2016 - Total of 1.0 mile of sidewalk added along Lake Park Road, Plank Road and other locations.
- 2017 - Implemented fourth year of City’s new Sidewalk Poetry Program
- 2017 - Total of 1.0 mile of sidewalk was added along Edgewood Drive and various other locations, for a total of 444 miles of sidewalk.

3. Install bike racks in downtown area.

- 2014 – Converted one parking stall for an on-street bike corral at 231 E. College Avenue during the non-winter months.
- 2015 - Added fenced area for employees to park bikes within the Blue Ramp.
- 2016 – Added bike posts on the State Street bump out south of College Avenue.

- 2016 – Placed bike rack on the bump out at the Johnston/Morrison intersection.
  - 2017 – Collaboration with Lawrence University on their class “Environmental Studies 300: Bicycling & Sustainable Communities” Class project deliverables are (1) Count bike parking facilities in the downtown, (2) Map bike parking facilities, (3) Draft survey about bike parking for downtown business owners.
4. Obtain designation of being a Bicycle Friendly Community by the League of American Bicyclists.
    - 2013 – Obtained designation of Bronze Level.
    - 2017 – Obtained designation of Silver Level.
  5. Analyze the potential for incentives provided to downtown parking for those driving hybrid or low emission vehicles.
  6. Analyze the potential for the procurement of hybrid or low emission vehicles.
    - 2012 – Purchased two hybrid Ford Fusions to replace traditional gas-powered staff vehicles.
  7. Optimize traffic signals throughout the City.
    - 2013 – Optimized signal phasing and timing at the Ballard/Capital/Glendale intersections.
    - 2017 - City partnered with Outagamie and Calumet Counties on a signal optimization project for the Calumet Street corridor.
  8. Modify City Ordinance to eliminate minimum parking stall requirements.
    - Annually – Development Projects located within the Central Business District Zoning are not required to install off-street parking spaces. Regulation 23-172 (d)(1) is enforced.

## 4. Material Resources

**Background:** Landfills have historically been the lowest cost alternative for eliminating waste, however many factors are causing this traditional method to become less attractive:

- Global warming: decomposing organic waste emits carbon dioxide and methane from landfills, both negatively affect global warming
- Diminishing resources; many useable, valuable resources are now buried in existing landfills
- Overuse of non-renewable resources: improved recycling can reduce stress on renewable resources and increase the life of existing landfills
- Land values: Landfills consume valuable land and diminish surrounding land values
- Transportation costs: Increased regulation and land values combine to cause many cities to ship their waste to landfills hundreds of miles away
- Energy production: The energy content from a typical residential waste stream could possibly provide 25 to 50% of a home's energy needs
- Water quality: Rain and landfills combine to create leachates, which can cause local groundwater contamination concerns

In addition, the use of toxic materials to meet the needs of citizens and businesses frequently causes unintended consequences; e.g. mercury in fish and DDT causing a decline in bird birth rates. Recycling and composting are more sustainable alternatives to landfills. Both reuse materials that would otherwise be wasted. Recycling is economical, saves energy, metals and forests.

### Goals:

1. Reduce consumption.
2. Encourage the reuse and local recycling of materials.
3. Reduce the use of pesticides and other toxic materials.

### Targets:

1. Implement an Environmentally Preferred Purchasing (EPP) policy which may include bid preferences to suppliers that meet minimum sustainability criteria as defined by the City of Appleton.
2. Reduce the use of pesticides in City parks and facilities relative to an established baseline year.
3. Work to reduce the use of disposable, toxic, or non-renewable product categories within the City limits.

### Actions:

1. Increase fees for 35, 60 and 90 gallon residential refuse containers.
  - 2011 - Fees last increased.
2. Maximize landfill diversion given reasonable cost effectiveness of constraints.
  - 2012 – Recycling containers placed in all City parks.

- 2013 – Worked with stakeholders to maximize landfill diversion given reasonable cost effectiveness of constraints. City increased diversion rate from 18.8% to 21.7% with the implementation of new 96 gallon automated recycling cart program.
  - 2014 – Purchased and delivered smaller recycling cart option for interested residents.
  - 2014 – Purchased automated recycling carts for College Avenue in Downtown area.
  - 2015 – Purchased 10 additional automated recycling carts for College Avenue in Downtown area.
  - 2016 - Diversion rate increased to 23.7%
3. Develop a process to provide City's leaf mulch to organizations, groups, etc. that are gardening and potential for satellite locations in neighborhoods to have these materials available for better convenience and transport.
- DPW has provided wood chips and mulch for Rock the Block over the past several years.
4. Reuse City storm damaged and disease damaged trees as playground and landscape mulch.
- Annually – utilize mulch from damaged trees. Have used on playgrounds and various landscaping.
5. Utilize biosolids-compost to reduce the use of petroleum based fertilizers.
- Annually – utilize biosolids compost produced by the Wastewater Plant process in applications to reduce fertilizer usage. Have utilized to top dress the City's athletic fields.
  - 2017 – WDNR recognizes City with a biosolids composting permit. This is the only facility in the state that operates a biosolids composting facility.
  - 2017 RFP development for preliminary study of a City owned biosolids compost facility.
6. Work with stakeholders to Investigate the potential to recycle other plastics not currently collected curbside (i.e. #5, most prevalent).
- 2013 – Worked with Outagamie County and stakeholders towards a capital project to add new plastics and cartons to their recycling stream with a targeted implementation in 2014.
  - 2017- All plastic bottles and containers are now accepted as part of the County's residential recycling program.
7. Implement an Environmentally Preferred Purchasing (EPP) policy which may include bid preferences to suppliers that meet minimum sustainability criteria as defined by the City of Appleton.
- 2010 – Updated Procurement and Contract Management Policy to include Environmentally Preferable Procurement guidelines.
8. Reduce the use of pesticides and herbicides in City parks and facilities relative to an established baseline year.
- 2008 – A Turf Management Policy was approved by Common Council to manage the use of chemicals to manage City turf. Several reductions have occurred since to minimize the use of

pesticides and herbicides on parkland and at Reid Golf Course. There is no specific measurable for this at this time. Note that phosphorus is no longer being utilized.

## 5. Public Health and Nutrition

**Background:** The City currently has wellness programs, community gardens, trails and exercise facilities. By improving public health, health care costs can be reduced, thus assisting to improve overall City quality of life.

Recent research has connected public health and smart growth. A report for the US Green Building Council concludes that such smart development factors such as density, mix of uses, access to recreation facilities and even population and income diversity can be directly related to improved health and fitness of the population.

### Goals:

1. Improve the health of residents through access to a diverse mix of wellness activities and locally produced food.
2. Promote “greening” and “gardening” within the City.
3. Create “Healthy Urban Environments” through Restorative Redevelopment.

### Targets:

1. Annually, identify one product, chemical or compound that is used within the City that represents the greatest risk to human health and adopt a policy and provide incentives to reduce or eliminate its use by City Operations.
2. Work to maximize the quantity of roads in the City that are “Complete Streets,” efficient and safe for all modes of travel.
  - 2015 – Badger Avenue complete street project completed in 2015.
  - 2016 – Adopted a Complete Streets Policy in July, 2016.
  - 2016 – John Street complete street project completed in 2016.
  - 2017 – Lawrence Street complete street completed in 2017.
  - 2018 – S. Oneida Street complete street project will be constructed in 2018.
3. Redevelop or rehabilitate areas within the City or aged city facilities based on old, wasteful and/or dysfunctional designs to achieve better results for people and the environment.
  - Ongoing – continue to update Facilities Management Master Plan to address facility deficiencies.
  - Ongoing – continue to update work environments and work stations as budget allows for City employees.
  - Annually – ARA was established in 1972 to promote Urban Renewal & Eliminate Blight. Initiatives/projects include: RiverHeath, Foremost – Eagle Point, Eagle Flats, Eagle Plastics & Supply, Union Square Apartments and Woolen Mills.

4. Work with community partners to ensure each neighborhood in the City has safe and efficient access to quality food sources and vendors.
  - 2016 - Provided continued support to Riverview Gardens which includes 15 acres of certified organic farmland with 20 passive solar greenhouses providing locally grown, healthy produce through Community Supported Agriculture (CSA) shares, as well institutional and retail sales. The urban farm supports job training, youth programming and community volunteers.
  - Ongoing – Partnership with Appleton Downtown Incorporated for a successful farm market.
  - Annually – Economic Development Strategic Plan includes this initiative.
5. Work to maximize the number of amenities (e.g. Park, Restaurant, Grocery, Shops, and Theatre) that are located within ½ mile of all residents. Ultimately all Citizens should have walkable access to six or more amenities.
  - 2010 - The Comprehensive Plan reviewed service area for parks identifying service area needs. Four areas were considered inadequate. In some cases areas may be served by schools. We continue to monitor opportunities for future opportunities.
  - 2010 – Purchased home in Arbutus Park and razed it adding to the parkland and access.
  - 2017 - Purchased two homes in Memorial Park per Parks Master Plan.
  - 2017 - Updated Comprehensive Plan and which covers ways to maximize amenities.
6. Promote and support community gardening. In addition research and identify potential, feasible "Market" garden sites (2 acres max.)
  - 2012 – Assisted COTS in security a significant grant for Riverview Gardens.
  - 2013 - Have provided support to Sustainable Fox Valley with their initiatives.
  - Annually – There is a Community Garden in the Southpoint Commerce Park.
7. Cleanup, redevelop, and reuse areas that are brownfields.
  - 2006 - Present – RiverHeath property redeveloped.
  - 2012 – Zoning ordinances developed that support community garden activities in PI, M-1, M-2 and Agricultural zoning districts.
  - 2015 - Present – Pierce Truck property redeveloped.
  - 2015 – Union Square
  - 2017 – Woolen Mills
  - 2018 – Foremost (Eagle Point) property redeveloped.
8. Utilize alternative methods to reduce any potential for health concerns as a result of chemicals used for weed control on public property.
  - 2016 – Incorporated horticultural vinegar for weed control in park playgrounds.
  - 2017 - Incorporated horticultural vinegar for weed control in park playgrounds.
9. Promote breast feeding friendly workplaces.
  - 2016 – Dedicated a Mother's Room at City Hall.



