OFFICIAL NOTICE AND AGENDA -

Notice is hereby given that the City of Stoughton Utilities Committee will hold a regular meeting on the date and at the time and location given below.

Meeting of:	**CITY OF STOUGHTON UTILITIES COMMITTEE**
Date/Time:	Monday, November 19, 2018 at 5:00 p.m.
Location:	Edmund T. Malinowski Board Room, Stoughton Utilities Administration Office 600 South Fourth Street, Stoughton, Wisconsin
Members:	Citizen Member Kym Ackerman, Citizen Member David Erdman (Chair), Alderperson Regina Hirsch, Citizen Member John Kallas (Vice-Chair), Alderperson Pat O'Connor, Mayor Tim Swadley, Alderperson Nicole Wiessinger

AGENDA:

CALL TO ORDER

CONSENT AGENDA

(All items are considered routine and will be enacted upon by one motion. There will be no separate discussion of these items unless a Stoughton Utilities Committee member so requests, in which event the item will be removed from the consent agenda and be considered on the regular agenda.)

a. Draft Minutes of the October 15, 2018 Regular Utilities Committee Meeting
b. Stoughton Utilities Payments Due List Report
c. Stoughton Utilities September 2018 Financial Summary
d. Stoughton Utilities September 2018 Statistical Report
e. Stoughton Utilities October 2018 Activities Report
f. Utilities Committee Annual Calendar
g. Communications

OLD BUSINESS

1. Status of the Utilities Committee recommendation(s) to the Stoughton Common Council **(Discussion)**
2. Update on the Utilities Director position recruitment and interview process **(Discussion)**

NEW BUSINESS

3. Real estate purchase and sale agreement from Junction 138, LLC for the purchase of the vacant land located at 3201 McComb Rd **(Action) *****

   **** The Utilities Committee may convene in closed session per State Statute 19.85(1)(e) for the purposes of deliberating or negotiating the purchase of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons deem a closed session necessary. The Utilities Committee may reconvene in an open session to discuss and take action on the subject matter discussed in the closed session.*
4. Stoughton Utilities Water & Wastewater Billing Credits Policy **(Action)**
5. Draft Wisconsin Department of Natural Resources (DNR) Wisconsin Pollutant Discharge Elimination System (WPDES) wastewater treatment facility permit **(Discussion)**
6. Updates to the annual LED holiday light customer incentive **(Discussion)**
7. Utilities Committee future agenda item(s) **(Discussion)**

ADJOURNMENT

Notices Sent To:

Stoughton Utilities Committee Members
Stoughton Utilities Assistant Director Brian Hoops

cc: Stoughton City Attorney Matthew Dregne
Stoughton Common Council Members
Stoughton City Clerk Holly Licht
Stoughton Leadership Team
Stoughton Utilities Electric System Supervisor Bryce Sime
Stoughton Utilities Operations Superintendent Sean Grady
Stoughton Utilities Water System Supervisor Kent Thompson
Stoughton Utilities Wastewater System Supervisor Brian Erickson
Unified Newspaper Group - Stoughton Courier Hub

ATTENTION COMMITTEE MEMBERS: Two-thirds of members are needed for a quorum. The committee may only conduct business when a quorum is present. If you are unable to attend the meeting, please contact Brian Hoops via telephone at (608) 877-7412, or via email at BHoops@stoughtonutilities.com.

It is possible that members of, and possibly a quorum of members of other committees of the Common Council of the City of Stoughton may be in attendance at this meeting to gather information. No action will be taken by any such group(s) at this meeting other than the Stoughton Utilities Committee consisting of the members listed above. An expanded meeting may constitute a quorum of the Common Council.

Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For information, or to request such assistance, please contact Stoughton Utilities at (608) 873-3379.

Current and past Stoughton Utilities Committee documents, including meeting notices, meeting packets, and meeting minutes, are available for public download at http://stoughtonutilities.com/uc.

DRAFT STOUGHTON UTILITIES COMMITTEE REGULAR MEETING MINUTES

Monday, October 15, 2018 – 5:00 p.m.
Stoughton, WI

Location:	Edmund T. Malinowski Board Room Stoughton Utilities Administration Office 600 South Fourth Street Stoughton, Wisconsin, 53589
Members Present:	Citizen Member Kym Ackerman, Citizen Member David Erdman, Alderperson Regina Hirsch, Citizen Member John Kallas, Alderperson Pat O'Connor, Mayor Tim Swadley
Excused:	Alderperson Nicole Wiessinger
Absent:	None
Others Present:	Debra Ehlinger, Stoughton Director of Finance & Comptroller Jamin Friedl, CPA, Stoughton Utilities Assistant Director Brian Hoops, Stoughton Utilities Operations Specialist Marty Seffens

Call to Order: Utilities Committee Chairperson David Erdman called the regular Stoughton Utilities Committee Meeting to order at 5:00 p.m.

Utilities Committee Consent Agenda: Stoughton Utilities staff presented and discussed the Stoughton Utilities Committee consent agenda items. Discussion followed.

Motion by O'Connor, the motion seconded by Kallas, to approve the following consent agenda items as presented: Draft Minutes of the September 17, 2018 Regular Utilities Committee Meeting, Stoughton Utilities Payments Due List Report, Stoughton Utilities July 2018 Financial Summary, Stoughton Utilities August 2018 Financial Summary, Stoughton Utilities August 2018 Statistical Report, Stoughton Utilities September 2018 Activities Report, Utilities Committee Annual Calendar, Communications. The motion carried unanimously 5 to 0.

Citizen Member Kym Ackerman arrived at the meeting at 5:08 p.m.

Debra Ehlinger of 2301 Korgen Drive addressed the committee seeking a wastewater billing credit for water used for landscaping following the construction of a new home. Stoughton Utilities staff presented a 2002 policy regarding wastewater billing credits that stated that no credits shall be issued in certain circumstances, including outdoor landscaping. Discussion followed. This policy will be added to a future Utilities Committee meeting agenda for further discussion and possible action.

Ehlinger left the meeting at 5:12 p.m.

Status of the Utilities Committee recommendation(s) to the Stoughton Common Council: Stoughton Utilities staff presented and discussed the following items from the Stoughton Utilities Committee that were approved and/or placed on file by the Stoughton Common Council:

- Stoughton Utilities Payments Due List Report
- Stoughton Utilities Committee August 20, 2018 Meeting Minutes
- Stoughton Utilities July 2018 Statistical Report

Stoughton Utilities staff presented and discussed the following items from the Stoughton Utilities Committee that were approved by the Stoughton Finance Committee, and recommended to the Stoughton Common Council:

- Proposed Stoughton Utilities 2019 budget and five year (2019-2023) Capital Improvement Plan (CIP)

Update on the Utilities Director position recruitment and transition/interim management plan: Chairperson Erdman, Mayor Swadley, and Stoughton Utilities staff discussed transition plans. An ad hoc committee consisting of members of the Stoughton Personnel Committee, Utilities Committee Chairperson David Erdman, and Stoughton Utilities employee Sean Grady met to review the position description and propose possible modifications, as well as discuss Interim Director plans and the timing of posting the position opening. The revised Utilities Director position description was approved by the Stoughton Personnel Committee and Stoughton Common Council earlier in October.

Changes to the City of Stoughton ordinance relating to the supervision of the Utilities Director were recommended by the Stoughton Personnel Committee, reviewed by the City Attorney, and approved by the Stoughton Common Council earlier in October.

A handout was provided that outlined the proposed schedule. The Utilities Director position has been posted, and applications will be accepted through November 9, 2018. Interviews are scheduled to occur in late-November or early-December, with a goal of extending a contingent offer by the week of December 21, 2018. It is expected that the new Utilities Director will begin the week of January 21, 2019.

Discussion followed. Questions arose regarding the committee's involvement. Section 2-286 of the Stoughton Code of Ordinances was reviewed, and discussion followed regarding the timing of this involvement. The ad hoc committee will discuss this further.

Pole Attachment License Agreement revisions for a new licensee: Stoughton Utilities staff presented and discussed a revised pole attachment license agreement that is currently undergoing legal review. This agreement is based on our existing license agreements for other licensed parties with attachments on our poles, with minor updates to the language surrounding insurance, costs, procedures, etc. as recommended by our legal counsel. Discussion followed. Motion by O'Connor, the motion seconded by Kallas, to approve the revised Pole Attachment License Agreement, with such changes necessary to finalize the agreement as are acceptable to, and recommended by our legal counsel, and recommend approval to the Stoughton Common Council at a future meeting. The motion carried unanimously 6 to 0.

Real estate listing of the vacant land located at 3201 McComb Rd: Stoughton Utilities staff presented and discussed the history of the vacant land, and informed the committee of the intent to market this land for future development. Discussion followed. Motion by Hirsch, the motion seconded by Ackerman, to approve the listing of 10.683 acres of vacant land located at 3201 McComb Road, to direct staff to solicit proposals from commercial real estate brokers, with such proposals to be reviewed and approved by the Stoughton Finance Committee and Stoughton Common Council at a future meeting, and to bring all offers to purchase the land to the Stoughton Utilities Committee for their review and approval. The motion carried unanimously 6 to 0.

Stoughton Utilities Lead Awareness pamphlet and distribution strategy: Stoughton Utilities staff presented and discussed a draft pamphlet containing educational materials, including testing and filter resources, to be provided to customers who may have lead service laterals. Staff discussed the distribution plans. Discussion followed. The committee requested that staff continue to research funding assistance programs for the replacement of privately owned lead water services.

Invitation to attend an orientation to WPPI Energy: Stoughton Utilities staff presented and discussed an upcoming half-day educational program about WPPI Energy and the benefits of joint action. This orientation is open to utility staff and governing officials. If a quorum of the Utilities Committee may be present, the appropriate public notice will be posted as required by law. Discussion followed.

Scheduling of the Utilities Committee regular meetings in November and December: Stoughton Utilities staff explained that there is currently no new business items scheduled for the November or December Utilities Committee meetings, and that historically these meetings have been cancelled. Discussion followed. The committee directed staff to maintain these meetings on the calendar due to the ongoing recruitment process of the Utilities Director, with cancellation to be determined by the Committee Chairman following receipt of the draft agenda if there is insufficient new business to warrant a meeting.

Utilities Committee future agenda items: Staff informed the committee that upcoming topics include updates on the Utilities Director position transition, a review of the policy regarding wastewater billing credits, and information regarding funding assistance programs for the replacement of privately owned lead water services, including a future ordinance mandating such replacement.

Adjournment: Motion by O'Connor, the motion seconded by Hirsch, to adjourn the regular Stoughton Utilities Committee Meeting at 6:24 p.m. The motion carried unanimously 6 to 0.

Respectfully submitted

Brian R. Hoops
Stoughton Utilities Assistant Director

Stoughton Utilities

Check Register Summary - Standard

Period: - As of: 11/6/2018

Check Nbr	Type	Date	Amount Paid	Vendor ID / Name	Description
Company:	**7430**				
001689	EP	10/10/2018	23,015.36	516 WELLS FARGO BANK	VO for check batch: 308598/VO for check batch: 308598
001690	HC	10/30/2018	1,017,261.42	009 WPPI	WPPI - Renewably Energy/WPPI - Renewably Energy/WPPI - Buy Back Solar Cr/WPPI - Buy Back Solar Cr/WPPI - Shared Savings/WPPI - Shared Savings/WPPI - Large Power/WPPI - Large Power/WPPI - Support Services/WPPI - Support Services/WPPI - Support Services+
001691	HC	10/30/2018	137.96	856 GORDON FLESCH COMPANY, INC.	Gordon Flesch-Oct Ach/Gordon Flesch-Oct Ach/Gordon Flesch-Oct Ach/Gordon Flesch-Oct Ach/Gordon Flesch-Oct Ach/Gordon Flesch-Oct Ach/Gordon Flesch-Oct Ach/Gordon Flesch-Oct Ach
001692	HC	10/30/2018	803.68	004 Us Cellular - Ach	Us Cellular - Oct Ach/Us Cellular - Oct Ach/Us Cellular - Oct Ach/Us Cellular - Oct Ach/Us Cellular - Oct Ach/Us Cellular - Oct Ach/Us Cellular - Oct Ach
001693	HC	10/30/2018	418.76	547 Charter Communications-Ach	Charter Comm-Oct Ach/Charter Comm-Oct Ach/Charter Comm-Oct Ach/Charter Comm-Oct Ach/Charter Comm-Oct Ach/Charter Comm-Oct Ach/Charter Comm-Oct Ach
001694	HC	10/30/2018	564.96	318 PITNEY-BOWES INC-PURCHASE POWER	Pitney Bowes-Oct Ach/Pitney Bowes-Oct Ach/Pitney Bowes-Oct Ach/Pitney Bowes-Oct Ach/Pitney Bowes-Oct Ach/Pitney Bowes-Oct Ach/Pitney Bowes-Oct Ach
001695	HC	10/30/2018	3,228.00	014 A T C Company - Ach	A T C Co - Oct Ach/A T C Co - Oct Ach
001696	HC	10/30/2018	459.01	007 TDS Metrocom - Ach	TDS Metrocom - Oct Ach/TDS Metrocom - Oct Ach/TDS Metrocom - Oct Ach/TDS Metrocom - Oct Ach/TDS Metrocom - Oct Ach/TDS Metrocom - Oct Ach/TDS Metrocom - Oct Ach
001697	HC	10/30/2018	2,334.44	001 Delta Dental - Ach	Delta Dental - Oct Ach/Delta Dental - Oct Ach/Delta Dental - Oct Ach/Delta Dental - Oct Ach/Delta Dental - Oct Ach/Delta Dental - Oct Ach