10. Promote community wide obesity prevention strategies.

- Weight of the Fox Valley exists to help residents in Calumet, Outagamie and Winnebago Counties achieve and maintain a healthy weight, a goal that takes on new significance when you look at the current facts. 75% of Adults in our tri-county region are clinically measured as being either overweight or obese. To achieve its vision, Weight of the Fox Valley has adopted an innovative approach to creating social change called collective impact. Collective impact works by creating a shared approach to solving a community problem. City of Appleton and other organizations from all sectors of the community participate to focus existing and new, collaborative efforts on achieving the vision. Participating organizations share a vision, activities, outcomes, data and more!

## 6. Urban Design, Land Use, Green Building and Transportation

**Background:** In shaping the places in which we live, we shape the patterns of our own behavior. We have built sprawling cities that require long commutes, streets that discourage pedestrians and bicycles, and building methods that waste resources and contribute to pollution and climate change. From the human scale to the regional scale, we should take a different approach to designing the built environment.

The City can implement more sustainable development types mostly through jurisdiction over land use, issuance of building permits, and provision of transportation infrastructure.

### **Goals:**

1. Establish and continuously improve “green” building standards for both residential and commercial development--new and remodeled.
2. Reduce dependence on the private automobile by working with community partners to provide efficient and accessible public transit and transit supportive land uses.
3. Reduce long commutes by providing a wide array of transportation and housing choices near jobs for a balanced, healthy City.

### **Targets:**

1. Encourage buildings to be constructed using Energy and Environmental Design best practices.
2. Work with community partners to develop and implement a policy that expands affordable public transportation coverage to within one-quarter mile of all city residents.
3. Plan for the safe and efficient movement of vehicles on local and regional roads.

### **Actions:**

1. Create ordinance requiring all businesses with 30 or more employees to provide bike accommodations.
  - 2011 - The City of Appleton developed an ordinance to provide bike accommodations for all new or expanded businesses.
2. Encourage “Green Alley” design and installation as alley's come up for reconstruction.
  - The City of Appleton has two pilot locations for the “green Alley” design. One location is in the Drew Street Fire Station Lot (2015) and the other location is a portion of the parking lane on Sandra Street (2016).

3. Construct City facilities with utilizing Energy and Environmental Design best practices.
  - 2014 – Constructed restroom pavilion in Appleton Memorial Park. Utilized natural materials, light tubes, LED lighting and other sustainable materials.
4. Adopt City Policies to encourage multi-modal transportation.
  - 2010 - Adopted Mid-block Crosswalk Policy in July, 2010.
  - Adopted Crosswalk Marking/Enhancement Policy for Uncontrolled Intersection Crossings in February, 2017.

# 7. Parks, Open Space and Habitat Conservation

**Background:** A City's quality of life is greatly enhanced by extensive parks and open space areas. From small urban parks, to regional parks, to trails and parkways, to agricultural and, to golf courses, the presence of Nature, open space and habitat areas are essential. The preservation of open space and our rivers and creeks is essential to the health of our community. These areas provide opportunities for recreation, provide habitat for wildlife, and support alternative modes of travel. Parks and natural areas directly mitigate climate change by moderating temperatures from the urban heat island effect.

The urban forest is a key contributor to sustainability in a place named the City of Trees. Trees provide environmental and ecological benefits through improved air quality by storing carbon dioxide that might otherwise contribute to global warming, improving water quality by naturally filtering overland runoff, reducing flood risk through bank stabilization and increased water storage, and providing bird nesting habitat. The urban forest contributes economic benefits by increasing property values and lowering building energy use by providing incidental shade. Trees improve public health and well-being by reducing UV radiation exposure and converting CO<sub>2</sub> to oxygen.

## Goals:

1. Expand and/or preserve the number of City parks.
2. Improve public access to open space, particularly along the Fox River.
3. Maintain and expand the urban forest.
4. Preserve prime farmland and critical habitat resources.
5. Expand "green" park and golf course design and sustainable maintenance practices.

## Actions:

1. Acquire land for additional public green space in underserved neighborhoods and infill development target areas.
  - 2013 – Renovated Houdini Plaza
  - 2013 – Acquired and razed building in what is known as Washington Square.
  - 2015 – Acquired land and constructed Pioneer Park (0.52 acres).
  - 2016 – Acquired land for future Ellen Kort Park (3.38 acres).
  - 2016 – Acquired additional land for future northside park near Fire Station #6 (1.59 acres).
  - 2017 – Acquired additional land adjacent to Memorial Park (1.1 acres).
  - 2017 - Creating a reforestation area as part of the Leona Pond Project scheduled for construction in 2019.
  - 2017 – RiverHeath Development constructed public trail with private funds in conjunction with their development efforts along the Fox River. This trail connects to Telulah Park.

2. Construct and maintain a trail system.
  - 2013 - Added Apple Hill Trail (0.75 miles)
  - 2017 - Acquired (3) Train Trestles to convert to trails. Two will be connecting trails.
  - 2017 – Re-paved the North Island trail.
  - 2017 – Repaved 0.5 miles of the CE trail.
  
3. Develop master plans for the City's parks and green spaces.
  - 2015 – Master plan developed for Appleton Memorial Park.
  - 2015 – Master plan developed for the Scheig Center.
  - 2015 – Master plan developed for Erb Park.
  - 2016 – Master plan developed for Ellen Kort Park.
  - 2017 – Master plan developed for Jones Park.
  
4. Work with community partners to achieve an urban tree canopy goal of 35%.
  - 2012 – Received Tree City USA award for 22nd consecutive year.
  - 2013 – Worked with community partners to achieve an urban tree canopy. Current canopy is 22%.
  - 2013 – Received Tree City USA award for 23rd consecutive year.
  - 2014 – Common Council approved a new Urban Tree Planting Infill Program with funding for 100 new trees.
  - 2014 – Worked with the Timber Rattlers and Appleton Little League to plant trees as part of the "Broken Bats for Trees" program.
  - 2014 – Completed new tree inventory program utilizing GIS.
  - 2014 – Implemented first year of Urban In-fill Tree Planting Program.
  - 2014 – Received Tree City USA award for 24<sup>th</sup> consecutive year.
  - 2015 – Received Tree City USA award for 25<sup>th</sup> consecutive year.
  - 2015 – Implemented second year of Urban In-fill Tree Planting Program.
  - 2016 – Received Tree City USA award for 26<sup>th</sup> consecutive year.
  - 2016 – Implemented third year of Urban In-fill Tree Planting Program.
  - 2017 – Implemented 4<sup>th</sup> year of Urban In-fill Tree Planting Program.
  
5. Develop an implementation plan to incorporate sustainable principles and practices into golf course and park design and maintenance, including public education.
  - 2014 – Utilized public golf course to address stormwater management requirements. Project was recognized for the utilization of public land to for stormwater retention.
  - 2016 – All City mowers are equipped with mulching decks.
  
6. Engage community/neighborhood partners to donate their physical involvement such as applicable park maintenance items such as eradication of invasive species of vegetation and other small maintenance tasks.
  - 2005 - 2017 – The City collaborates with numerous volunteers. The Master Gardener's and friends, local companies and residents donate hundreds of hours annually in our parks for this purpose. On average we received 200 – 300 hours annually.

- Annually – Remediate a buckthorn on the hillsides at Tellulah Park, Pierce Park. Appleton Memorial Park and various trails. Ongoing effort.
- Work with the community to plant marigolds within terraces of S. Oneida Street, Prospect Avenue and Jackman Street.

7. Develop and implement a Trail Master Plan.

- 2016 – A Trail Master Plan was developed and approved by City Council.

8. Develop an ADA transition plan for public parks.

- 2015 – An ADA transition plan was developed and implemented.
- Annually - \$50,000 of upgrades annually to public parks to improve accessibility.

## 8. Water Resources and Flood Protection

**Background:** Climate models indicate that some areas may experience an increased risk of water shortages in the future. On the other end of the spectrum, significant portions of the City are at risk from catastrophic flooding.

### Goals:

1. Conserve the use and protect the sources of water.
2. Work to provide exceptional flood protection.

### Targets:

1. Continuously protect the ecological integrity of the City's primary drinking water source.
2. Continue to reduce sanitary sewer overflows.

### Actions:

1. Identify flood areas and develop plans to mitigate damage to property and/or life.
  - 2012 – Started construction of (2) new stormwater ponds.
  - 2013 – Completed Phase I of the Theodore Street Floor Control Project at Appleton East High School.
  - 2013 – Utilized public golf course to address stormwater management requirements. Project was recognized for the utilization of public land to for stormwater retention. Replaced the concrete lined channel with a naturalized stream.
  - 2014 – Council approved Phase I for the West Wisconsin Avenue Floor Control Project
  - 2017 – A stormwater retention pond was constructed in Erb Park to mitigate flooding in adjoining neighborhoods and within the park.
  - 2017 – City now has a total of 40 wet ponds and 8 dry ponds to provide water quality and quantity benefits to the community.
2. Develop a program for rainwater harvesting for residential properties.
  - 2016 - Implemented a Rain Barrel Program and associated Stormwater Credit Policy for residential properties.
3. Enforce phosphorous bans, grass clippings in streets and existing ordinances.
  - Annually – We only use fertilizers without phosphorous. Regulation NR151 is followed.
  - 2013 - Increase grass clipping bag fee from \$2 to \$4.
  - 2017 – All City mowers are now equipped with mulching decks. In addition, leaves are mulched in place on City properties.
4. Seek ways to reduce phosphorous entering the Fox River.

- 2014 – Study conducted by utilities with the objective to reduce current phosphorus discharges by an order of magnitude.
- 2016 - Phosphorus Reduction Project – Phosphorus is a nutrient that leads to algal blooms and reduced water quality. Appleton continues to optimize and remove phosphorus from the waste stream prior to discharge to the Fox River. The use of iron salts has proved successful. Utilizing this technology, 2016 saw a reduction of 350 lbs of phosphorus to the Fox River (i.e., 2016 vs 2015 phosphorus load).
- 2016 - The plant staff continue to study “outside the plant” alternatives to further reduce phosphorus to the Fox River. Currently, staff are involved in the following programs and initiatives:
  - Lower Fox River Dischargers Association – service positions include president, treasurer and secretary
  - Fox Wolf Watershed Alliance – service position board of directors member
  - The Fox P Trade Initiative – participant in training exercises
  - Adaptive Management Assessments, w/Great Lakes Alliance – participant in training scenarios.
- 2017 The wastewater plant is projected to reduce phosphorus discharges to the river by 4,290 pounds (i.e., 2017 vs 2016 discharge data).

#### 5. Investigate ways to utilize biosolids from the Wastewater Plant.

- 2012 – Conducting a research and development project to evaluate composting as an alternative treatment of biosolids to create a high quality “Class A” material that could be used as a soil conditioner, nutrient amendment, and/or erosion control product. Has the potential to greatly expand options for beneficial reuse beyond traditional land application to farm fields or landfilling while off-setting the need to expand on-site biosolids storage (180-day DNR requirement).
- 2015 – Continued a composting demonstration project. Utilized 10,000 yards of yard waste (e.g., brush, leaves) from curbside collections. The compost was used by landscapers, the highway department, contractors and public giveaways.
- 2016 – Appleton had a production of 6,750 cubic yards of compost. The mixture of yard waste and biosolids was placed into windrows and allowed to compost (and be biologically reduced). The material is turned and ultimately reaches temperatures in excess of 160 degrees F. The 6,750 cubic yards of finished compost was used by landscapers, contractors, and public giveaways.
- 2017 – WDNR issues Appleton a WPDES permit with biosolids composting. This elevates the biosolids composting initiative from a pilot to a permitted entity.

#### 6. Maintain and upgrade City-wide water supply and lines.

- 2014 – Relayed 3 miles of old, leaking watermain.
- 2015 – Relayed 3 miles of old, leaking watermain.
- 2016 – Relayed 2.6 miles of old leaking watermain.
- 2015 – First full year of installing Advanced Metering Infrastructure for water meter reading and residential cross connection survey.
- 2016 – Replaced 32 lead services.
- 2014 – Appleton’s first full year of installing advanced metering infrastructure system for water metering reading and residential cross connection survey.
- 2017 – Replaced 30 lead services
- 2017 – Relayed 2.9 miles of old leaking, undersized watermain.



# 9. Public Involvement & Personal Responsibility

**Background:** Ultimately, sustainability affects every level and scale of organization, from the entire planet to local neighborhoods and individuals. In addressing the global and regional issues facing Appleton, public involvement and personal responsibility is vital to effectively planning actions and implementing solutions. A central goal of this focus area is to facilitate communication, public outreach and civic engagement on sustainability. Although the City has an important role in addressing climate change, residents and business must be inspired to take actions to reduce greenhouse gas emissions as well. The City should take the opportunity to work with citizens, businesses and community groups to implement personal and business oriented sustainability initiatives.

Through a wide variety of programs and a broad-based network of partner organizations, — in schools, in parks, in community centers, and in neighborhoods — the City can promote an ethic of conservation and stewardship, and encourage and empower people to take actions that improve environmental quality and quality of life in and around their neighborhoods.

## Goals:

1. Adopt an action plan to support a regional vision that fosters a collaboration of citizens, businesses and green-initiative groups to become engaged and contribute to a sustainable future.
2. Promote innovative programs to educate the public about climate change.
3. Commit to leading by example to foster behavioral change throughout the City.
4. Promote an ethic of conservation and stewardship.

## Targets:

1. Develop and maintain a City sustainability website to provide as a resource to the community.
  1. 2014 – Staff from the Department of Public Works participated in Fox River Cleanup Day on April 26, 2014.
  2. 2015 – Staff from the Department of Public Works participated in Fox River Cleanup Day on April 25, 2015.
  3. 2016 – Staff from the Department of Public Works participated in Fox River Cleanup Day on April 23, 2016.
  4. 2017 – Staff from the Department of Public Works participated in Fox River Cleanup Day on April 22, 2017.
  5. 2018 – Will develop links to Sustainability Plan and Green Tier documents.
  6. 2018 - Staff from Community & Economic Development served on State Brownsfield Committee.
2. Work with community partners to maximize the number of businesses within the City which incorporate sustainability into their daily operations.

- 2016 – Worked with a company to exchange our wood chips for their labor and equipment to screen our pile of stump grinding material providing a nice top soil type material for use on city projects.
  - 2016 – Developed Stormwater Supporter Pledge Form as part of the Residential Stormwater Credit Policy.
  - 2016 & 2017 – Partnered with Evergreen Credit Union on a Stormwater 101 Education Program.
3. Develop a network of green-initiative groups to share resources, foster partnerships and unify education and outreach efforts.
    - Continue to partner with Northeast Wisconsin Stormwater Consortium to share resources for joint public education efforts to meet our NR216 permit requirements.
  4. Develop a Sustainability “report card” be published annually.
    - Annually – Provide report card titled Legacy Charter Appendix 3 to WI Green Tier as part of the annual reporting requirements.
  5. Optimize opportunities to showcase Appleton's environmental leadership through hosting conferences, workshops and events.
    - Annually – Host professional organizations and/or other municipalities to host meetings for organizations such as Green Tier, professional engineers or other governmental agencies.

# 10. Building Operation

**Background:** In shaping the places in which we live, we shape the patterns of our own behavior. We have built numerous facilities that waste resources and contribute to pollution and climate change. From the human scale to the regional scale, we need to take a different approach to protecting our work environments.

The City can implement sustainable practices through proactive maintenance; procurement of environment friendly products and by adopting the practice of ensuring new construction meets and or incorporates LEED (Leadership in Energy and Environmental Design) or equivalent standards.

## Goals:

1. Establish and continuously improve “green” building standards in City- owned and operated buildings.
2. Provide a healthy environment by incorporating green cleaning standards.
3. Use products and materials that have a long-term benefit to our community when cost effective.
4. Focus actions and select products that reduce greenhouse gas-emissions, reduce water consumption, electrical consumption, natural gas consumption and manage solid waste.

## Targets:

1. Annually adopt principles of LEED (Leadership in Energy and Environmental Design), Energy Star, Green Tier and/or equivalent for all new City-owned buildings.
2. Procure products that incorporate sustainability from cradle to grave.
3. Provide proactive maintenance, operations and upgrades of the facilities and equipment that will achieve the City’s goal to reduce natural gas and electric consumption by 10% by 2011.

## Actions:

1. Perform lighting, HVAC, building shell or other upgrades that have positive impacts on the economics, environment and people in our community.
  - 2010 – Upgraded lighting at Peabody Park
  - 2012 – Updated numerous servers and redesigned servers with energy efficiency equipment. A new A/C unit was added to control run-time and reduce energy usage.
  - 2012 – Began process to improve water treatment processes using Ultraviolet light process for the removal of microbial contaminants.
  - 2013 – At Wastewater Treatment Plant constructed a new gas balancing process that will inject pressurized gas into the anaerobic digester tanks thus creating mix energy. (\$39,291 electrical savings annually).
  - 2014 – Upgraded boiler at Municipal Services Building (2,145 therms saved annually).