Stoughton Utilities

Check Register Summary - Standard

Period: - As of: 11/6/2018

Check Nbr	Type	Date	Amount Paid	Vendor ID / Name	Description
001698	HC	10/30/2018	40.72	421 FIRST DATA CHARGES	First Data - Oct Ach/First Data - Oct Ach/First Data - Oct Ach/First Data - Oct Ach/First Data - Oct Ach/First Data - Oct Ach/First Data - Oct Ach/First Data - Oct Ach
001699	HC	10/30/2018	136.09	952 AT&T	AT&T - Oct Ach/AT&T - Oct Ach/AT&T - Oct Ach/AT&T - Oct Ach
001700	HC	10/30/2018	769.30	002 Employee Benefits Corp - Ach	EBC - Oct Ach/EBC - Oct Ach/EBC - Oct Ach/EBC - Oct Ach/EBC - Oct Ach/EBC - Oct Ach/EBC - Oct Ach
001701	HC	10/30/2018	222.54	003 Alliant Energy - Ach	Alliant Energy - Oct Ach/Alliant Energy - Oct Ach/Alliant Energy - Oct Ach/Alliant Energy - Oct Ach/Alliant Energy - Oct Ach/Alliant Energy - Oct Ach/Alliant Energy - Oct Ach/Alliant Energy - Oct Ach/Alliant Energy - Oct Ach+
001702	HC	10/30/2018	10,094.56	008 Payroll State Taxes - Ach	State Taxes - Oct Ach/State Taxes - Oct Ach/State Taxes - Oct Ach/State Taxes - Oct Ach
001703	HC	10/30/2018	54,161.27	025 Payroll Federal Taxes- Ach	Federal Taxes - Oct Ach/Federal Taxes - Oct Ach/Federal Taxes - Oct Ach/Federal Taxes - Oct Ach/Federal Taxes - Oct Ach/Federal Taxes - Oct Ach/Federal Taxes - Oct Ach/Federal Taxes - Oct Ach
001704	HC	10/30/2018	67,984.54	010 WI Dept. of Revenue Taxpayment-Ach	Dept Of Rev - Oct Ach/Dept Of Rev - Oct Ach/Dept Of Rev - Oct Ach/Dept Of Rev - Oct Ach
001705	HC	10/30/2018	10,493.40	020 Wells Fargo Bank-Ach	Client Analysis-Oct Ach/Client Analysis-Oct Ach/Client Analysis-Oct Ach/Client Analysis-Oct Ach/Client Analysis-Oct Ach/Client Analysis-Oct Ach/Client Analysis-Oct Ach/Client Analysis-Oct Ach
025683	VC	10/18/2018	-315.85	134 CRESCENT ELEC. SUPPLY CO.	Crescent-Supplies/Crescent-Supplies
025908	CK	10/4/2018	352.77	040 RICHARD NICOLAY JR	R Nicolay-Construction Refund/R Nicolay-Construction Refund
025909	CK	10/4/2018	141.81	361 SCF INVESTMENTS LLC	SCF Inv-Construction Refund/SCF Inv-Construction Refund

Stoughton Utilities

Check Register Summary - Standard

Period: - As of: 11/6/2018

Check Nbr	Type	Date	Amount Paid	Vendor ID / Name	Description
025910	CK	10/4/2018	250.00	415 STOUGHTON CHAMBER OF COMMERCE	Stoton Chamber-Membership/Stoton Chamber-Membership/Stoton Chamber-Membership/Stoton Chamber-Membership/Stoton Chamber-Membership
025911	CK	10/4/2018	45.00	956 WI DNR - OPERATOR CERTIFICATION SS/7	WI DNR - Operator Certifi/WI DNR - Operator Certifi
025912	CK	10/4/2018	40.00	133 WISCONSIN SCTF	WI SCTF-Oct A Support/WI SCTF-Oct A Support
025913	CK	10/4/2018	272.00	133 WISCONSIN SCTF	WI SCTF-Oct A Support/WI SCTF-Oct A Support
025914	CK	10/4/2018	176.77	133 WISCONSIN SCTF	WI SCTF-Oct A Support/WI SCTF-Oct A Support
025915	CK	10/4/2018	8.33	491 PUBLIC SVC. COMM. OF WI.	PSC - Assessments/PSC - Assessments
025916	CK	10/4/2018	145.78	564 RUTLAND CONCRETE CONSTRUCTION LLC	Rutland-Construction Refund/Rutland-Construction Refund
025917	CK	10/4/2018	3,128.63	327 BORDER STATES ELECTRIC SUPPLY	Border States-Inventory/Border States-Inventory/Border States-Inventory
025918	CK	10/4/2018	8,739.27	448 STRAND ASSOCIATES INC.	Strand-Well 4 Mcc Rep/Strand-Well 4 Mcc Rep/Strand-General Eng/Strand-General Eng/Strand-Nordic Ridge/Strand-Nordic Ridge/Strand-Lateral Obs/Strand-Lateral Obs/Strand-18 Utility Const/Strand-18 Utility Const/Strand-18 Utility Const/More...
025919	CK	10/4/2018	75.00	956 WI DNR - OPERATOR CERTIFICATION SS/7	WI DNR - Exams/WI DNR - Exams
025920	CK	10/4/2018	203.00	264 ODYSSEY DESIGN	Odyssey- Hats/Odyssey- Hats/Odyssey- Hats/Odyssey- Hats/Odyssey- Hats/Odyssey- Hats
025921	CK	10/4/2018	1,500.00	284 POSM SOFT LLC	Posm-Software Maint.
025922	CK	10/4/2018	198.00	290 MID-WEST TREE & EXCAVATION, INC	Midwest-Trenching/Midwest-Trenching
025923	CK	10/4/2018	45.00	956 WI DNR - OPERATOR CERTIFICATION SS/7	WI DNR - Operator Certif/WI DNR - Operator Certif
025924	CK	10/10/2018	920.00	084 HARVEST FARMS, LLC	Harvest Farms-Peterson Dev Cr/Harvest Farms-Peterson Dev Cr/Harvest Farms-Korgen Dev Cr/Harvest Farms-Korgen Dev Cr

Stoughton Utilities

Check Register Summary - Standard

Period: - As of: 11/6/2018

Check Nbr	Type	Date	Amount Paid	Vendor ID / Name	Description
025925	CK	10/10/2018	755.43	400 RESCO	Resco-Inventory/Resco-Inventory/Resco-Inventory/ Resco-Inventory/Resco-Inventory/Resco-Inventory/ Resco-Supplies/Resco-Supplies
025926	CK	10/10/2018	102.60	474 WOODWARD COMMUNITY MEDIA	Woodward-Ads/Woodward-Ads/Woodward-Ads/Wo odward-Ads/Woodward-Ads/Woodward-Ads
025927	CK	10/10/2018	13,075.00	593 UNITED LIQUID WASTE RECYCLING, INC	United Liquid-Fall Sludge Haul/United Liquid-Fall Sludge Haul
025928	CK	10/10/2018	10,413.00	729 SHC SUGAR HILL CONSULTING, LLC	SHC Sugar-Scada Work/SHC Sugar-Scada Work
025929	CK	10/18/2018	88.16	075 JOHN NOBLE	J Noble-Customer Refund/J Noble-Customer Refund
025930	CK	10/18/2018	1,641.18	451 INSIGHT FS	Insights-Fuel/Insights-Fuel/Insights-Fuel/Insights-Fu el/Insights-Fuel/Insights-Fuel
025931	CK	10/18/2018	131.99	728 CASEY BOLLIG & TEAGAN BOYER	C Bollig-Customer Refund/C Bollig-Customer Refund
025932	CK	10/18/2018	2,310.00	058 BOARDMAN CLARK LLP	Boardman-Profess svcs/Boardman-Profess svcs
025933	CK	10/18/2018	3,847.20	090 SOLENIS LLC	Solenis-Polymer/Solenis-Polymer
025934	CK	10/18/2018	3,100.00	290 MID-WEST TREE & EXCAVATION, INC	Midwest-Trenching/Midwest-Trenching
025935	CK	10/18/2018	7,301.66	362 UTILITY SERVICE CO., INC	Utility-Qtr tower/Utility-Qtr tower
025936	CK	10/18/2018	294.00	186 STAFFORD ROSENBAUM LLC	Stafford-Legal Fees/Stafford-Legal Fees
025937	CK	10/18/2018	326.89	400 RESCO	Resco-Supplies/Resco-Supplies/Resco-Inventory/R esco-Inventory/Resco-Supplies/Resco-Supplies
025938	CK	10/18/2018	492.20	405 ROSENBAUM CRUSHING & EXCAV.	Rosenbaum-Top Soil/Rosenbaum-Top Soil/Rosenbaum-Top Soil/Rosenbaum-Top Soil/Rosenbaum-Top Soil/Rosenbaum-Top Soil
025939	CK	10/18/2018	67.34	557 DON FREEMAN	D Freeman-Customer Refund/D Freeman-Customer Refund
025940	CK	10/18/2018	19,031.26	131 CITY OF STOUGHTON	City Stoton-Oct Retirement/City Stoton-Oct Retirement/City Stoton-Oct Retirement/City Stoton-Oct Retirement/City Stoton-Oct Retirement/City Stoton-Oct Retirement

Stoughton Utilities

Check Register Summary - Standard

Period: - As of: 11/6/2018

Check Nbr	Type	Date	Amount Paid	Vendor ID / Name	Description
025941	CK	10/18/2018	272.00	133 WISCONSIN SCTF	WI SCTF-Oct B Support/WI SCTF-Oct B Support
025942	CK	10/18/2018	40.00	133 WISCONSIN SCTF	WI SCTF-Oct B Support/WI SCTF-Oct B Support
025943	CK	10/18/2018	176.77	133 WISCONSIN SCTF	WI SCTF-Oct B Support/WI SCTF-Oct B Support
025944	ZC	10/18/2018	0.00	134 CRESCENT ELEC. SUPPLY CO.	Crescent-Supplies/Crescent-Supplies/Crescent-void ck 025683/Crescent-void ck 025683
025945	CK	10/24/2018	802.34	324 ELECTRICAL TESTING LAB., LLC.	Elec Testing-Glove Tests/Elec Testing-Glove Tests
025946	CK	10/24/2018	127.06	363 SHANEKA WATSON	S Watson-Customer Refund/S Watson-Customer Refund
025947	CK	10/24/2018	17,154.97	491 PUBLIC SVC. COMM. OF WI.	PSC-Assessments/PSC-Operating Revenues/PSC-Operating Revenues/PSC-Operating Revenues/PSC-Assessments/PSC-Assessments/PSC-Assessments
025948	CK	10/24/2018	57.00	584 VINING SPARKS IBG, L.P.	Vining Sparks-Safekeeping/Vining Sparks-Safekeeping
025949	CK	10/24/2018	61.06	629 MARGOT WENGER	M Wenger-Customer Refund/M Wenger-Customer Refund
025950	CK	10/24/2018	1,200.00	041 POWER SYSTEM ENGINEERING, INC.	Pwr Systems-Gis Services/Pwr Systems-Gis Services/Pwr Systems-Gis Services/Pwr Systems-Gis Services/Pwr Systems-Gis Services
025951	CK	10/24/2018	17,179.46	131 CITY OF STOUGHTON	City Stoton-Street permit/City Stoton-Street permit/City Stoton-FD Salaries/City Stoton-FD Salaries/City Stoton-FD Salaries/City Stoton-Sept Rent/City Stoton-Sept Rent/City Stoton-Sept Rent/City Stoton-FD Salaries/More...
025952	CK	10/24/2018	7,828.25	727 GLS UTILITY LLC	GLS Utility-Sept Locates/GLS Utility-Sept Locates/GLS Utility-Sept Locates/GLS Utility-Sept Locates/GLS Utility-Sept Locates