- 2014 – HVAC tune-up (2,403 therms saved annually)
- 2014 – Lighting upgrades in City facilities (56,100 kWh saved annually)
- 2014 - Replaced all light poles and fixtures with LED lighting at Arbutus Park. Total of eleven poles and fixtures.
- 2014 - Replaced all exterior wall pack lighting with LED lighting at the Water Plant.
- 2014 – Replaced alley lighting at City Hall drive-up windows with LED lighting.
- 2014 – Upgraded boilers at the Library. (4,553 therms saved annually).
- 2015 – Street lighting upgrades. (40,890 kWh saved annually).
- 2015 – Replaced fountain lighting in City Park to LED.
- 2015 – Replacing wall pack with LED fixtures at all 30 parks.
- 2015 – Installed LED lighting at skateboard park parking lot at Telulah Park.
- 2015 - Replaced all exterior wall pack and street pole lighting with LED lighting at the Waste Water Plant.
- 2015 – Completed a pilot project to retrofit existing high pressure sodium light fixtures with energy efficient LED lights in a portion of the Green Ramp.
- 2016 – Project was completed to construct an alternate mode of mixing for the (2) 2.2 million gallon digesters resulting in sliding vane compressors with valve and gas metering upgrades (anticipated savings 1,300 kWh/day).
- 2016 – Completed Water Treatment Plant process to utilize UV that was initiated in 2012. The project resulted in decreased chemicals, labor and electrical costs totaling \$450,000 annually. (Anticipated savings of 21.2 kW in a peak water production scenario).
- 2016 – Upgraded various lighting in Telulah Park.
- 2016 – Installed new light poles and upgraded lighting to LED.
- 2016 – Relamped existing fluorescent fixtures with LED lamps throughout the entire vehicle garage at the Facilities & Grounds Operations Center.
- 2016 - Relamped existing fluorescent fixtures with LED lamps in various locations at Water Treatment Plant.
- 2016 - Installed (7) new LED light fixtures above softener tanks at the Water Treatment Plant.
- 2016 - Installed (4) new LED light fixtures above softener tanks at Reid Municipal Golf Course.
- 2016 - Completed second year of LED street light retrofit project. Installed new LED lighting throughout all of City Park
- 2016 – Replaced all exterior lighting with new LED lighting at the Water Treatment Plant. Also completed a “right lighting” survey at the Water Treatment Facility that indicated we could remove 18 exterior fixtures that were not needed and causing excess light pollution.
- 2016 – Replaced all exterior lights with new LED lighting at the Facilities & Grounds Operations Center.
- 2016 – Installed a new high efficiency HVAC system for the office area at the Municipal Services Building.
- 2016 – Installed new LED lighting in the office area at the Municipal Services Building.
- 2017 – Installed new high efficiency HVAC system in the office area at the Facilities & Grounds Operations Center.
- 2017 - Installed new LED lighting in the office at the Facilities & Grounds Operations Center.
- 2017 – Installed new LED lighting throughout all of Alicia Park.
- 2017 – Installed new LED exterior lighting at the Municipal Services Building.
- 2017 – Installed motion sensors in the garage area at the Municipal Services Building.
- 2017 – Installed new LED lighting at Wastewater Treatment Facility. This is the first phase of a multi-phase project.

2. Maximize equipment efficiency to reduce electrical, natural gas and water usage. When feasible perform retro commissioning of facilities.
  - 2012 – Performed retro commissioning at the Wastewater Plant.
3. Use Eco-Friendly flooring and perform carpet reclamation of existing product.
  - Ongoing – Carpeting used is eco-friendly and generally recognized for recycling efforts of its composition.
4. Clean the facilities using Green housekeeping practices and products meeting Green Seal Certification.
  - 2010 – Transitioned to utilizing Green Seal cleaning supplies to clean City facilities with the exception of Fire Stations and Library.
  - 2012 – Expanded the use of Green Seal cleaning supplies to the Fire Stations and Library.
5. Modify the City's procurement policy by the end of 2010 to allow purchases to be made not only based on low price, but also that are in alignment with the City's Sustainability Strategic Objective.
  - 2010 – Procurement and Contract Management Policy updated to include direction on Environmentally Preferable Procurement.
6. Recycle the maximum amount of waste feasible during demolition, renovation and construction.
  - Annually – Donate usable construction items to organizations such as Restore.
  - 2017 – Donated material from demolition of bridge tender storage building to restore and bicycle to Riverview gardens.



# 2017 GTLC Annual Report

for Appleton's participation in the Sustainability Component of the Green Tier Legacy Communities Charter

## MISSION STATEMENT:

*The City of Appleton is dedicated to meeting the needs of our community and enhancing the quality of life.*

## TRANSPORTATION

- Implemented fourth year of City's new Sidewalk Poetry Program.
- Adopted the City of Appleton Trail Master Plan.
- Installed a new Bike Fix-It Station at the Library.
- Installed a Pet Waste Station in College Avenue beautification strip near Houdini Plaza promoting walking in the downtown.
- Added 1.27 miles of new bike lanes (Eisenhower Drive, Lawrence Street and CTH JJ) and 1.77 miles of shared use lanes (Washington Street, Drew Street, Franklin Street and Water Street) as part of the City's On-Street Bike Lane Plan. Also added 1.09 miles of side-paths on CTH JJ and Eisenhower Drive.
- Total of 108 CEA vehicles equipped with GPS units. Original goal was 100.
- Collaborated with Lawrence University on their class "Environmental Studies 300: Bicycling & Sustainable Communities" Class project deliverables are (1) Count bike parking facilities in the downtown, (2) Map bike parking facilities, (3) Draft survey about bike parking for downtown business owners.
- Worked with Valley New School to install bike racks adjacent to the Blue Parking Ramp on City Center Street.
- Obtained designation of Silver Level for Bicycle Friendly Community by the League of American Bicyclists.
- Partnered with Outagamie and Calumet Counties on a signal optimization project for the Calumet Street corridor.
- Total of 1.0 mile of sidewalk was added along Edgewood Drive and various other locations, for a total of 444 miles of sidewalk.
- Lawrence Street was converted into a complete street.
- Valley Road was converted to a complete street.
- Adopted Crosswalk Marking/Enhancement Policy for Uncontrolled Intersection Crossings.
- Acquired (3) Train Trestles to covert to trails. Two will be connecting trails and one will be a fishing pier.
- Re-paved the North Island trail.
- Repaved 0.5 miles of the CE trail.

## LAND USE

- Utilized mulch from damaged trees. Have used on playgrounds and various landscaping.
- Recognized by WDNR with a biosolids composting permit at the Wastewater Plant. This is the only facility in the state that operates a biosolids composting facility.
- Developed RFP for preliminary study of a City owned biosolids compost facility.
- All plastic bottles and containers are now accepted as part of the County's residential recycling program.
- Incorporated horticultural vinegar for weed control in park playgrounds.
- Acquired additional land adjacent to Memorial Park (1.1 acres).
- Created a reforestation area as part of the Leona Pond Project scheduled for construction in 2019.

- Developed a Master plan for Jones Park.
- Implemented fourth year of our Urban In-fill Tree Planting Program.
- Donated material from demolition of bridge tender storage building to restore and bicycle to Riverview gardens.
- Received Tree City USA Award for 26th consecutive year.
- Council approved R/R Quiet Zone Plan to be implemented in 2018/2019.
- Remediated invasive plants at Pierce Park, Telulah Park and various trails (multi-year initiative).
- Worked with Atlas Coffee Shop to convert a piece of street right-of-way into a flower garden between the railroad tracks and Water Street.

## **ENERGY**

- Wastewater Plant - Working with engineers to analyze and design a third methane boiler.
- Wastewater Plant - Engineering an additional high efficiency turbine that will ensure a reduction of 180 kW at the facility. This will be a second high efficiency turbine installation.
- Water Treatment Facility is projected to reduce electrical by 15% in 2017. The reduction is a result of the addition of the ultraviolet light process. This reduction equates to 970,000 kWh annually.
- Water Plant is expected to reduce gas usage by 27% in 2017. This equates to a reduction of 48,000 therms. This change in use is a result of the transition to the ultraviolet light process.
- Continued street light LED conversion project. 1094 city-owned lights of which 680 are now LED.
- Worked with We Energies to convert 315 leased lights to LED.
- Installed new high efficiency HVAC system in the office area at the Facilities & Grounds Operations Center.
- Installed new LED lighting in the office at the Facilities & Grounds Operations Center.
- Installed new LED lighting throughout all of Alicia Park.
- Installed new LED exterior lighting at the Municipal Services Building.
- Installed motion sensors in the garage area at the Municipal Services Building.
- Installed new LED lighting at Wastewater Treatment Facility. This is the first phase of a multi-phase project.

## **WATER**

- Constructed a stormwater retention pond in Erb Park to mitigate flooding in adjoining neighborhoods and within the park. City now has a total of 40 wet ponds and 8 dry ponds to provide water quality and quantity benefits to the community.
- Constructed a stormwater retention pond at Cotter Street to address water quality and quantity issues in that neighborhood.
- City mowers are now equipped with mulching decks. In addition, leaves are mulched in place on City properties.
- Wastewater Plant is projected to reduce phosphorus discharges to the river by 4,290 pounds (i.e., 2017 vs 2016 discharge data).
- WDNR issued Appleton a WPDES permit with biosolids composting. This elevates the biosolids composting initiative from a pilot to a permitted entity.
- Replaced 30 lead services.
- Relayed 2.9 miles of old leaking, undersized watermain.
- Completed installation of new Advanced Metering Infrastructure system for water meter reading and residential cross connection survey.

## **WASTE**

- Utilized chips from street tree removals as playground and landscape mulch.
- Performed recycling in all City parks.








### **HEALTHY COMMUNITY PLANNING**

- Updated City Comprehensive Plan 2010 – 2030.
- Staff from the Department of Public Works participated in Fox River Cleanup Day on April 22, 2017.
- Partnered with Evergreen Credit Union on a Stormwater 101 Education Program.
- Continued to provide and expand recreational opportunities with a focus on health through the Parks and Recreation Department.


### **LEGACY COMMUNITIES SUSTAINABLE STRATEGIES**

A copy of the Legacy Communities Sustainable Strategy Spreadsheet (aka Appendix 3 of the Legacy Communities Charter) is included as an attachment to this report.




Element	Max. Score	 <h2>Sustainability Strategies Scoresheet</h2> <p>(Also known as Appendix 3 of GTLC Charter, Last Revised 12-14-2017 by Dean Gazza)</p>		Community Name 2016 Scores*	Community Name 2017 Scores*
		     			
		<p>This Sustainability Strategies Scoresheet is provided for member communities to track sustainability management strategies in transportation, energy, land use, water, waste, and health. This scoresheet is intended to be dynamic and flexible. In the spirit of continuous improvement toward superior environmental performance, suggested revisions to this scoresheet are always</p>			
TRANSPORTATION		<h3>TRANSPORTATION DEMAND MANAGEMENT:</h3> <p>Transportation demand management strategies aim to reduce GHG emissions and VMT by influencing change in individual behavior. These strategies encourage walking, bicycling, and transit as modes of transportation within a community and seek to curb the number and length of trips by vehicle.</p>			
		<h4><u>Bicycle and Pedestrian Programs/Projects</u></h4>			
	2	Require bike parking for all new non-residential and multifamily uses.		2	2
	1	Set standards for placement and number (as function of intensity of use) for bike parking spaces.		1	1
	3	Commuter bike routes identified and cleared.		3	3
	10	League of American Bicyclists certification. (Bronze 5, Silver 7, Platinum 10)		5	7
	3	Funded and operating SRTS program (or functional equivalent) covering at least 10 percent of students.		3	3
	1	Conduct annual survey of students' mode of transport to school.		1	1
		<h4><u>Employer-Based Programs</u></h4>			
	5	Require large employers seeking rezoning to set a price signal (cash-out or charge).		0	0
	5	Require large employers seeking rezoning to provide subsidized transit.		0	0
	5	Require large employers seeking rezoning to provide a TDM plan that would reduce trips by 20 percent over business as usual.		0	0
		<h4><u>Traffic Volume</u></h4>			
	3	Track VMT or traffic counts and report on efforts at reduction (including those on this list).		2	2
	3	Eliminate parking minimums from non-residential districts.		0	0
	5	Set parking maximums at X per square feet for office and retail uses.		0	0
	5	Scheduled transit service at basic level (hour peak service within half-mile of 50 percent of addresses).		4	4
	10	Scheduled transit service at enhanced level (half-hour peak service within 75 percent of addresses).		3	3
		<h3>TRANSPORTATION SYSTEM MANAGEMENT</h3> <p>Transportation system management strategies aim to reduce GHG emissions and VMT by improving the overall performance of a transportation system. These strategies improve existing infrastructure, introduce new technology, and plan for the future of the system.</p>			
		<h4><u>Preservation and Improvement</u></h4>			
	3	Develop and fully fund comprehensive maintenance program for existing roads.		3	3
	5	Charge impact fees for new roads.		2	3
	5	Calculate lane-miles per capita for arterials and collectors, and show reductions		5	5
	5	Prepare a plan identifying disconnections in bike and pedestrian networks, prioritizing fixes and identifying potential funding sources for the most important projects.		5	5
	5	Any proposal to add lanes to a two-lane roadway shall be evaluated for a center turn lane, the preferred option over an expansion to four lanes.		5	5
	3	Identify four-lane roadways with fewer than 20,000 vehicles per day (AADT) and evaluate them for "road diets" with bike lanes or on-street parking		3	3
		<h4><u>Electric Vehicles</u></h4>			
	1	Allow NEVs on appropriate roadways.		1	1
	2	Provide public charging stations		1	1
		<h4><u>Vehicle Idling</u></h4>			
	2	Ban idling (more than 5 minutes) with local government vehicles.		2	2
	5	Ban idling (more than 5 minutes) community-wide.		0	0
LAND USE		<h3>ZONING AND DEVELOPMENT</h3> <p>Zoning and development strategies work toward improving the overall environmental, economic, and social health of a community by promoting mixed-use and infill development, walkable neighborhoods, and an overall sustainable lifestyle.</p>			
		<h4><u>Infill Development</u></h4>			
	5	Identify priority areas for infill development, including those eligible for brownfields funding.		5	5
	1	Create land bank to acquire and assemble priority infill sites		0	0
	1	Develop an inventory of known contaminated properties for reuse planning, with possible GIS application		1	1
		<h4><u>Walkscore</u></h4>			
	10	Measure Walkscore at 10 random residential addresses per Census tract, compute average, and improve upon overall score		5	5
		<h4><u>Zoning</u></h4>			
	5	Adopt traditional neighborhood design ordinance (if population is less than 12,500)		5	5
	5	Zoning for office and retail districts permits floor-area ratio > 1, on average.		3	3
	8	Zoning for office and retail districts requires floor-area ratio > 1, on average.		0	0



Element	Max. Score	 <b>GREEN TIER</b>	<b>Sustainability Strategies Scoresheet</b> <small>(Also known as Appendix 3 of GTLC Charter, Last Revised 12-14-2017 by Dean Gazza)</small>		Community Name 2016 Scores*	Community Name 2017 Scores*
D I S T R I C T	5	Zoning code includes mixed use districts			5	5
	8	Mixed-use language from Smart Code TBA.			5	5
		<b>NATURAL RESOURCE MANAGEMENT</b>				
		Natural resource management strategies seek to conserve, preserve, protect and promote a community's greenspace, wildlife, wetlands and waterways for this and future generations by promoting pervious surfaces and adequate setbacks.				
		<b>Canopy</b>				
	3	Adopt tree preservation ordinance per GTLC standards.			3	3
	4	Set a tree canopy goal and develop a management plan to achieve it			3	3
	2	Require trees to be planted in all new developments			2	2
	2	Certification as Tree City USA			2	2
	2	Certification as Bird City Wisconsin Community			0	2
U S E		<b>Vegetation Management</b>				
	2	Public properties and rights of way mown or cleared only for safe sightlines and/or to remove invasive species.			2	2
	2	Create community policy and BMP guidelines on minimizing chemical use during vegetation management of public and private properties			0	0
		<b>Water Protection</b>				
	10	Establish 75-foot natural vegetation zone by surface water.			10	10
	5	Inventory wetlands and ensure no net annual loss.			5	5
		<b>COMMUNITY ENERGY USE</b>				
		Community energy use strategies encourage energy efficiency and the use of renewable fuels to reduce total energy consumption throughout the community				
		<b>Community Energy Use Policies</b>				
	6	Use PACE financing			0	0
E N E R G Y	1	Watt meters available to the public			0	0
	10	Adopt Residential Energy Conservation Ordinance (time-of-sale certification and upgrades).			0	0
		<b>Measuring Community Energy Use</b>				
	4	Work with local utilities to calculate total electricity and natural gas consumption annually, beginning with the fifth year before entering the program.			4	4
	1	State of Wisconsin Energy Independent (EI) Community designation.			1	1
		<b>MUNICIPAL ENERGY USE</b>				
		Municipal energy use strategies encourage municipal employees to conserve energy, preserve the environment, and decrease greenhouse gas emissions from municipal facilities, services, and vehicle fleets.				
		<b>Government Energy Use Policies</b>				
	5	Include transportation energy/emissions as criterion in RFPs for purchases of goods over \$10,000.			3	3
	3	Develop list of lighting, HVAC and shell improvements to raise Energy Star Portfolio Manager or LEED EBO&M score			3	3
C O M M U N I T Y	3	Reduce motor fuels use for non-transit activities --			3	3
	6	Provide transit passes at 50 percent or more off the regular price and/or provide parking cash-out options for local government employees.			0	0
	5	Streetlights operate at 75 lumens/Watt or higher			5	5
	3	Stoplights are LED or functional equivalent			3	3
	5	Municipal electricity purchases are at least 5 percentage points higher in renewable content than the statewide renewable portfolio standard requires. Calculation may include self-generated power and purchased offsets.			3	3
		<b>Measuring Government Energy Use</b>				
	5	Complete EPA Energy Star Portfolio Manager spreadsheet for government energy use. Or score existing buildings with LEED EBO&M			4	4
	2	Calculate annual government fleet use of motor fuels, in gallons of petroleum and biofuels, beginning with the fifth year before entering the program.			2	2
	10	All new and renovated municipal buildings must meet LEED Silver or greater.			0	0
		<b>WATER USE CONSERVATION</b>				
C O M M U N I T Y		Water Conservation strategy options set baselines and goals for water and energy performance in municipalities. They measure progress and promote water conservation by the government, business, and the community at-large.				
		<b>Water Conservation</b>				
	6	Track water and sewer use annually, beginning with fifth year before entering program, and develop plan for reductions.			5	5
	4	Develop a water loss control plan with targets below the 1.5% required by the state and include a system-wide water audit implementation and time table			4	4
	2	Join EPA's WaterSense Program for water utilities or the Groundwater Guardian Green Sites program and promote them to local business.			2	2
	6	Use block rates and flat rates to encourage water conservation among residential, commercial, and industrial users.			5	5
	3	Infiltration and inflow reduction by 10%			3	3
	5	Plan for replacing all toilets using > 1.6 gpf and annual progress sufficient to reach 90 percent replacement in 10 years.			5	5
		<b>Local Government Use</b>				
	2	Install waterless urinals in men's restrooms at municipal facilities (city hall, parks, etc.)			0	0
C O M M U N I T Y	3	All outdoor watering by local government, excluding parks and golf courses, from rain collection.			3	3
	4	Develop a water efficiency and conservation plan for municipal buildings			4	4
		<b>WATER AND WASTEWATER INFRASTRUCTURE MANAGEMENT</b>				