Stoughton Utilities

Check Register Summary - Standard

Period: - As of: 11/6/2018

Check Nbr	Type	Date	Amount Paid	Vendor ID / Name	Description
025953	CK	10/24/2018	136,486.64	303 MP SYSTEMS, INC.	MP Systems-Retainage/MP Systems-Retainage/MP Systems-Pay req 5 ret/MP Systems-Pay req 5 ret/Mp Systems-App #6 retainage/Mp Systems-App #6 retainage/MP Systems-Pay 4 retainage/MP Systems-Pay 4 retainage/MP Sys-App 3 Retainage/MP Sys-App 3 Retainage+
101688	VC	10/1/2018	-44.00	310 HANSON PEST MANAGEMENT	Hanson-Pest Maint.
101726	CK	10/4/2018	3,960.00	157 FORSTER ELEC. ENG.,INC.	Forster-Ct updates/Forster-Ct updates/Forster-Scada assist/Forster-Scada assist/Forster-Tech assist/Forster-Tech assist/Forster-Tech assist/Forster-Tech assist
101727	CK	10/4/2018	114.00	174 BRIAN ERICKSON	B Erickson-Conf Exp/B Erickson-Conf Exp
101728	CK	10/4/2018	114.00	181 BRIAN HOOPS	B Hoops-Conf Exp/B Hoops-Conf Exp
101729	CK	10/4/2018	2,252.08	259 ITRON, INC.	Itron-Maint & support/Itron-Maint & support/Itron-Maint & support/Itron-Maint & support/Itron-Maint & support/Itron-Maint & support
101730	CK	10/4/2018	44.00	310 HANSON PEST MANAGEMENT	Hanson Pest-Pest Maint/Hanson Pest-Pest Maint/Hanson Pest-Pest Maint/Hanson Pest-Pest Maint/Hanson Pest-Pest Maint/Hanson Pest-Pest Maint
101731	CK	10/4/2018	7,270.00	463 GREAT-WEST	Great West-Oct A Def Comp/Great West-Oct A Def Comp
101732	CK	10/4/2018	450.00	731 NORTH SHORE BANK FSB-DEFERRED COMP.	N Shore Bk-Oct A Def Comp/N Shore Bk-Oct A Def Comp
101733	CK	10/18/2018	17,486.46	157 FORSTER ELEC. ENG.,INC.	Forster-Retainage/Forster-Retainage
101734	CK	10/19/2018	59.67	181 BRIAN HOOPS	B Hoops-Conference exp/B Hoops-Conference exp
101735	CK	10/19/2018	28.00	310 HANSON PEST MANAGEMENT	Hanson Pest-Maint.
101736	CK	10/19/2018	170.00	404 JESSE MOWERY	J Mowery-School Exp/J Mowery-School Exp/J Mowery-School Exp/J Mowery-School Exp
101737	CK	10/19/2018	2,070.00	463 GREAT-WEST	Great West-Oct B Def Comp/Great West-Oct B Def Comp
101738	CK	10/19/2018	152.00	525 TYLER HARDING	T Harding-School Exp/T Harding-School Exp/T Harding-School Exp/T Harding-School Exp

Stoughton Utilities

Check Register Summary - Standard

Period: - As of: 11/6/2018

Check Nbr	Type	Date	Amount Paid	Vendor ID / Name	Description
101739	CK	10/19/2018	3,470.90	852 INFOSEND, INC	Infosend-Billing & Mailing/Infosend-Billing & Mailing/Infosend-Billing & Mailing/Infosend-Billing & Mailing/Infosend-Billing & Mailing/Infosend-Billing & Mailing/Infosend-Billing & Mailing
101740	CK	10/19/2018	1,030.00	995 MEUW	MEUW-Registration/MEUW-Registration/MEUW-Registration/MEUW-Registration/MEUW-Registration/MEUW-Registration
101746	ZC	10/18/2018	0.00	157 FORSTER ELEC. ENG.,INC.	Forster-Retainage/Forster-Retainage/Forster-to void 101733/Forster-to void 101733
		Company Total	1,491,042.09		

Date: Wednesday, October 10, 2018
Time: 08:30AM
User: SGUNSOLUS

Stoughton Utilities
Posting Preview Report

Select By: {PSSPurchCard.RefNbr} = '0000000089'

Company	Account	Sub	Vendor ID	Merchant	Amount	Description	Post Date	Emp ID	Projec
Import ID: 009010		**Import # : 0000000089**							
7460	850	000000	894	GRAND GENEVA RESORT & SP	-161.67	ROOM CANCELLED - SEE OCT 2017	09/24/2018	8200	-
7460	143	000000	436	STOUGHTON LUMBER CO	-22.03	RETURNED	09/24/2018	8740	-
7460	833	000000	390	BADGER WATER	67.60	LAB WATER	09/03/2018	8300	-
7460	107.14	000000	937	SPEE-DEE DELIVERY	13.71	DELIVERY CHARGES	09/03/2018	8300	180303XX - 1
7460	833	000000	830	NCL OF WISCONSIN INC	157.50	LAB SUPPLIES	09/12/2018	8300	-
7460	107.14	000000	974	NORTHERN LAKE SERVICE, IN	359.40	PARADISE POND TESTING	09/12/2018	8300	180303XX - 1
7460	833	000000	937	SPEE-DEE DELIVERY	13.71	DELIVERY CHARGES	09/17/2018	8300	-
7460	107.14	000000	937	SPEE-DEE DELIVERY	13.71	DELIVERY CHARGES	09/24/2018	8300	180303XX - 1
7430	921	000000	836	MSFT E04006H3XZ	31.90	SOFTWARE LICENSING - MICROSOFT LYNC - MONTHLY	09/05/2018	5250	-
7450	921	000000	836	MSFT E04006H3XZ	11.60	SOFTWARE LICENSING - MICROSOFT LYNC - MONTHLY	09/05/2018	5250	-
7460	851	000000	836	MSFT E04006H3XZ	14.50	SOFTWARE LICENSING - MICROSOFT LYNC - MONTHLY	09/05/2018	5250	-
7430	903	000000	419	PAYFLOW/PAYPAL	65.47	Credit card processing - MyAccount Online	09/05/2018	5250	-
7450	903	000000	419	PAYFLOW/PAYPAL	23.57	Credit card processing - MyAccount Online	09/05/2018	5250	-
7460	840	000000	419	PAYFLOW/PAYPAL	31.42	Credit card processing - MyAccount Online	09/05/2018	5250	-
7430	233	001099	419	PAYFLOW/PAYPAL	10.49	Credit card processing - MyAccount Online	09/05/2018	5250	-
7430	903	000000	419	PAYFLOW/PAYPAL	40.57	Credit card processing - Desktop and Recurring	09/06/2018	5250	-
7450	903	000000	419	PAYFLOW/PAYPAL	14.60	Credit card processing - Desktop and Recurring	09/06/2018	5250	-
7460	840	000000	419	PAYFLOW/PAYPAL	19.47	Credit card processing - Desktop and Recurring	09/06/2018	5250	-
7430	233	001099	419	PAYFLOW/PAYPAL	6.51	Credit card processing - Desktop and Recurring	09/06/2018	5250	-
7430	920	000000	994	EL RIO GRANDE MEXICAN RES	32.75	MEETING EXPENSE - SPEED SOLAR - CITY STAFF X3	09/13/2018	5250	-
7430	926	000000	578	THE SHOE BOX	118.00	Safety Boots - Bryce Sime	09/10/2018	5200	-
7450	642	000000	108	ASLESON'S TRUE VALUE HDW	9.64	Misc product	09/03/2018	8400	-
7450	642	000000	894	KWIK TRIP 73800007385	3.98	Ice for water samples	09/13/2018	8400	-
7450	642	000000	994	TRACTOR SUPPLY #2236	9.99	Gloves	09/26/2018	8400	-
7430	107.14	000000	468	IN MOYER'S INC.	35.00	Straw net WO180104u	09/13/2018	8700	180104UA - 1
7430	107.14	000000	468	IN MOYER'S INC.	84.00	Electric straw/sod WO180104u	09/13/2018	8700	180104UA - 1
7450	675	000000	436	STOUGHTON LUMBER CO	14.00	Straw for yard restoration	09/14/2018	8700	-
7450	652	000000	571	USA BLUE BOOK	450.93	colorimeter for testing chlorine.	09/14/2018	8700	-
7450	678	000000	148	FASTENAL COMPANY01	4.15	Valve turner	09/18/2018	8700	-
7450	652	000000	571	USA BLUE BOOK	28.27	wipes for lab testing	09/21/2018	8700	-
7450	678	000000	507	WAL-MART #1176	16.52	water supplies	09/21/2018	8700	-
7430	933	000000	436	STOUGHTON LUMBER CO	438.76	Electric Truck #4 work	09/24/2018	8700	-
7450	678	000000	818	LINCOLN CONTRACTORS SUPPL	24.79	BLUEMAX SHOVEL	09/25/2018	8700	-
7450	652	000000	994	CHEMWORLD	24.99	PART FOR CHEMICAL INJECTOR	09/25/2018	8700	-
7450	678	000000	818	LINCOLN CONTRACTORS SUPPL	67.20	BELLOWS	09/25/2018	8700	-
7450	678	000000	652	MENARDS MONONA WI	308.21	Water Supplies	09/26/2018	8700	-
7460	831	000000	148	FASTENAL COMPANY01	144.65	Manhole repair	09/27/2018	8700	-
7450	641	000000	309	HAWKINS INC	994.71	CHEMICALS	09/10/2018	7400	-
7450	642	000000	675	WI STATE HYGIENE LAB	25.00	FLOURIDE TESTING	09/12/2018	7400	-
7450	677	000000	816	CORE & MAIN LP 233	64.00	BONNET GASKET	09/12/2018	7400	-
7450	107.14	000000	354	HYDRO DESIGNS	693.57	MONTHLY CROSS CONNECTION	09/18/2018	7400	180901XX - 1
7450	107.14	000000	354	HYDRO DESIGNS	693.57	MONTHLY CROSS CONNECTION	09/27/2018	7400	180901XX - 1

Date: Wednesday, October 10, 2018
Time: 08:30AM
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Stoughton Utilities
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Company	Account	Sub	Vendor ID	Merchant	Amount	Description	Post Date	Emp ID	Projec
7450	675	000000	555	WOLF PAVING CO., INC.	388.94	ASPHALT PATCHES	09/28/2018	7400	-
7460	834	000000	626	663 STOUGHTON BUMPER TO B	8.59	WWTP GENERATOR PARTS	09/03/2018	8710	-
7460	834	000000	148	FASTENAL COMPANY01	16.73	BATTERY FOR RADIOS	09/05/2018	8710	-
7460	834	000000	108	ASLESON'S TRUE VALUE HDW	13.63	CHAIN FOR GATE	09/11/2018	8200	-
7460	850	000000	548	WWOA	190.00	WWOA CONFERENCE FEES	09/12/2018	8200	-
7460	850	000000	548	WWOA	195.00	WWOA CONFERENCE FEES	09/12/2018	8200	-
7460	827	000000	108	ASLESON'S TRUE VALUE HDW	6.17	BUNGEE CORDS	09/12/2018	8200	-
7460	832	000000	207	LW ALLEN	379.90	EASTWOOD REPAIRS	09/13/2018	8200	-
7460	834	000000	795	EMS INDUSTRIAL, INC.	388.00	MOTOR FOR ROOFTOP INTAKE	09/18/2018	8200	-
7460	834	000000	108	ASLESON'S TRUE VALUE HDW	9.08	CHAIN FOR GATE	09/21/2018	8200	-
7460	923	000000	800	CLASS 1 AIR INC	105.00	ANNUAL FUME HOOD TESTING	09/24/2018	8200	-
7460	831	000000	674	NORTHERN SEWER EQUIP	47.50	TELEVISING CAMERA PARTS	09/24/2018	8200	-
7430	921	000000	352	STAPLS7203999092000001	54.77	GENERAL OFFICE SUPPLIES	09/10/2018	3680	-
7450	921	000000	352	STAPLS7203999092000001	19.71	GENERAL OFFICE SUPPLIES	09/10/2018	3680	-
7460	851	000000	352	STAPLS7203999092000001	26.29	GENERAL OFFICE SUPPLIES	09/10/2018	3680	-
7430	233	001099	352	STAPLS7203999092000001	8.78	GENERAL OFFICE SUPPLIES	09/10/2018	3680	-
7430	921	000000	352	STAPLS7203996405000001	79.37	GENERAL KITCHEN SUPPLIES	09/10/2018	3680	-
7450	921	000000	352	STAPLS7203996405000001	28.86	GENERAL KITCHEN SUPPLIES	09/10/2018	3680	-
7460	851	000000	352	STAPLS7203996405000001	36.08	GENERAL KITCHEN SUPPLIES	09/10/2018	3680	-
7450	642	000000	824	UPS 1ZG194WT0338862233	9.73	SHIPPING OF WATER SAMPLES FOR TESTING	09/13/2018	3680	-
7430	920	000000	601	SQ FOSDAL HOME BAK	7.15	Meeting supplies - UC	09/18/2018	3680	-
7450	920	000000	601	SQ FOSDAL HOME BAK	2.60	Meeting supplies - UC	09/18/2018	3680	-
7460	850	000000	601	SQ FOSDAL HOME BAK	3.25	Meeting supplies - UC	09/18/2018	3680	-
7450	642	000000	824	UPS 1ZG194WT0334066440	9.73	SHIPPING OF WATER SAMPLES FOR TESTING	09/20/2018	3680	-
7430	920	000000	994	DIAMONDS DIRECT-CLVR MINI	435.18	Retirement gift - RKardasz	09/27/2018	3680	-
7450	920	000000	994	DIAMONDS DIRECT-CLVR MINI	158.25	Retirement gift - RKardasz	09/27/2018	3680	-
7460	850	000000	994	DIAMONDS DIRECT-CLVR MINI	197.82	Retirement gift - RKardasz	09/27/2018	3680	-
7450	642	000000	824	UPS 1ZG194WT0315062355	9.73	SHIPPING OF WATER SAMPLES FOR TESTING	09/27/2018	3680	-
7430	593	000000	894	CVTC CHIPPEWA CAMPUS	361.30	Training Chippewa Valley Tech	09/11/2018	5296	-
7430	594	000000	894	CVTC CHIPPEWA CAMPUS	361.31	Training Chippewa Valley Tech	09/11/2018	5296	-
7430	933	000000	894	KWIK TRIP 39000003905	38.33	Fuel	09/24/2018	5296	-
7430	593	000000	894	HAMPTON INN - EAU CLAI	252.55	Apprenticeship Class Lineman Hotel Stay	09/24/2018	5296	-
7430	594	000000	894	HAMPTON INN - EAU CLAI	252.55	Apprenticeship Class Lineman Hotel Stay	09/24/2018	5296	-
7430	933	000000	317	CENEX D M SERV07083686	32.00	Forklift propane	09/11/2018	5275	-
7450	675	000000	043	AIRGASS NORTH	64.85	CO2 Gas -Water lateral repairs	09/12/2018	5275	-
7430	597	000000	164	THE UPS STORE 3617	281.80	shipping for electric meter test board, sending in for repairs	09/14/2018	5275	-
7450	663	000000	148	FASTENAL COMPANY01	41.99	Nuts and bolts for water meters	09/27/2018	5275	-
7460	831	000000	994	CMC - MADISON EAST	281.50	MANHOLE REPAIRS	09/18/2018	8740	-
7460	831	000000	436	STOUGHTON LUMBER CO	20.88	MANHOLE REPAIRS	09/24/2018	8740	-
7460	143	000000	436	STOUGHTON LUMBER CO	22.03	RETURNED	09/24/2018	8740	-
7430	593	000000	894	CVTC CHIPPEWA CAMPUS	361.31	Lineworker Apprenticeship	09/14/2018	6940	-
7430	594	000000	894	CVTC CHIPPEWA CAMPUS	361.30	Lineworker Apprenticeship	09/14/2018	6940	-
7430	588	000000	507	WAL-MART #1176	20.97	BUG SPRAY	09/13/2018	6970	-
7430	588	000000	994	TRACTOR SUPPLY #2236	2.13	Chipper Bolts	09/19/2018	6970	-