Element	Max. Score	 <b>GREEN TIER</b>	<b>Sustainability Strategies Scoresheet</b> (Also known as Appendix 3 of GTLC Charter, Last Revised 12-14-2017 by Dean Gazza)	Community Name 2016 Scores*	Community Name 2017 Scores*
W A T E R			<b>Setting goals for the sustainable management of water and wastewater infrastructure reduces costs; saves energy; and ensures the protection of public health and the environment.</b>		
	10		Develop and implement asset management plans that set targets for the sustainable maintenance, operation and renewal of water and wastewater infrastructure.	10	10
	5		Wastewater biogas captured and used in operations.	5	5
	1		Financial assistance for sewer lateral replacements.	1	1
	5		Set goals for increasing the recovery of resources from wastewater for energy generation (heat or electricity) and fertilizer.	4	4
	2		Explore partnership options with high-strength waste.	1	1
	6		Upgrade water and wastewater utility equipment (e.g., variable frequency drive motors) to achieve energy efficiency based on total life cycle, triple bottom line costs (e.g. maintenance and replacement strategies in asset management plans).	6	6
			<b>STORMWATER MANAGEMENT</b>		
			<b>Stormwater Management strategy options encourage the use of best management practices to achieve a reduction in the amount of harmful pollutants introduced to our streams, rivers, and lakes.</b>		
	3		Develop a regular street sweeping program to reduce total suspended solids	3	3
	3		Stormwater utility fees offer credits for best management practices such as rain barrels, rain gardens, and pervious paving	3	3
	2		Inventory all paved surfaces (e.g., by GIS mapping), and develop a plan for reduction	2	2
	2		Work with commercial or light industrial businesses to develop stormwater pollution plans	2	2
			<b>WATER AND DEVELOPMENT</b>		
			<b>Water and Development strategy options link water conservation and the preservation of land, wetlands, and wildlife habitat while promoting compact development, restoration and rehabilitation efforts, and long-term planning.</b>		
W A S T E			<b>Land Development</b>		
	5		Identify key green infrastructure areas during plan development and/or implement a plan to acquire and protect key green infrastructure areas	5	5
			<b>Waters, Wetlands, and Wildlife</b>		
	6		Replace concrete channels with re-meandered and naturalized creeks, wetlands, or swales	6	6
	3		Develop a system for identifying culverts that obstruct fish migration and install fish friendly culverts where needed	3	3
	4		Provide incentives for protection of green infrastructure, sensitive areas, important wildlife habitat, or for the restoration or rehabilitation of wetlands or other degraded habitats such as credit towards open space or set-aside requirements	4	4
			<b>WASTE MANAGEMENT AND REDUCTION</b>		
			<b>Waste Management and Reduction strategy options encourage municipalities and their citizens to divert organics and recyclables from landfills and properly dispose of hazardous materials in an effort to reduce waste in a community.</b>		
	3		Community waste stream monitored at least annually. Waste reduction plan prepared and updated annually	3	3
	4		Waste and materials management plan based on "zero-waste" principles, with specific goals, prepared and updated annually	4	4
	3		Construction/deconstruction waste recycling ordinance	3	3
	3		Mandatory residential curbside recycling pickup that covers paper, metal cans, glass and plastic bottles	3	3
	5		Develop a municipal collection program that encourages the diversion of food discards, yard materials, and other organics from landfills to composting or anaerobic digestion with energy recovery	5	5
	3		Develop and promote programs that dispose of household hazardous, medical, and electronic waste	3	3
	4		Use anaerobic digesters to process organic waste and produce energy	4	4
H E A L T H	3		Implement municipal ordinances requiring manufacturer takeback for fluorescent bulbs, thermostats and other mercury-containing devices	1	1
	2		Ordinances in place to reduce the usage of phone books as well as single-use shopping bags, styrofoam food containers and other disposable packaging	2	2
	2		Pay-as-you-throw system implemented by municipality or required of private waste haulers	2	2
	1		Use public education and outreach to promote recycling, backyard composting, product re-use and waste reduction	1	1
			<b>HEALTHY COMMUNITY PLANNING</b>		
			<b>Policies and projects related to incorporating health living into community design- whether by built form, programs, education, etc. in an effort to reduce trends in poor nutrition, inactive lifestyles, chronic diseases, such as obesity and heart disease, and other negative health risk factors.</b>		
			<b>Policies Affecting Multiple Program Areas</b>		
	5		Adopt a resolution that promotes Health in All Policies at the community level (e.g., HEAL Resolution). Include that educational campaigns supporting a program covered by the resolution are appropriately targeted to all of the populations addressed by the program	0	5
	8		Establish a Health Impact Assessments policy, including when an assessment is required and its scope	0	0
			<b>Planning</b>		
	8		Add health policies in 1 or more of the community's plans, including the comprehensive plan, long-range transportation plan, bicycle/pedestrian plan and open spaces recreation plan (embedded or stand-alone chapter) or develop a comprehensive, community wide wellness plan.	5	8
	3		Site schools in the Comprehensive Plan for accessibility with existing or new bicycle and pedestrian infrastructure	3	3
	5		Encourage the formation and/or support of Neighborhood Improvement Districts (NIDs), Neighborhood Development Corporations, or other similar types of neighborhood reinvestment and enhancement strategies in plans or policies.	5	5
			<b>Healthy Food Access</b>		
	6		Implement strategies (urban agriculture, community gardens on public land, diversified farmer's markets, expanded traditional retail food options, ordinances to allow urban chickens and beekeeping and vegetable gardening in rights of way) that help increase fresh food access in the community, in particular in areas with food insecurity (e.g., "food deserts" and "food swamps"), including access by EBT and WIC participants.	6	6
				The categories below were added in 2015.	







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

Department of Utilities  
Water Treatment Facility  
2281 Manitowoc Road  
Menasha, Wisconsin 54952 – 8924  
920 – 997 – 4200 tel  
920 – 997 – 3240 fax

**TO:** Chairperson Greg Dannecker and Members of the Utilities Committee  
**FROM:** Chris Stempa, Utilities Deputy Director  
**DATE:** March 28, 2018  
**RE:** *2018 Water Treatment Facility Power Generation Test*

The Appleton Water Treatment Facility (AWTF) has completed an annual electrical test for WPPI Energy. The test occurred on March 14, 2018 after the water plant was dispatched by WPPI Energy to provide power under the existing contract for capacity agreement. The water plant successfully provided 3.594 megawatts of power for the two hour test.

Power production data from this test is used in calculating capacity credits and deriving the monthly payments from WPPI Energy over the next 12 months. The payments for capacity are based on two types of credits. The first credit is based on the previous month's peak demand and the annual test capacity results in kilowatts. The second credit is for generated power produced in excess of the previous month demand.

Below is an example of how to apply the most recent generator tested capacity of 3,594 kW to the February 2018 AWTF peak usage of 814 kW. The current WPPI contract formula pays a capacity demand credit of \$4.00 per kW and \$1.50 per kW credit for available emergency stand-by generator power (if called upon) in excess of the peak demand.

**WPPI Fee Variables**

Annual Tested Generator Capacity	3,594 kW
February Peak Demand	814 kW

Power Produced in Excess of Demand = 2,780 kW

**WPPI Fee Constants under Existing Capacity Agreement**

Capacity Credit Demand	\$4.00/kW
Capacity Credit for Excess Demand	\$1.50/kW

Capacity Credit for Demand = 814 kW x \$4.00/kW = \$3,256

Capacity Credit for Excess Demand = 2,780 kW x \$1.50/kW = \$4,170

Total Monthly Capacity Credit = \$7,426

In the case of the above example a \$7,426 total credit is paid to the city for having the electrical generation potential available. The total annual returns to the AWTF in 2017 as part of the program contract with WPPI Energy yielded \$93,574.