Date: Wednesday, October 10, 2018
Time: 08:30AM
User: SGUNSOLUS

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Stoughton Utilities

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7430	933	000000	994	KWIK TRIP 73900007393	16.63	fuel	09/26/2018	6970	-
7430	926	000000	809	CINTAS 446	186.26	UNIFORM CLEANING	09/03/2018	4000	-
7450	926	000000	809	CINTAS 446	35.55	UNIFORM CLEANING	09/03/2018	4000	-
7460	854	000000	809	CINTAS 446	26.31	UNIFORM CLEANING	09/03/2018	4000	-
7430	926	000000	809	CINTAS 446	186.26	UNIFORM CLEANING	09/10/2018	4000	-
7450	926	000000	809	CINTAS 446	35.55	UNIFORM CLEANING	09/10/2018	4000	-
7460	854	000000	809	CINTAS 446	26.31	UNIFORM CLEANING	09/10/2018	4000	-
7430	932	000000	322	IN SUNDANCE BIOCLEAN, IN	280.50	JANITORIAL	09/12/2018	4000	-
7450	932	000000	322	IN SUNDANCE BIOCLEAN, IN	102.00	JANITORIAL	09/12/2018	4000	-
7460	834	000000	322	IN SUNDANCE BIOCLEAN, IN	127.50	JANITORIAL	09/12/2018	4000	-
7430	934	000000	994	CAPITAL EQUIPMENT	69.00	FORK LIFT MAINT	09/14/2018	4000	-
7430	926	000000	809	CINTAS 446	186.26	UNIFORM CLEANING	09/17/2018	4000	-
7450	926	000000	809	CINTAS 446	35.55	UNIFORM CLEANING	09/17/2018	4000	-
7460	854	000000	809	CINTAS 446	26.31	UNIFORM CLEANING	09/17/2018	4000	-
7430	926	000000	809	CINTAS 446	186.26	UNIFORM CLEANING	09/24/2018	4000	-
7450	926	000000	809	CINTAS 446	35.55	UNIFORM CLEANING	09/24/2018	4000	-
7460	854	000000	809	CINTAS 446	26.31	UNIFORM CLEANING	09/24/2018	4000	-
7430	934	000000	269	UTILITY SALES & SERV	2,373.65	TRUCK 5 MAINT	09/27/2018	4000	-
7430	932	000000	134	CRESCENT ELECTRIC 087	36.00	HALLWAY LIGHTS	09/05/2018	4100	-
7430	232	001099	355	STUART C IRBY	504.30	ELECTRIC INVENTORY	09/07/2018	4100	-
7430	232	001099	355	STUART C IRBY	853.30	ELECTRIC INVENTORY	09/07/2018	4100	-
7430	932	000000	134	CRESCENT ELECTRIC 087	514.25	HALLWAY LIGHTING	09/17/2018	4100	-
7430	232	001099	134	CRESCENT ELECTRIC 087	105.00	ELECTRIC INVENTORY	09/17/2018	4100	-
7450	642	000000	422	AMZN MKTP US MT2162N20	14.85	WATER DEPT PART	09/20/2018	4100	-
7430	593	000000	327	BORDER STATES ELECTRIC	31.89	BUSHING GASKETS	09/24/2018	4100	-
7430	232	001099	134	CRESCENT ELECTRIC 087	61.46	ELECTRIC INVENTORY	09/25/2018	4100	-
7430	932	000000	422	AMAZON.COM MT0XR3AS1	20.62	BLDG SUPPLIES	09/26/2018	4100	-
7430	232	001099	355	STUART C IRBY	165.00	ELECTRIC INVENTORY	09/26/2018	4100	-
7430	232	001099	484	CREE LIGHTING	5,250.00	LED STREET LIGHTS	09/26/2018	4100	-
7450	642	000000	422	AMAZON.COM MT14P6AN1	22.00	WATER SAMPLING ITEMS	09/26/2018	4100	-
7430	588	000000	422	AMZN MKTP US MT8QV5XV2	29.00	SAFETY VEST	09/27/2018	4100	-
7430	232	001099	355	STUART C IRBY	30.62	ELECTRIC INVENTORY	09/27/2018	4100	-
7430	932	000000	422	AMAZON.COM MT3F52G51	81.16	BLDG SUPPLIES	09/27/2018	4100	-
7430	593	000000	134	CRESCENT ELECTRIC 087	220.80	VINYL TAPE	09/28/2018	4100	-
7430	232	001099	134	CRESCENT ELECTRIC 087	522.00	ELECTRIC INVENTORY	09/28/2018	4100	-

Total: **23,015.36**

Stoughton Utilities

Financial Summary

September 2018-YTD

Highlights-Comparison to prior month

I have no concerns with the utility's financial status. The following items are meant to illustrate significant changes in the financial summary from prior periods.

Overall Summary:

- The September 2018 results are reasonable in comparison to the August 2018 and September 2017 results. Detailed analysis is provided below.

Electric Summary:

- Sales have increased $72,500 compared to YTD 2017 mainly due to a 5.25% increase in consumption offset by a $375,000 decrease in PCAC revenue.
- Purchased power costs have decreased $48,600 compared to YTD 2017 mainly due to a much lower cost per MWh from WPPI.
- Operating expenses have increased $45,700 compared to YTD 2017 mainly due to wage increases, the installation of fault indicators city wide and the retirement of Don Hanson.
- Depreciation and PILOT expenses have increased $127,000 compared to YTD 2017 mainly due to the increase in plant balances related to the West Substation.
- The rate of return is currently 4.54% compared to 5.03% at the same time last year.
- Unrestricted cash balances are at 4.48 months of sales (Goal is 6 months).

Water Summary:

- Sales have increased $1,700 compared to YTD 2017 mainly due to a 2% decrease in consumption offset by an increase in customer counts.
- Other revenues have increased $4,600 compared to YTD 2017 mainly due to increased bulk water sales and tower rental fees.
- Operating expenses have decreased $7,700 compared to YTD 2017 mainly due to reduced health insurance costs and the meter chamber replacement program in 2017.
- Depreciation and PILOT expenses have increased $37,100 compared to YTD 2017 due to increases in plant balances.
- Non-operating expenses have decreased $29,700 compared to YTD 2017 mainly due to the timing of debt service related accounting entries. This will fall more in line in October.
- The rate of return is currently 1.9% compared to 2.26% at the same time last year.
- Unrestricted cash balances are at 2.14 months of sales (Goal is 6 months).

Wastewater Summary:

- Sales have increased $9,200 compared to YTD 2017 mainly due to a .45% increase in consumption.
- Other revenues have increased $3,400 compared to YTD 2017 mainly due to increased industrial surcharges.
- Depreciation has increased $24,000 compared to YTD 2017 due increases in plant balances.
- Non-operating expenses have decreased $9,200 compared to YTD 2017 mainly due to the timing of debt service related accounting entries. This will fall more in line in October.
- Unrestricted cash balances are at 10.81 months of sales (Goal is 6 months).

Submitted by:
Jamin Friedl, CPA

STOUGHTON UTILITIES
Balance Sheets
As of September 30, 2018

	Electric	Water	Wastewater	Combined
Assets				
Cash & Investments	$ 7,194,179	$ 1,231,095	$ 3,336,606	$ 11,761,879
Customer A/R	1,819,602	222,603	204,058	2,246,262
Other A/R	45,497	152	4	45,653
Other Assets	1,038,052	273,124	153,397	1,464,572
Plant in Service	26,531,238	15,531,573	29,558,707	71,621,517
Accumulated Depreciation	(14,086,986)	(5,449,755)	(11,627,452)	(31,164,193)
Plant in Service - CIAC	3,498,402	7,589,175	-	11,087,577
Accumulated Depreciation-CIAC	(1,729,733)	(2,109,591)	-	(3,839,324)
Construction Work in Progress	3,792,242	149,449	243,164	4,184,854
GASB 68 Deferred Outflow	457,351	157,142	173,873	788,366
Total Assets	$ 28,559,842	$ 17,594,965	$ 22,042,356	$ 68,197,163
Liabilities + Net Assets				
Accounts Payable	$ 91,637	$ 64,198	$ 45,048	$ 200,883
Payable to City of Stoughton	380,325	328,500	-	708,825
Interest Accrued	(809)	20,922	48,827	68,940
Other Liabilities	729,293	99,242	128,074	956,609
Long-Term Debt	5,138,833	2,703,378	4,568,264	12,410,475
Net Assets	21,998,474	14,300,439	17,164,385	53,463,298
GASB 68 Deferred Inflow	222,090	78,286	87,758	388,134
Total Liabilities + Net Assets	$ 28,559,842	$ 17,594,965	$ 22,042,356	$ 68,197,163

STOUGHTON UTILITIES

Year-to-Date Combined Income Statement

September 2018

	Electric	Water	Wastewater	Total
Operating Revenue:				
Sales	$ 11,688,710	$ 1,524,839	$ 1,490,985	$ 14,704,534
Other	100,347	53,204	61,049	214,601
Total Operating Revenue:	**$ 11,789,057**	**$ 1,578,044**	**$ 1,552,035**	**$ 14,919,135**
Operating Expense:				
Purchased Power	8,861,852	-	-	8,861,852
Expenses (Including Taxes)	1,207,749	687,862	705,689	2,601,299
PILOT	335,997	328,500	-	664,497
Depreciation	834,822	369,900	635,247	1,839,969
Total Operating Expense:	**$ 11,240,420**	**$ 1,386,262**	**$ 1,340,936**	**$ 13,967,617**
Operating Income	**$ 548,637**	**$ 191,782**	**$ 211,099**	**$ 951,518**
Non-Operating Income	344,964	42,269	60,126	447,359
Non-Operating Expense	(120,074)	(44,582)	(92,025)	(256,681)
Net Income	**$ 773,528**	**$ 189,469**	**$ 179,199**	**$ 1,142,196**

STOUGHTON UTILITIES

Year-to-Date Combined Income Statement

September 2017

	Electric	Water	Wastewater	Total
Operating Revenue:				
Sales	$ 11,616,165	$ 1,523,184	$ 1,481,778	$ 14,621,127
Other	102,488	$ 48,557	$ 57,630	208,675
Total Operating Revenue:	**$ 11,718,653**	**$ 1,571,741**	**$ 1,539,408**	**$ 14,829,801**
Operating Expense:				
Purchased Power	8,910,452	-	-	8,910,452
Expenses (Including Taxes)	1,162,068	695,537	713,122	2,570,728
PILOT	297,000	315,747	-	612,747
Depreciation	746,892	345,528	611,253	1,703,673
Total Operating Expense:	**$ 11,116,412**	**$ 1,356,812**	**$ 1,324,375**	**$ 13,797,599**
Operating Income	**$ 602,241**	**$ 214,928**	**$ 215,033**	**$ 1,032,202**
Non-Operating Income	355,722	45,156	56,526	457,405
Non-Operating Expense	(112,403)	(74,240)	(101,250)	(287,893)
Net Income	**$ 845,560**	**$ 185,845**	**$ 170,309**	**$ 1,201,714**