If you have any questions regarding the test please contact me.



## Appleton Wastewater Treatment Plant

### Synopsis

January 2018 – March 2018

#### Wastewater Treatment Program

- The Appleton Wastewater Treatment Plant (AWWTP) final effluent met all Wisconsin Department of Natural Resources (WDNR) discharge monitoring reporting limits including carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), phosphorous, and ammonia. (See Table 1). The plant maintained good treatment and a healthy microbiological population with a sludge retention time of eight days. Dewatering processes functioned well and converted 14.2 Million Gallons (MG) of primary digested sludge to biosolids.

**Table 1 - Summary of Treatment**

Parameter	January	February	March	Average
Industrial Flow (MG)	48.6	45.5	52.8	49.0
Domestic Flow (MG)	230.4	219.0	275.4	241.6
Total Flow (MG)	279.0	264.5	328.2	290.6
Influent CBOD Load (lbs)	830,899	807,424	902,661	846,995
Influent TSS Load (lbs)	1,509,468	1,472,991	1,720,573	1,567,677
Influent Phosphorous Load (lbs)	16,640	14,967	16,853	16,153
Influent Ammonia Load (lbs)	82,666	67,602	71,728	73,999
Effluent CBOD Load (lbs)	16,603	13,212	16,095	15,303
Effluent TSS Load (lbs)	10,265	9,443	6,539	8,749
Effluent Phosphorous Load (lbs)	385	727	1,072	728
Effluent Ammonia Load (lbs)	6,569	8,070	12,739	9,126
% Treatment Removal of CBOD	98.0	98.3	98.2	98.2
% Treatment Removal of TSS	99.3	99.4	99.6	99.4
% Treatment Removal of Phosphorous	97.7	94.9	93.5	95.4
% Treatment Removal of Ammonia	92.2	88.1	81.9	87.4

#### **Work in Progress:**

- 2017 Appleton Wastewater Plant Improvement Project:** This project is comprised of four individual capital improvement projects which includes WAS Pumping System Replacement, High Pressure Blower #3 Replacement, Digester Biogas Mix Compressor Glycol Cooling System, and Final Effluent Firm Pump Capacity Improvements. Donohue & Associates continued preliminary design services associated with the improvements project. This includes engineering services as part of the updated hydraulic analysis (*reference October 3, 2017 Utilities Informational Memorandum for additional details*). The tentative start of the construction bidding phase is June 2018.
- Chemical Storage Room Rehab/Improvements Project:** August Winter & Sons Inc. initiated construction activities in January 2018. A pre-construction meeting was held at the AWWTP on January 11, 2018. Demolition and associated construction activities commenced in early February. Substantial project completion is anticipated to occur in July 2018.
- Biogas Utilization Study Update:** Donohue and Associates (Donohue) submitted a draft Digester Biogas Utilization Report for review in late 2017. At that time the Facilities Management Department (FMD) was concurrently working on a project that would add a high efficiency boiler to support the lower heating loop at the AWWTP. Subsequent discussions with FMD led to a

decision by the Utilities Department to temporarily delay finalization of the report based upon the initial findings that indicated the new lower loop boiler should utilize a portion of the excess biogas that is produced. FMD is currently working with Donohue to incorporate improvements including new biogas boiler, new biogas conveyance piping, mixing, boiler operational set points, automated controls, and operational strategies. These improvements are intended to further optimize the use of two existing upper loop boilers while facilitating the new lower loop biogas boiler in addition to other potential future biogas utilization upgrades. Donohue will proceed to amend the draft report once the full scope and costs of the aforementioned improvements is known.

- **Spartan Drive Lift Station:** The AWWTP is supporting the Department of Public Works as part of the new Spartan Drive lift station construction project. Equipment start-up and testing activities commenced on December 8, 2017 and were completed on December 15, 2017. Official start-up of the Spartan Drive lift station occurred in early January, concurrent with successful abandonment of the Clearwater Creek lift station.
- **Briarcliff and Midway Improvement Projects:** On March 21, 2018 Common Council approved the engineering contract for the Briarcliff and Midway Road Lift Station Improvements Projects to McMahon. Preliminary engineering to initiate during the next reporting period subsequent to contract execution.

### **Regulatory Summary**

- Monthly Discharge Monitoring reports for January, February and March were filed electronically on time for regulatory compliance.

### **Laboratory Program**

- Program objectives for regulatory and process sampling and analysis were met including results for the Discharge Monitoring Report (DMR) and Health Department pool testing program.
- Lab personnel completed the analysis of Double Blind Proficiency samples for laboratory recertification.
- Lab staff began compliance monitoring sampling and pretreatment monitoring sampling of 2018 requirements.
- Staff is preparing for Disinfection Season monitoring activities



**EFFLUENT QUALITY SUMMARY**  
**October 2016/2017– March 2017/2018**

**Table 1 – 2016/2017 Monthly Permit Summary**

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P (lbs/day)	NH3-N <sup>(1)</sup> (mg/L)	Fecal Coliform Colonies/ (100 ml)	Chlorine <sup>(2)</sup> Residual (mg/L)	pH (s.u.)
<i>Permit Limit</i>	25	30	1,322 <sup>(3)</sup>	1	23 <sup>(3)</sup>	10, 11, 4.4, 18	400 col/100ml Geo.Mean	0.038 mg/L daily	6.0 - 9.0 daily limit
Oct 2016	5	4	342	0.70	62.4	3.54	NA	NA	6.5/6.9
Nov 2016	5	5	447	0.42	35.9	1.45	NA	NA	6.5/6.8
Dec 2016	3	4	406	0.27	27.8	0.59	NA	NA	7.0/7.1
Jan 2017	4	3	344	0.23	26.3	2.28	NA	NA	7.1/7.3
Feb 2017	4	2	218	0.17	18.5	1.14	NA	NA	7.1/7.3
Mar 2017	3	1	136	0.06	9.4	1.58	NA	NA	7.1/7.3

**Table 2 – 2017/2018 Monthly Permit Summary**

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P (lbs/day)	NH3-N <sup>(1)</sup> (mg/L)	Fecal Coliform Colonies/ (100 ml)	Chlorine <sup>(2)</sup> Residual (mg/L)	pH (s.u.)
Oct 2017	4	5	408	0.23	20.7	0.56	NA	NA	7.1/7.2
Nov 2017	6	5	386	0.21	17.7	2.01	NA	NA	7.0/7.1
Dec 2017	6	5	408	0.25	20.1	5.90	NA	NA	7.1/7.3
Jan 2018	8	4	331	0.16	12.4	2.82	NA	NA	7.0/7.3
Feb 2018	6	4	337	0.31	26.0	3.47	NA	NA	7.0/7.3
Mar 2018	6	2	211	0.39	34.6	4.63	NA	NA	7.2/7.5

**NOTES:**

- 1) Seasonal NH3-N limits: 10 mg/L Jan. 1 – Mar. 31, 11 mg/L Apr. 1 – May 31, 4.4 mg/L Sep 30 – Sep 30, 18 mg/L Oct 1 – Dec 31.
- 2) Seasonal fecal and residual chlorine limits are in effect May 1st through September 30<sup>th</sup>. \* April 1, 2017 WPDES Reissuance with new TSS limits expressed as monthly concentration limit (mg/L) and loading limit (lbs).
- 3) April 1, 2017 WPDES Reissuance with new TSS limits expressed as monthly concentration limit (mg/L) and loading limit (lbs). The future TMDL phosphorus limit will be 23 lbs/day expressed as a 6-month average.



# YEAR 2018 RECEIVING STATION REVENUE

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 166,686.94	\$170,841.65	\$ 213,882.79										\$ 551,411.38
Hickory Meadows	\$ 19,432.60	\$ 17,842.90	\$ 15,000.34										\$ 52,275.84
Holland Sanitary Dist. 1	\$ -	\$ -	\$ 5,694.90										\$ 5,694.90
Jeff Waldvogel Trkg.	\$ 41,977.54	\$ 34,849.86	\$ 42,214.17										\$ 119,041.57
Movin Materials	\$ -	\$ -	\$ -										\$ -
Waldvogel Trucking	\$ 1,957.65	\$ 1,923.30	\$ 1,920.75										\$ 5,801.70
2018 Total	\$ 230,054.73	\$225,457.71	\$ 278,712.95	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 734,225.39
2017 Total	\$172,735.08	\$184,476.03	\$223,618.34	\$231,886.70	\$227,389.07	\$273,509.72	\$244,134.28	\$214,324.93	\$222,482.09	\$257,598.16	\$225,732.80	\$ 223,703.96	\$ 2,701,593.16

Movin Materials new hauler in April 2017  
Holland Sanitary District 1 new customer in March 2018  
3% Rate Increase effective 1/1/18

Date: April 12, 2018  
Copies: K. Rindt (via email)  
C. Shaw (via email)  
B. Kreski  
Utilities Committee

**Appleton Water Treatment Plant  
Operations Synopsis  
January, February, March 2018**

**Performance Summary**

The table below presents selected water production and quality performance metrics for the current and previous reporting periods.