STOUGHTON UTILITIES
Detailed Monthly Income Statements
September 2018

ELECTRIC

	September 2018	August 2018	Change from Prior Month	September 2017
Operating Revenue:				
Sales	$ 1,319,604	$ 1,597,020	$ (277,415)	$ 1,394,359
Other	1,221	855	366	3,045
Total Operating Revenue:	**$ 1,320,825**	**$ 1,597,875**	**$ (277,050)**	**$ 1,397,404**
Operating Expense:				
Purchased Power	1,013,585	1,258,102	(244,517)	1,074,648
Expenses (Including Taxes)	109,540	99,316	10,224	125,333
PILOT	37,333	37,333	-	33,000
Depreciation	92,758	92,758	-	82,988
Total Operating Expense:	**$ 1,253,216**	**$ 1,487,509**	**$ (234,293)**	**$ 1,315,968**
Operating Income	**$ 67,609**	**$ 110,366**	**$ (42,757)**	**$ 81,436**
Non-Operating Income	28,036	8,767	19,269	10,415
Non-Operating Expense	(9,885)	(9,879)	(6)	(23,283)
Net Income	**$ 85,760**	**$ 109,253**	**$ (23,494)**	**$ 68,567**

WATER

	September 2018	August 2018	Change from Prior Month	September 2017
Operating Revenue:				
Sales	$ 166,905	$ 175,782	$ (8,877)	$ 175,742
Other	5,366	5,384	(18)	5,253
Total Operating Revenue:	**$ 172,271**	**$ 181,166**	**$ (8,895)**	**$ 180,995**
Operating Expense:				
Expenses (Including Taxes)	66,927	66,972	(44)	101,125
PILOT	36,500	36,500	-	35,083
Depreciation	41,100	41,100	-	38,392
Total Operating Expense:	**$ 144,527**	**$ 144,572**	**$ (44)**	**$ 174,600**
Operating Income	**$ 27,744**	**$ 36,594**	**$ (8,851)**	**$ 6,396**
Non-Operating Income	5,563	1,869	3,695	1,049
Non-Operating Expense	(4,258)	(4,258)	-	(11,576)
Net Income	**$ 29,049**	**$ 34,205**	**$ (5,156)**	**$ (4,132)**

WASTEWATER

	September 2018	August 2018	Change from Prior Month	September 2017
Operating Revenue:				
Sales	$ 158,600	$ 168,221	$ (9,621)	$ 168,070
Other	10,504	3,215	7,289	890
Total Operating Revenue:	**$ 169,104**	**$ 171,436**	**$ (2,332)**	**$ 168,960**
Operating Expense:				
Expenses (Including Taxes)	77,423	47,293	30,130	81,248
Depreciation	70,583	70,583	-	67,917
Total Operating Expense:	**$ 148,006**	**$ 117,876**	**$ 30,130**	**$ 149,165**
Operating Income	**$ 21,098**	**$ 53,560**	**$ (32,462)**	**$ 19,795**
Non-Operating Income	2,122	2,231	(109)	1,419
Non-Operating Expense	(10,225)	(10,225)	-	(11,250)
Net Income	**$ 12,996**	**$ 45,566**	**$ (32,571)**	**$ 9,964**

STOUGHTON UTILITIES

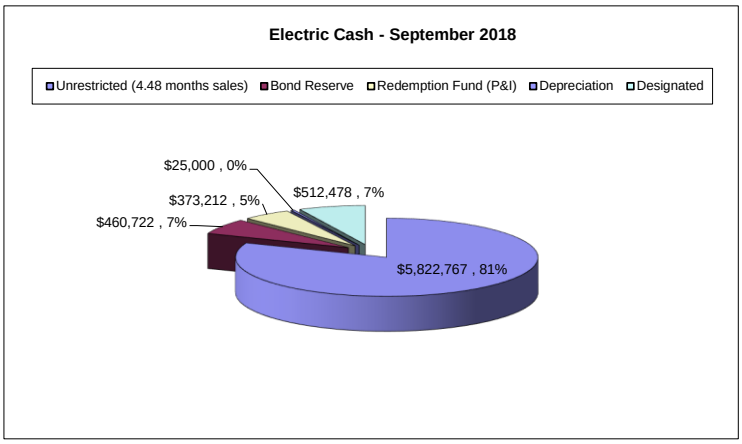
Rate of Return

Year-to-Date September 2018

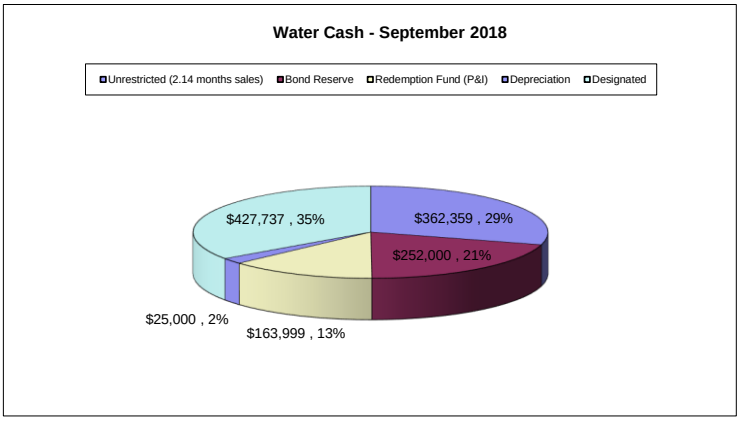
	Electric	Water
Operating Income (Regulatory)	$ 548,637	$ 191,782
Average Utility Plant in Service	25,876,127	15,448,004
Average Accumulated Depreciation	(13,740,842)	(5,184,844)
Average Materials and Supplies	232,027	40,485
Average Regulatory Liability	(121,884)	(188,258)
Average Customer Advances	(155,394)	-
Average Net Rate Base	$ 12,090,034	$ 10,115,387
September 2018 Rate of Return	**4.54%**	**1.90%**
September 2017 Rate of Return	**5.03%**	**2.26%**
December 2017 Rate of Return	**6.46%**	**3.22%**
Authorized Rate of Return	**5.00%**	**5.25%**

STOUGHTON UTILITIES
Cash and Investments Summary
As of September 30, 2018

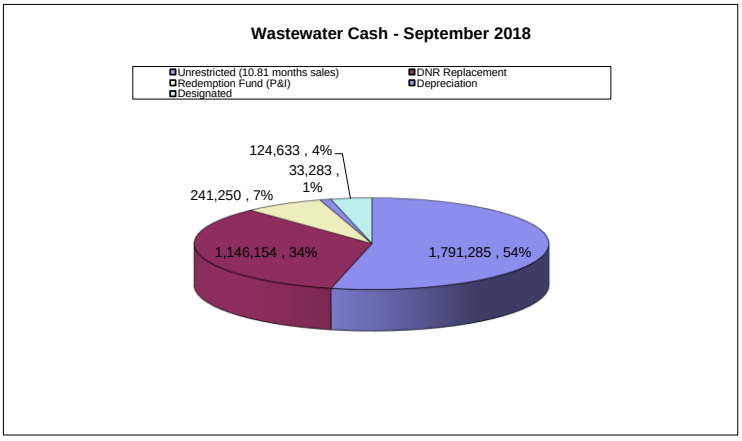
Electric	**September 2018**
Unrestricted (4.48 months sales)	$ 5,822,767
Bond Reserve	$ 460,722
Redemption Fund (P&I)	$ 373,212
Depreciation	$ 25,000
Designated	$ 512,478
Total	**$ 7,194,179**



Water	**September 2018**
Unrestricted (2.14 months sales)	$ 362,359
Bond Reserve	$ 252,000
Redemption Fund (P&I)	$ 163,999
Depreciation	$ 25,000
Designated	$ 427,737
Total	**$ 1,231,095**



Wastewater	**September 2018**
Unrestricted (10.81 months sales)	1,791,285
DNR Replacement	1,146,154
Redemption Fund (P&I)	241,250
Depreciation	33,283
Designated	124,633
Total	**3,336,605**



STOUGHTON UTILITIES
2018 Statistical Worksheet

Electic	Total Sales 2017 KwH	Total KwH Purchased 2017	Total Sales 2018 KwH	Total KwH Purchased 2018	Demand Peak 2017	Demand Peak 2018
January	12,379,222	12,812,545	12,609,523	13,204,183	23,662	24,195
February	10,691,419	10,759,773	11,167,697	11,394,593	21,934	22,984
March	11,785,378	11,607,813	11,302,081	11,305,664	20,399	20,886
April	9,553,672	10,048,660	10,338,769	10,759,236	18,091	19,558
May	10,496,558	10,622,971	11,809,136	12,169,996	21,934	31,336
June	12,732,532	12,662,125	12,676,500	13,057,295	32,720	32,502
July	13,227,532	13,912,583	14,229,395	14,658,088	30,828	32,727
August	12,322,240	12,624,031	14,385,615	14,667,802	28,159	30,616
September	11,483,233	11,758,812	11,652,706	12,199,565	30,090	31,030
October						
November						
December						
TOTAL	**104,671,786**	**106,809,313**	**110,171,422**	**113,416,422**		

Water	Total Sales 2017 Gallons	Total Gallons Pumped 2017	Total Sales 2018 Gallons	Total Gallons Pumped 2018	Max Daily High 2017	Max Daily Highs 2018
January	37,110,000	43,748,000	35,560,000	44,660,000	1,629,000	1,668,000
February	34,905,000	41,145,000	33,594,000	41,438,000	1,780,000	1,711,000
March	38,893,000	40,725,000	36,877,000	40,980,000	1,542,000	1,449,000
April	33,884,000	39,290,000	35,745,000	40,572,000	2,105,000	1,583,000
May	38,370,000	41,634,000	39,058,000	43,612,000	1,732,000	2,087,000
June	41,534,000	46,477,000	39,092,000	44,311,000	1,876,000	1,871,000
July	37,083,000	43,980,000	41,674,000	49,321,000	2,057,000	2,194,000
August	42,414,000	45,656,000	41,375,000	45,143,000	1,839,000	1,939,000
September	41,685,000	45,250,000	37,069,000	40,005,000	1,849,000	1,657,000
October						
November						
December						
TOTAL	**345,878,000**	**387,905,000**	**340,044,000**	**390,042,000**		

Wastewater	Total Sales 2017 Gallons	Total Treated Gallons 2017	Total Sales 2018 Gallons	Total Treated Gallons 2018	Precipitation 2017	Precipitation 2018
January	25,221,000	33,337,000	25,668,000	31,460,000	2.43	2.15
February	23,196,000	27,663,000	23,717,000	30,781,000	1.34	3.54
March	26,255,000	29,882,000	25,915,000	28,544,000	2.69	0.75
April	23,309,000	32,828,000	24,842,000	28,602,000	6.80	1.87
May	26,366,000	34,190,000	27,090,000	34,919,000	3.62	8.12
June	28,445,000	34,688,000	26,393,000	37,405,000	7.55	10.50
July	25,129,000	40,536,000	27,263,000	37,702,000	6.60	2.68
August	26,215,000	36,658,000	26,161,000	38,556,000	3.99	9.45
September	26,103,000	31,442,000	24,234,000	41,231,000	0.77	7.00
October						
November						
December						
TOTAL	**230,239,000**	**301,224,000**	**231,283,000**	**309,200,000**	**35.79**	**46.06**

Stoughton Utilities Activities Report
October 2018

Administration

Robert P. Kardasz, P.E.
Utilities Director

Bob Kardasz tendered his resignation notice effective October 15, 2018. Prior to his departure, a retirement reception and awards presentation was held, with retirement awards being presented by the Municipal Electric Utilities of Wisconsin (MEUW) Executive Director, and WPPI Energy Chief Executive Officer. Numerous employees from SU, MEUW, and WPPI attended, as well as other municipal utility directors and general managers from across the state.

Technical Operations Division

Brian R. Hoops
Assistant Utilities Director

Customer Payments: Staff processed 9,389 payments totaling $1.95 million, including 1,841 checks, 1,872 lockbox payments, 1,179 credit cards, 1,495 *My Account* online payments, 2,055 automated bank withdrawals, 756 direct bank payments, and over $51,800 in cash.

Delinquent Collections: As of October 1, there were 1,600 active accounts carrying delinquent balances totaling over $295,200, and 134 final-billed accounts carrying delinquent balances totaling $23,900. Of the total amount delinquent, $49,000 was 30 or more days past due.

- On October 12, we mailed out 10-day notices of pending disconnection to 763 delinquent customers.
- On October 23, we delivered automated phone calls to 393 customers providing a warning of pending electric service disconnection. All customers without a phone number received notices delivered to their home or business.
- On October 24, we delivered automated phone calls to 212 customers providing a final warning of pending electric service disconnection.
- On October 25, we performed 26 electric service disconnections due to continued nonpayment.

We ended the month of October with $42,900 remaining 30 or more days past-due. For comparison, 30+ day delinquencies are 6% higher than this time last year ($40,200).

Delinquent Collections – Tax Roll: October 1 marked the beginning of the annual tax roll process. As of this date, all delinquent balances were considered to be liens against the properties serviced. On October 15, staff mailed notices to 62 property owners for 89 delinquent tenant accounts. A total of $19,481 was owed. This amount is down 16% compared to 2017 ($23,067).

Property owners have until November 1 to make payment without additional fees or penalties, after which a 10% penalty will be applied. If the amount remains unpaid on November 15, it will be submitted to the City Treasurer to be placed on the property tax roll.

Energy Assistance: During the month of October, energy assistance (EA) payments for one customer totaling $400 were received from the State of Wisconsin Public Benefits Program and applied to customer

accounts to assist low-income customers experiencing a financial crisis with their home heating and cooling expenses.

The Public Benefits Program began accepting customer applications for seasonal assistance on October 1 for the 2018-19 heating season. Crisis funding also remains available to eligible customers. Customer service staff has been busy providing customers and EA staff with customer's historical electrical usage data and payment histories, which are used to determine the amount of assistance benefits.

Stoughton Utilities will see initial the funding disbursement for early applicants issued by the State of Wisconsin in mid-November. Customers will see these credits reflected on their December billing statements.

LED Holiday Light Exchange: Customer Service Technician Brandi Yungen has been working throughout the month to prepare for this year's annual LED holiday light exchange. New for 2018 is a drive effort to collect donations for the Stoughton Personal Essentials Pantry. Customers who donate household essentials, such as toilet paper, Kleenex, toothpaste, and more, will receive a free strand of energy efficient LED holiday lights and a free outdoor light timer.

Kettle Park West Phase II: A concept plan was submitted by the developer for possible future development of Kettle Park West Phase II. Detailed utility plans have not yet been designed or submitted. The utility does not foresee any challenges serving the development as shown in the concept plan, and will perform a detailed review once utility plans are received.

Multi-unit Metering/Billing Review: We were informed in March about a recent change in how the Wisconsin Public Service Commission (PSC) is interpreting their administrative rules regarding refunding the customer for billing errors. To minimize any impacts this may have on SU, and to limit our years of exposure should errors be found, Billing & Metering Specialist Erin Goldade has been working on a full system review of all multi-unit commercial and residential buildings in our service territory to ensure the electric and water meters being billed are properly assigned to the corresponding unit.

During the month of October, Erin, working with Operations Specialist Marty Seffens, performed field verifications at 643 tenant rental units. These units reflect approximately 35% of the total units requiring field verification. Field verifications will continue throughout the remainder of 2018 and into early 2019.

During a field verification, power is momentarily disconnected at the meter by field personnel, while the Billing & Metering Specialist verifies that the unit associated in our billing system with that meter is affected. Customers who briefly lose power due to a field verification have all been notified of the visit several days in advance. In many apartment buildings we have worked with the building owner or property manager to gain access to individual units. In some buildings with individual entrances we will utilize doorbells or outdoor lighting to perform the verification without need for entrance.

In past months, available metering and billing data was used to perform an analysis of customer moves and periods of occupancy, allowing Erin to verify the metering setups of some properties from the office. Approximately 29% of total multi-unit properties were able to be verified using existing data.

In past years we have conducted full system reviews of our billing rate classifications, tax-exempt account status, private and public fire protection, proper customer charge, and presence of connected services. This is another step in our ongoing efforts to ensure complete billing accuracy.

Public Power Week: Each year during the first full week of October, Stoughton Utilities holds a Public Power Week event that highlights the benefits that public power brings to our customers, and to thank them for supporting their locally owned utility. This year, customer service staff held a Public Power Picnic back in August, but customer turnout was low due to rain and cool weather. To give customers a second chance to receive fun giveaways, energy efficient lightbulbs, and a variety of treats, a weeklong Public Power Customer Appreciation Event was held at our office. Customer engagement was much higher this time around.

Revisions to Public Right of Way Permit: The Assistant Director worked with Planning Director Rodney Scheel and Director of Public Works Brett Hebert to review the city's existing Street Opening Permit and revise it for future use. Several meetings were held with City staff and the City Attorney to discuss the permit and possible revisions. This permit applies to work being done in the public right of way and utility easements, including new connections and repairs to existing sanitary sewer and water systems, as well as work done by natural gas and telecommunications providers.

Rotary Park Bathroom Addition: Assistant Director Brian Hoops, Water System Supervisor Kent Thompson, and Wastewater System Supervisor Brian Erickson worked with the Mayor and the Parks and Recreation Department to plan for the addition of electric, water, and wastewater service to the new bathroom facility planned for Rotary Park. Existing underground infrastructure was researched and located, including service laterals abandoned when existing homes were removed to make way for the new fire station.

Vacant Utility Substation Property: The Utilities Committee approved the listing of the vacant property located adjacent to the new West Substation. A request for proposals was sent to several real estate brokers soliciting their services to list and market the property.

Wisconsin Department of Transportation (DOT) Projects: Assistant Director Brian Hoops attended several meetings with the DOT, including a Local Officials Meeting, regarding upcoming DOT projects in Stoughton. Projects will include the reconstruction of West Main Street between Page Street and Van Buren Street, a surface overlay of West Main Street/Highway 51 between Van Buren Street and Hoel Avenue, and new roundabouts at the intersections of Highway 51 and Hoel Avenue, Highway 138, and Roby Road. These projects are anticipated to begin in 2020 and run through 2021.

Wisconsin Energy Innovation Grant: The municipalities of Stoughton, Fitchburg, Marshall, Middleton, Monona, Sun Prairie, and Waunakee collaborated to apply for a shared planning grant from the Wisconsin Office of Energy Innovation (OEI). The initial grant application was written for $435,000 with the goal of establishing a multi-jurisdictional coalition to meet and discuss energy conservation and renewable energy, determine common goals, and establish actionable strategies to accomplish these goals.

The grant award issued by the OEI was $200,000. Since each community has their own goals from the grant, the entire plan will be revisited and reworked to still accomplish the majority of the goals of the plan for all communities involved.

Wisconsin Wastewater Operators Association (WWOA) Annual Conference: Assistant Director Brian Hoops and Wastewater System Supervisor Brian Erickson attended the three-day WWOA Annual Conference held in Lake Geneva Wisconsin. Numerous technical training sessions were offered, as well as a tour of the Walworth County Metropolitan District's wastewater treatment facility.

Winter Cold Weather Disconnection Moratorium: The annual cold weather moratorium on electric disconnections began on November 1. During this moratorium, lasting through April 15, Stoughton Utilities is prohibited from disconnecting any electric service that powers any part of a customer's heating system.

Collections Technician Carol Cushing work with our customers to ensure that all occupied dwellings made payment on their delinquent accounts to get their electric service restored prior to the onset of the cold weather. Several vacant dwellings remain disconnected, and will remain so until either payment is made or a new tenant applies for service.

Delinquent residential customers may still have their electric service disconnected if heat is provided through an alternate powered source, such as an apartment building's shared boiler. Non-residential customers remain subject to disconnection regardless of heat source, and all customer's water services may also be disconnected during the moratorium.

Electric Division

Bryce A. Sime
Electric System Supervisor

Department of Public Works Facility: All electrical infrastructure has been installed to serve the new DPW facility. SU is awaiting final approval from the contractor and inspector to energize the new service.

Highway 138 Reconstruction: Crews continued to battle the wet weather and soggy ditches as work progressed on the rebuild of the overhead primary line on State Highway 138. New poles and cables are being installed as an aging section of the line is rebuilt.

Highway 51 Roundabouts: In preparation for the creation of a new roundabout at the intersection of U.S. Highway 51 and Hoel Avenue, portions of the existing overhead distribution system are being replaced with underground cable. This work is required by the Wisconsin DOT since the existing poles are in portions of the public right of way that will conflict with the new roundabout. New underground cables have been installed on Hoel Avenue, and associated work continues.

Iconica Senior Living: Staff has installed the new underground service that will serve this sizable facility. This service will be energized once the developer's electric contractor has completed the installation of their private service from our infrastructure to the building.

North Page Street Outage: An underground electric primary cable failed, resulting in a lengthy outage affecting approximately 30 customers. Temporary repairs were made to get the affected customers back online as quickly as possible. Permanent repairs were completed the following week. Including replacement of the failed cable, and system changes that will help reduce the duration and the number of customers affected should future outages occur in this area.

Wastewater Division

Brian G. Erickson
Stoughton Utilities Wastewater System Supervisor

The wastewater treatment facility processed an average daily flow of 1.689 million gallons with a monthly total of 52.366 million gallons. The total precipitation for the month of October was 7.09 inches.

Disinfection Process: We have discontinued our ultraviolet disinfection treatment for the season, and staff has removed and stored the equipment. Disinfection is a seasonal process, and will resume in May.

Eastwood Lift Station: Equipment has been ordered for the rehabilitation of this lift station. Wastewater Division staff is installing the conduit and a cement pad for the new control panel, and Electric Division staff has installed a utility pole for a security light and communications equipment.

Plant maintenance: Staff continues to work on maintenance and repairs of miscellaneous equipment throughout the plant. Projects have included work on our dissolved air flotation tank (DAFT), painting, digester gas meter, taking down primary tanks, and replacing motors and motor bearings.

Primary Treatment Process: We drained all the primary tanks for routine maintenance and adjustments, and have installed devices to prevent freezing of the tanks during the cold winter months.

Rainfall & Increased Plant Flows: With all the precipitation received over the past few months, the flows remain quite a bit higher than normal at the plant. Despite the increased flows, treatment has remained exceptional, and the plant has not encountered any capacity issues.

Sanitary Sewer System Maintenance: Staff continues to work in the collection system televising and flushing sewer mains, which will continue throughout the remainder of autumn and into early winter.

We received a call in a new development regarding a sewer backup, and staff found a sewer test plug from a private lateral in the main sewer line obstructing the flow. Staff retrieved the test plug from the sewer main, and the flow returned back to normal.

Toxicity Testing: We completed our annual acute and chronic toxicity testing, and passed both tests. The next testing is scheduled for February 2019.

WPDES Permit Reissuance: We received a draft version of our new wastewater permit to discharge from the Department of Natural Resources. The new permit will go into effect April of 2019. Although most of the permit has not changed from our past permit, staff does have a few concerns with new limits. We are working with our engineering consultant and wastewater legal advisor to challenge these limits.

WWOA Conference: Brian Hoops and I attended a three-day Wastewater conference in Lake Geneva.

Water Division

Kent F. Thompson
Water System Supervisor

Annual Gate Valve Exercising: Water Operators have continued exercising distribution and hydrant lead auxiliary valves throughout the water distribution system. Regulation requires that all distribution valves be exercised once every two to five years and all hydrant auxiliary valves be exercised once every five to seven years. Stoughton Utilities has approximately 1,300 distribution valves and 700 hydrant lead auxiliary valves throughout the water system.

Lead Water Service Replacement: During the month of October, one residential customer replacement replaced the privately owned portion of their water service later constructed of lead. SU was notified of this work when the contractor was onsite and contacted us to shut the water off. We solicited bids to have a contractor replace the publicly owned portion of this lateral; this work will be completed in November.

Service Leaks: One water service leak was detected during the month of September that continued to leak until October 23. The service leak was on the customer-owned section of the service lateral, and was repaired by a private plumbing contractor.

Energy Services Section of the Planning Division

Cory Neeley
Stoughton Utilities and WPPI Energy Services Representative (ESR)

Department of Public Works Facility: I met with staff from the city and the contractor about the new solar installation. Panels have begun being installed on the roof of the facility, and the required Public Service Commission documentation is being prepared and should be submitted to the utility soon. The system is approximately 99kW and should meet the building's needs.

Stoughton Area School District: We had an energy team meeting with the school district. Plans exist to install Tunable Lighting in one additional classroom prior to the end of the year, and the district intends to take advantage of Focus on Energy's bonus offering to install new variable frequency drives (VFDs). The VFD project was not budged by the district, and it is possible that SU's Shared Savings Loan program will be utilized to provide project funding yet in 2018.

Business Energy Efficiency: I met with a local small business that has just recently opened to discuss their energy usage and provide tips on energy conservation and efficiency to reduce their costs.

Safety Services Section of the Planning Division

Andrew Paulson
Stoughton Utilities and Municipal Electric Utilities of Wisconsin Regional Safety Coordinator

ACCOMPLISHMENTS

1. **Training**
    a. Hazard Communication
    b. Fire Extinguishers
2. **Audits/Inspections**
    a. Field inspection – Water – Excercising valves
    b. Field inspection – Electric – Pole replacement on Highway 138
    c. Utility walkthrough – General inspection
    d. WWTP walkthrough – General inspection
    e. Well inspections
    f. Water tower inspections
    g. Fire extinguishers
3. **Compliance/Risk Management**
    a. All written programs updated and available for employee access
    b. Lockout / Tagout SOPs
    c. Reviewed confined space SOPs
    d. SDS updates into MSDS Online
    e. SharePoint updates

GOALS AND OBJECTIVES

1. **Training**
    a. Lockout / Tagout
    b. Confined Space
    c. Spill prevention, control, and countermeasures (SPCC)
    d. Fire extinguishers for office personnel
2. **Audits/Inspections**
    a. Field inspections
    b. Utility walkthrough
    c. WWTP Walkthrough
    d. Wells
    e. Water Towers
    f. First aid and safety supplies on vehicles
    g. AEDs on vehicles
3. **Compliance/Risk Management**
    a. Personal Protective Equipment Hazard Assessments
    b. Finish reviewing confined space SOPs
    c. Update training PowerPoint on confined space and Lockout / Tagout
    d. Organize files and update training records

e. MSDS Online

Regional Safety Coordinator was at Stoughton Utilities on October 4th, 10th, and 23rd.