Treated Water Quality. All compliance parameters met or exceeded regulatory requirements.

Water Production. Compared with Q4 of 2017 (quarter over quarter or Q/Q), average water production decreased by about 2% consistent with seasonal demand. However, compared with Q1 of 2017 (year over year or Y/Y), average water production increased by about 2%.

Raw Water Quality. Average raw water turbidity decreased Q/Q by about 90% as expected due to Lake Winnebago ice over. Average raw water turbidity also decreased Y/Y by 14%.

Energy Efficiency. In terms of applied electrical energy efficiency, performance Q/Q decreased slightly by about 2.5% but improved Y/Y by 1.1%.

WATER PLANT PARAMETERS	Previous (Q4 2017)			Current (Q1 2018)		
	October	November	December	January	February	March
<b>Water Treated</b>						
Finished (million gallons)	274.7	259.1	266.7	275.9	242.4	268.1
Finished (million gallons / day)	8.9	8.6	6.2	8.9	8.7	8.6
<b>Electrical Energy (WTF)</b>						
Consumption (Megawatt-hours)	467.5	437.7	460.5	480.4	426.0	472.5
MWH / million gallons produced	1.70	1.69	1.73	1.74	1.76	1.76
<b>Turbidity</b>						
Lake (NTU)	42.3	26.7	24.7	3.8	3.1	2.5
Finished (NTU)	0.02	0.03	0.02	0.03	0.02	0.02
Finished (<0.15 NTU standard)	100%	100%	100%	100%	100%	100%
<b>Water System Microbial Quality</b>						
Total Coliform Samples	81	81	82	85	81	82
Compliance with Standard	100%	100%	100%	100%	100%	100%
<b>Disinfectant Contact Time</b>						
Minimum CT Ratio Provided	2.4	1.2	1.3	1.2	1.3	1.8
<b>Hardness</b>						
Lake Total / Calcium (mg/L)	171/89	184/104	191/106	206/113	208/114	204/111
Finished Total / Calcium (mg/L)	82/19	93/24	97/30	98/35	100/38	98/36
<b>Finished Water Quality</b>						
Total Chlorine (mg/L)	1.95	1.91	1.77	1.58	1.63	1.63
pH (SU) Min/Max	8.3/8.9	8.7/8.9	8.5/8.9	8.5/8.7	8.5/8.8	8.2/8.7
Water Temperature (Degrees F)	59.9	39.9	34.0	35.2	37.4	39.9
Fluoride (mg/L)	0.67	0.67	0.67	0.65	0.67	0.70
Orthophosphate (mg/L)	0.61	0.63	0.61	0.56	0.59	0.59

### **Laboratory**

- In support of plant operations, staff conducted analyses according to method protocols for pH, turbidity, alkalinity, hardness, free/total chlorine, ammonia, phosphorus, and fluoride.
- In support of distribution operations, staff performed required 81+ monthly Coliform bacteria analyses along with heterotrophic plate count (HPC) testing.
- Staff collected and processed raw and finished water samples to comply with DBPR2 sampling requirements. Provided support to consecutive customers with shipping of DBPR2 samples.
- Began Unregulated Contaminant Monitoring Round 4 (UCMR4) sampling.
- Identified and reviewed six (6) Laboratory Standard Operating Procedures for update.

### **Safety**

- Maintained WTF Safety programs by completing scheduled safety inspections and monthly meetings. No significant incidents to report.
- Conducted two Utility Department Safety Days for most employees.

### **Operations**

- Operated two UV Disinfection reactors continuously during the quarter.
- Cleaned #3 Softener and conducted the coating warranty inspection.
- Successfully completed the annual generator capacity test in coordination with WPPI.
- Replaced the Uninterruptible Power Supply for the plant SCADA system.
- Submitted the Chemical Systems Upgrades plans and specifications to WDNR for approval.
- Cleaned and inspected the raw water intake bells and pipe. Identified no major issues.
- Continued database development for the implementation of the new plant data management and reporting system (Hach WIMS).

### **RUPIP**

- Concluded the Merrick lime systems warranty phase with the supplier providing 12 replacement flushing system valves and 3 dissolver level transmitters at no charge.
- Resolved and corrected CFE Wet Well interstitial space leakage issue through installation of absent expansion joint in wall at no charge.

### **Staffing & Training**

- Most staff have completed annual mandatory department and City safety and employee training planned for the quarter.
- Two Water Plant Operators attended water chemistry training at UW Madison Department of Engineering.

## WATER SUMMARY FOR MARCH 2018

<b>Work done by Construction Maintenance</b>				
	<u>Mar 17</u>	<u>Mar 18</u>	<u>YTD 17</u>	<u>YTD 18</u>
Hydrants repaired	2	4	5	8
Hydrants replaced	0	0	0	3
Hydrant leaks	0	0	0	0
Valves replaced	1	1	1	1
Valves tested & inspected	260	814	702	1015
Valves Rebuilt	2	8	2	10
Valve boxes repaired	16	6	19	6
Curb boxes repaired	9	19	22	37
Curb boxes replaced	0	0	0	0
Lead or galvanized replaced	0	0	0	0
New services 1"	0	0	0	0
New services >1"	0	0	0	0
Water main breaks	4	10	32	34
Joint leaks repaired	0	0	1	0
Water quality	1	1	2	1
Service leaks (City side)	1	0	1	4
<b>Work done by Meter Service Team</b>				
	<u>Mar 17</u>	<u>Mar 18</u>	<u>YTD 17</u>	<u>YTD 18</u>
New accounts set with 3/4" or 1"	5	11	18	23
New accounts set with larger meter	1	0	2	0
Meters tested	913	12	2442	161
Meters failed	41	3	93	6
Meters stalled	0	0	0	0
Service calls	115	92	407	349
Final readings	305	253	739	678
Read meters - no reading	0	0	0	0
New meters installed	891	5	2503	55
Exception meters inspected	0	5	0	5
Exception meters removed	0	0	0	0
Service leaks found	1	1	9	10
Cross connection inspections	872	0	2425	24

**WATER MAIN BREAK/JOINT LEAK REPORT MARCH  
2018**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
First Avenue/ Meade Street	237856	CIP	8"	1968	1/4" crack & 6" split	4 hours	788,523	\$4,794.22
Pierce Avenue/ Spencer Street	237855	CIP	6"	1924	1/16" crack	4 hours	51,017	\$310.18
312 N. Union Street	238093	CIP	6"	1925?	1/32" crack & 10" split	2 days	56,196	\$341.67
627 E. Dennison Street	238418	CIP	6"	1949	1/16" crack	6 hours	57,207	\$347.82
Northland Avenue/ McDonald Street	239228	DIP	6"	1979	2" hole	2 hours	92,398	\$561.78
105 S. Joseph Street	238458	CIP	8"	1961	1/16" crack	8 hours	136,065	\$827.28
Roeland Avenue/ Jackson Street	238788	CIP	8"	1960	1/64" crack	7 days	570,802	\$3,470.48
721 E. Dennison Street	238824	CIP	6"	1947	3" hole	4 hours	278,214	\$1,691.54
805 N. Canterbury Drive	238914	CIP	8"	1967	1/4" crack	2 hours	141,837	\$862.37
Dennison Street/ Carpenter Street	238939	CIP	6"	1947	1/16" crack	6 hours	59,609	\$362.42

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

# **WATER MAIN BREAK/JOINT LEAK DATA LOG MARCH 2018**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
First Avenue/ Meade Street	Local	Concrete	Major	Yes 10' away	3/3/2018 9:00 a.m. Saturday	Repaired right away due to property damage.
Pierce Avenue/ Spencer Street	Local	Asphalt	Major	Yes 25' away	3/5/2018 1:00 a.m. Monday	Repaired right away to prevent property damage.
312 N. Union Street	Local	Concrete	Minor	Yes 75' away	3/8/2018 8:00 a.m. Thursday	Repaired during normal work hours.
627 E. Dennison Street	Local	Asphalt	Major	Yes 75' away	3/15/2018 6:00 p.m. Thursday	Repaired right away to prevent water loss.
Northland Avenue/ McDonald Street	Arterial	Ditch	Major	No	3/16/2018 8:00 a.m. Friday	Repaired during normal work hours.
105 S. Joseph Street	Local	Concrete	Major	Yes 50' away	3/18/2018 9:00 a.m. Sunday	Repaired right away due to water loss.
Roeland Avenue/ Jackson Street	Collector	Concrete	Minor	Yes 15' away	3/27/2018 6:30 a.m. Tuesday	Repaired during normal work hours.

**WATER MAIN BREAK/JOINT LEAK DATA LOG MARCH  
2018**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
721 E. Dennison Street	Local	Asphalt	Major	Yes 10' away	3/28/2018 9:00 a.m. Wednesday	Repaired during normal work hours.
805 N. Canterbury Drive	Local	Concrete	Major	Yes 75' away	3/30/2018 10:30 a.m. Friday	Repaired during normal work hours.
Dennison Street/ Carpenter Street	Local	Asphalt	Major	Yes 10' away	3/30/2018 12:00 p.m. Friday	Repaired during normal work hours.