Please visit us on our website at www.stoughtonutilities.com to view current events, follow project schedules, view Utilities Committee meeting notices, packets and minutes, review our energy conservation programs, or to learn more about your Stoughton Utilities electric, water, and wastewater services. You can also view your current and past billing statements, update your payment and billing preferences, enroll in optional account programs, and make an online payment using *My Account* online.

Stoughton Utilities

600 South Fourth Street
P.O. Box 383
Stoughton, WI 53589-0383

Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Subject: Stoughton Utilities Committee Annual Calendar

The following calendar is provided for information and discussion. Common organization acronyms used are:

APPA	American Public Power Association
AWWA	American Waterworks Association
MEUW	Municipal Electric Utilities of Wisconsin
WIAWWA	Wisconsin chapter of the American Waterworks Association
WPPI	WPPI Energy
WRWA	Wisconsin Rural Water Association
WWOA	Wisconsin Wastewater Operators Association

November 13, 2018	Common Council action on the Stoughton Utilities 2019 Budget and CIP
November 19, 2018	Utilities Committee Regular Meeting
December 7, 2019	Public hearing for the issuance of Stoughton Utilities' five-year Wisconsin Pollutant Discharge Elimination System (WPDES) Permit – DNR Service Center, Fitchburg.
December 17, 2018	Utilities Committee Regular Meeting
January 14, 2019	Utilities Committee Regular Meeting: RoundUp Donation; Declarations of Official Intent
February 18, 2019	Utilities Committee Regular Meeting: Bad debt write offs
February 26, 2019	Common Council Meeting: Approve bad debt write offs
February 25-27, 2019	APPA Legislative Rally – Washington, D.C.
March 10-16, 2019	National Groundwater Awareness Week

March 18, 2019	Utilities Committee Regular Meeting: Annual Drinking Water Consumer Confidence Report (CCR)
March 17-23, 2019	National Fix a Leak Week
March 31-April 3, 2019	APPA Engineering and Operations Conference – Colorado Springs, CO
April 1, 2019	Stoughton Utilities' five-year Wisconsin Pollutant Discharge Elimination System (WPDES) Permit effective date.
April 15, 2019	Utilities Committee Regular Meeting: Presentation of the Utilities 2018 annual audit and management letter, and the SU tax-stabilization dividends
April 18, 2019	National Lineman Appreciation Day
April 23, 2019	Common Council Meeting: Approve Utilities 2018 annual audit and management letter; presentation of the tax-stabilization dividends
May 5-11, 2019	National Drinking Water Week
May 20, 2019	Utilities Committee Regular Meeting: Annual reorganization and selection of meeting time and date; discuss SU goals
June 2019, Date TBD	MEUW Annual Conference – Location TBD
June 7-12, 2019	APPA National Conference – Austin, TX
June 9-12, 2019	AWWA Annual Conference – Denver, CO
June 17, 2019	Utilities Committee Regular Meeting: Approve the annual Wastewater Compliance Maintenance Annual Report (CMAR); tour of well no. 5
June 25, 2019	Common Council Meeting: Approve the CMAR
July 15, 2019	Utilities Committee Regular Meeting: RoundUp Donation; tour of the Utilities Administration Building
August 19, 2019	Utilities Committee Regular Meeting: Approve Declaration(s) of Official Intent; tour the Wastewater Treatment Facility
September 13-14, 2019	WPPI Annual Meeting – Elkhart Lake
September 16, 2019	Utilities Committee Regular Meeting: Approve the Utilities 2019 Budget and five year (2019-2023) Capital Projects Program
October 14, 2019	Utilities Committee Regular Meeting
October 27-30, 2019	APPA Customer Connections Conference – New Orleans, LA
November 18, 2019	Utilities Committee Regular Meeting
December 16, 2019	Utilities Committee Regular Meeting

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P.O. Box 383
Stoughton, WI 53589-0383

Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Subject: Stoughton Utilities Communications

October 11, 2018	WPPI Energy memorandum "Things You Should Know" from WPPI Energy President and CEO Michael Peters. Includes a farewell to former Stoughton Utilities Director Robert Kardasz.
October 15, 2018	October issue of Live Lines, a monthly newsletter published by the Municipal Electric Utilities of Wisconsin (MEUW). Includes a detailed article about former Stoughton Utilities Director Robert Kardasz and his career, as well as a thorough timeline of the 90-year history of MEUW.
October 22, 2018	Letter to Stoughton Utilities from Stoughton resident Trip Hedstrom and his parents Becky and Tyler Hedstrom regarding Well No. 5, along with Stoughton Utilities' response to Trip.
November 1, 2018	Stoughton Utilities November billing insert regarding the annual LED Holiday Light customer incentive, running through the holiday season while supplies last.
November 6, 2018	WPPI Energy FY2018 third quarter financial highlights, power supply update, news highlights, company profile, and financial statements
November 7, 2018	November issue of Live Lines, a monthly newsletter published by the Municipal Electric Utilities of Wisconsin (MEUW).
November 8, 2018	WPPI Energy memorandum "Things You Should Know" from WPPI Energy President and CEO Michael Peters. Includes a farewell to former Stoughton Utilities Director Robert Kardasz.
November 9, 2018	Yahara Watershed Improvement Network (WINS) 2017 Annual report, detailing successes of our combined watershed adaptive management program.

WPPI energy

Things You Should KNOW

Michael W. Peters, President & CEO

Monthly Wrap-Up for September 2018
Issued October 11, 2018

Things You Should Know is my monthly wrap-up for members of all things related to WPPI Energy. As always, I welcome your feedback. Hearing directly from you is critical to our ability to serve our members. If you have any questions, comments or concerns, please contact me at 608-834-4557 or mpeters@wppienergy.org.

Sale of Renewable Energy Certificates to Lower Wholesale Costs for Members. I am very happy to report that WPPI has been awarded a long-term contract to sell renewable energy certificates (REC) to three utilities in the state of Illinois.


Bishop Hill III Wind Energy Center

The Illinois Power Authority (IPA), which was established to develop electricity procurement plans for Ameren Illinois Company, Commonwealth Edison Company and MidAmerican Energy Company, recently issued a request for competitive 15-year proposals for the sale of RECs from new utility-scale wind projects. Our newest power supply resource, the 132-megawatt Bishop Hill III Wind Energy Center, met the RFP criteria for new wind projects in or near the state of Illinois.

As you know, WPPI has long been a leader in the use of renewables, with more than enough resources in place to comply with renewable portfolio standards in the states where our members operate, and to supply renewable energy to customers who participate in the Choose Renewable program. We viewed the IPA's RFP as an attractive opportunity to sell surplus RECs and generate revenue to lower WPPI's wholesale costs to members. Furthermore, while we have in the past made one-time and other short-term REC sales, this RFP was particularly interesting because it presented a unique opportunity to lock in a REC sale contract with a length of 15 years.

The primary driver in our decision to buy power from Bishop Hill III was that it was more cost-effective than the other power supply resources available to us, and the addition would reduce WPPI's long-term costs to members. Now, our successful proposal to sell RECs associated with the facility makes Bishop Hill III even more cost-effective for WPPI members. This is an excellent outcome for the membership and will pay dividends for years to come.

As with all significant projects at WPPI, this was a team effort undertaken with invaluable guidance from the Executive Committee and a collaborative effort by a number of staff; however, I would like to acknowledge Andy Kellen and Mike Rausch specifically for their efforts in researching the procurement program, pulling the bid together, and completing all the necessary agreements. The effort was relatively complex, and this was a job well done by Andy and Mike.

Financial terms of the sale are confidential under the IPA's contract requirements. We will discuss the transaction in more detail as part of our 2019 budget discussions with the WPPI Board of Directors in December.

Happy Public Power Week! For the 2,000+ public power communities across the U.S., having a locally owned electric utility delivers wide-ranging benefits including excellent reliability, local control, affordable rates and a strong focus on customers and the community. I know that many WPPI members are opening their doors for Public Power Week events this week to help customers learn more about the value your utilities bring to the community.

It's never too soon to begin thinking about your Public Power Week plans for next year, and our Community Relations Program provides dollars and outreach ideas to help. For more information about the funds available to your utility, contact your Energy Services Representative or Kayla Pierce at 608-834-4537 or kpierce@wppienergy.org.

Thank You for A Successful Annual Meeting.
Thanks to the nearly 200 member governing body representatives, mayors, utility officials and employees who attended our 2018 WPPI Member Annual Meeting. We enjoyed a great lineup of speakers during Thursday's program. It was our honor to recognize during our awards program 11 deserving individuals and one utility for their significant contributions to public power. We were also pleased to host the Second Annual Public Power Open, a relaxed and enjoyable scramble-style golf tournament.

The winning foursome for the Second Annual Public Power Open: (l-r) Casey Engebretson (Black River Falls), Chris Chartier (WPPI), Troy Murphy (Prairie du Sac) and Mike Pedersen (Kaukauna). To see more Annual Meeting photos, visit our members-only website, **myWPPI**.

Please mark your calendar for next year's Annual Meeting, which will take place September 19-20, 2019 in Elkhart Lake, Wis.

Executive Committee Members, Officers Elected. The WPPI Board of Directors held its September business meeting on the morning following the Annual Meeting. One of the items on the agenda was an election to fill three seats on the Executive Committee of the Board of Directors. Tim Herlitzka (Waunakee), Jim Stawicki (Sturgeon Bay) and Kevin Westhuis (River Falls) were each re-elected for a three-year EC term. Leadership by our members is essential to WPPI's success, and service on the EC represents a significant commitment. I thank all of the nominees for their willingness to serve.

During its monthly meeting on September 27, the EC re-elected the following slate of officers to one-year terms: Jeff Feldt (Kaukauna), Chair; Jim Stawicki, Vice Chair; Mike Reynolds (Boscobel), Secretary; and Tim Herlitzka, Treasurer.

Regional Roundtable Lunches Underway. Another topic discussed during the board's September business meeting was our recent member satisfaction survey. Our results show that satisfaction remains high overall and is generally consistent with previous years, but we have seen a small drop-off in a few areas, which tells us we have more work to do. Some of the findings especially piqued my interest, and I would like to learn more.

To that end, this week we hosted the first two of five regional roundtable lunches to dig a little deeper. Participation has been excellent thus far, with more than 20 member communities represented. Member input shapes the direction of WPPI, and engagement from our leaders is critical to our overall success. Therefore, during these lunches I am asking for input from board directors, alternates and utility managers on a number of issues affecting WPPI's budget, services, power supply strategy, and more. I am also briefly previewing the draft 2019 budget.

Budget Update. As I described during the "State of WPPI Energy" discussion at the Annual Meeting, our long-term, joint action planning strategy has helped keep costs to members affordable and stable. We have held average wholesale power costs relatively flat over the past three to five years. We're also seeing good results for 2018: thus far, we are forecasting that we will end the year about 7% below budget. Looking ahead to 2019 and beyond, we expect costs over the next five years to be lower than what we've seen for the 2014-2017 timeframe.

Our staff is currently wrapping up work on the details of the draft 2019 budget, which the EC will review during its October and November meetings. As always, all members are welcomed and encouraged to participate and engage at any stage during the budget development process. December brings two specific opportunities for review and discussion by all members, and I hope to see strong participation by all.

- ***December Budget Webinar.*** We will host a webinar for members to review the proposed 2019 budget in detail in early December. Please watch for details in the weeks to come.
- ***December 14 Board Meeting.*** The Board of Directors will take up approval of the proposed 2019 budget during its December 14 meeting.

Anderson to Head State Association Board.
Congratulations to City of Norway City Manager Ray Anderson, who recently began a two-year term as president of the Board of Directors for the Michigan Municipal Electric Association (MMEA). WPPI greatly appreciates and strongly supports our members' state associations, which are effective advocacy partners who bring to the energy policy table the combined voices of municipal utilities from across their respective states.

As MMEA board president, Ray will play a key role in the development of the association's priorities and strategies and, along with Executive Director Jim Weeks, interact with Michigan legislators to advocate municipal utilities' legislative positions.

(L-r) Outgoing MEMA President Bill Cook, incoming MMEA President and City of Norway City Manager Ray Anderson, MMEA Executive Director Jim Weeks

IDEAS Meetings Showcase Value of Local Utilities. Local meetings with legislators are one of the most effective ways to advocate for energy policies that promote and protect the interests of WPPI members and their customers. Toward this end, WPPI coordinates In-District Energy Advocacy Series (IDEAS) legislative visits in order to help build strong working relationships with the policymakers who represent members and their customers.

(L-r) Menasha Utilities Commission President Mark Allwardt, Customer Service Manager Paula Maurer, General Manager Melanie Krause, Wis. State Rep. Amanda Stuck, Mayor Don Merkes, Community Development Director Sam Schroeder

In one recent IDEAS meeting, Menasha officials welcomed Wis. State Rep. Amanda Stuck, an emerging leader who serves on the Assembly Energy and Utilities Committee, co-chairs the bi-partisan Wisconsin Future Caucus, and is a friend to public power.

The discussion centered on describing Menasha Utilities and its benefits to the community, advocating for regulatory certainty

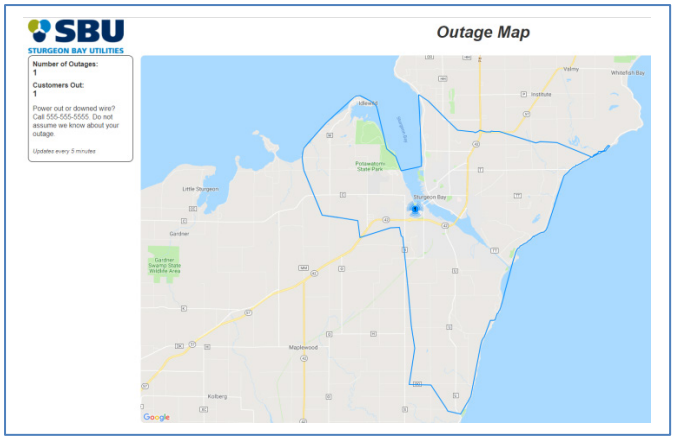
necessary to maintain stability for the utility industry, and highlighting recent environmental, customer service and economic development accomplishments by the utility and our joint action agency.

Earlier this week, another excellent gathering took place in Columbus with a number of WPPI members who are represented by Wis. State Senate Majority Leader Scott Fitzgerald. We greatly appreciate the time, effort and robust attendance from local utility and municipal officials at these meetings, which serve to further strengthen our existing policymaker relationships. If you would like an in-district visit with your legislator, please contact Joseph Owen at jowen@wppienergy.org or 608-834-4517.

Thank You to the Outage Management Task Force. Research tells us that reporting and receiving updates about outages is just one of the many ways in which customers increasingly expect to be able to business with their utilities online. In response to these evolving expectations, as well as local utility operational needs, a WPPI member task force formed last year to look into whether a pay-for-service, joint action outage management system (OMS) would be realistic for us to develop. The Outage Management Task Force participants included:

- Randy Posthuma, Chair (Waupun)
- Jason Bieri (Sturgeon Bay)
- Dave Euclide (Sun Prairie)
- Steve Grenell (Menasha)
- Brian Hoops (Stoughton)
- Dave Pahl (Kaukauna)
- Joe Pickart (Oconomowoc)
- Shannon Statz (Jefferson)
- Jeff Thierfelder (Cedarburg)

At the time the task force formed, the members anticipated delivering an evaluation of multi-tiered OMS options that might be available, along with a recommended roadmap for members interested in pursuing the technology. The group has worked hard on this evaluation, the final draft of which is currently in progress. We look forward to sharing their report soon.



"OMS Lite" outage map, Sturgeon Bay Utilities

In the meantime, their work has already delivered an unexpected benefit that is available now. Based on the insights the task force developed, our staff concluded we already had the resources in place to offer an "Outage Management Lite" map built on members' advanced meter data. This tool, which we developed in-house with existing staff and resources, is available now. We expect it will meet a significant portion of members' basic outage management

operational needs. In addition, with GIS mapping as an essential tool for full OMS functionality, the task force has also identified a discounted vendor option for GIS mapping assistance to members

WPPI's member-owners are also our joint action agency's leaders. Together, they identify the needs that we should meet to help members succeed as utilities of the future. The result is a member-driven menu of offerings that deliver value far greater than their cost, and that are far more effective than any one utility could achieve on its own. The valuable work of the Outage Management Task Force illustrates how our member-led services continue to grow and change with emerging member needs.

A Fond Farewell to a Longtime Friend and Leader. Yesterday I had the pleasure of visiting Stoughton in order to wish a happy retirement to Stoughton Utilities Director Robert Kardasz.

Many of you know Bob well, as he has been involved in the municipal utility industry for over 37 years. Bob began his utility career at Stoughton Utilities in 1980, and his service to WPPI, MEUW, the Municipal Environmental Group, the Wisconsin Rural Water Association, the Wisconsin Wastewater Operators Association, ATC, and the Wisconsin Chapter of the American Water Works Association have made him widely recognized throughout the state and the region.

Wishing a happy retirement to Stoughton Utilities Director Bob Kardasz.

Since Stoughton Utilities joined WPPI Energy in 2003, Bob has represented the community on our board. He is a past member of the EC, and previously served on the Distribution Services Advisory Group, the Personnel Committee, and the Rates and Delivery Service Advisory Group.

Bob's involvement in the electric, water, and wastewater industries has benefited the City of Stoughton in many ways. He has created a working environment that encourages safety, progress, technological advances, and efficiency. Under his direction, Stoughton Utilities has implemented numerous programs to make significant improvements in these areas. Bob has worked tirelessly throughout his career to ensure that Stoughton's electric, water, and wastewater utilities will

continue to thrive as a valuable community asset. Although we will greatly miss his steadfast support and leadership, we wish Bob all the best in his upcoming, well-deserved retirement.

Staff Updates. Please join me in welcoming two new employees.

- Bradley Luckton will join our team on October 15 as a system operator.
- Julie Durnen will join us on October 29 as a senior accountant.

I am always open to suggestions and feedback from WPPI members. If you have any questions, comments or concerns about WPPI or the updates I have provided here, please don't hesitate to contact me at 608-834-4557 or mpeters@wppienergy.org.

MEUW
Service. Advocacy. Safety.

LIVELines

Volume 66, Issue 10 October 2018

MEUW Celebrates 90 years of Service, Advocacy and Safety

By Tim Heinrich, MEUW Executive Director

If you've seen a Green Bay Packers game this season, you may have noticed the "100 Seasons" emblem players are displaying on their uniforms. The franchise is celebrating a milestone in the team's storied history. There are no uniform patches, but MEUW is celebrating a similar milestone by commemorating the 90th anniversary of the association's founding. While MEUW's story began 10 years later, both the Packers and MEUW were championed by a small team of visionaries organized to win and both have proven they have staying power and legions of loyal fans.

In September 1928, representatives of four municipalities – Algoma, Menasha, Kaukauna and Sturgeon Bay – attended one of a series of hearings at the Capitol in Madison. The subject of the hearings, according to the MEUW archives, was "the general electrical situation in Wisconsin." Together, they realized the private utilities were far better organized and able to present their views than the municipal utilities were. The founders of what was originally the Wisconsin Municipal Utilities Association knew that they needed to assemble a team to "present a stronger and more unified approach." Officers were elected, bylaws were drafted, and the rest – as they say – is history. Today, 90 years later, the mission of strengthening and unifying community-owned utilities holds true.

Organizations simply do not survive for 90 years unless their purpose is rooted in something valuable. From its inception, MEUW has been the voice of public power in Wisconsin and the association (and the utilities it represents) has earned the respect of regulators and legislators and helps influence regulations and utility policy in the state. While much has changed over the years, at its core MEUW has always focused on maximizing the shared interests of municipal electric utilities.

Continued on page 25

Table of Contents

A Note from the Editor

Sifting through the pages of *Live Lines* and reading the early history of the organization gave me a strong sense of the dedication and pride of those who founded and built this organization into what it is today. The road was not always easy, but they always found a way. I hope you enjoy this issue as much as I enjoyed putting it together. While not a complete history, it should hit the highlights. Feel free to debate what could have been mentioned. Special thanks to Karen Whitmer for her assistance. Note: All of the material is from *Live Lines* or was published in *Live Lines* unless otherwise noted. *Direct quotes from people or studies are put in this style of italics.* Quotes from *Live Lines* articles are *italicized like this.*

— Mary Cardona
Editor

Stoughton's Kardasz, a Legend of Public Power in Wisconsin, Calls It a Career

After 38 years of service, Bob Kardasz retired this month from his post as Director of Stoughton Utilities, which has a long, proud history of providing its customers with electric, water and wastewater services.

In fact, Stoughton Utilities has repeatedly been recognized for its reliability, innovations and stellar safety record, and Bob – who is modest and quick to divert the spotlight to others – has clearly played a starring role in its success.

"When I started, we were reading meters with paper and pencils," Bob said. "Today, we have firmly embraced the latest technology, and we are giving customers what they want … reliable service with the tools to serve them how they want to be served."

Stoughton Utilities' Operations Superintendent Sean Grady has worked with Bob for 32 years, and directly attributes the utility's modernizations to Bob. "When I came to Stoughton Utilities, we didn't have any computers; our trucks didn't even have radios," Sean said. "But Bob changed all of that; he knew the importance of innovation, and he pushed us forward."

Among the recent successes is the addition of a fourth substation on the west side of Stoughton, a plan 30 years in the making.

"It took time, patience, money (nearly $4 million) … and a lot of elbow grease and paperwork, but our team got it done," Bob said. "And it was all worth it, as we increased system reliability and efficiency for our customers."

"For nearly four decades, Stoughton Utilities has flourished under Bob's leadership," said Brian Hoops, Assistant Director of Stoughton Utilities. "Bob has fostered an environment that encourages employees to take risks and explore new technologies in order to meet customers' needs. He's a legacy in our industry, and he leaves big shoes to fill."

Bob Kardasz

Legacy of Leadership

Bob grew up in Stoughton and holds a degree in Civil Engineering from the University of Wisconsin-Platteville. After graduation, Bob spent several years working for the city of Milwaukee and the Department of Natural Resources, as well as a couple of years in private industry before coming back home to Stoughton.

He feels honored to have had the opportunity to serve the Stoughton community. "As a public utility, we don't have the same demands to show profits as investor-owned utilities, and that perhaps has helped us build a positive partnership with our customers, which I have found so rewarding," Bob said.

And Bob has helped other communities thrive by generously giving his time to serve in many leadership positions for organizations including MEUW, WPPI Energy, the American Public Power Association, Wisconsin Wastewater Operators' Association, and American Water Works Association, among others.

He was honored to serve as president of MEUW's Board of Directors in 2001, as he believes a common voice is absolutely necessary in order for the industry to succeed.

Continued on page 24

How MEUW Began

Municipal utility managers saw a need to organize.

Legacy *of* Leadership

Wisconsin Municipal Utilities Association

1920s

Purpose

1) **To secure and disseminate information in regard to municipal ownership of utilities, which shall be intended to increase the progress and efficiency of municipal-owned utilities.**
2) **To aid and assist its members in securing engineering and legal advice in matters pertaining to or affecting utilities.**
3) **The promotion of such legislation, which will be beneficial to the municipal utilities of the state and the prevention of such legislation which will be injurious thereto.**
4) **To hold meetings and conventions of members.**

Joe Jebwabny, Jr.

Charles Raught

1928—Three men are responsible for the creation of Wisconsin's public power association: J. O. Posson, Manager of Kaukauna Municipal Water & Light, John H. Kuester, Superintendent of Menasha Utilities and John B. Jedwabny, Clerk of Menasha Utilities. The three had been attending a series of legislative interim committee meetings on the study of electric power and had gathered in a hotel room in Madison one evening. *The consensus of opinion was that in order to survive, municipally-owned electric utilities must band together to present a united front on all matters pertaining to them, just as the privately owned utilities do.* The three quickly enrolled James E. Johnson, Superintendent of Sturgeon Bay Utilities and D. V. Ackerman, Superintendent of Algoma Utilities and met at the Inn on The Park in Madison where they drafted a letter to be sent to all 88 municipally-owned utilities in the state proposing an organization.

First Board of Directors - 1928

President: Charles E. Raught, Kaukauna
Vice-President: C. P. Gross, Wisconsin Rapids
Secretary-Treasurer: John Jedwabny, Menasha
Directors: H. G. Davis, Plymouth; C. W. Gander, Stoughton; Mayor D. W. Hoan, Milwaukee; Walter Staefter, Manitowoc; George Marvin, Marshfield; and James J. Johnson, Sturgeon Bay

Standing on the aged, but still workable adage of "united we stand, divided we fall," ten Wisconsin cities, owning municipal utility plants, organized the Wisconsin Municipal Utilities association at a meeting held here Wednesday evening [October 17] at the municipal building after a call for the purpose issued by J. O. Posson, manager of the local electrical and water departments.

— Municipal Utilities Organize League,
The Kaukauna Times, October 19, 1928

1928— Annual dues were set at 1/5 of 1 percent of annual gross revenues. However, this generated too much revenue so dues were reduced *at nearly every meeting following … until in May, 1930, they were set at 1 cent per capita based on the 1930 census.*

— Commemorative History of MEUW—50 years 1928—1978

1929— First Annual Convention is held in Madison on May 8 and 9.

The Wisconsin Municipal Utility Association is formally incorporated on October 31, 1928, in Menasha. Twenty-seven delegates from ten cities, Kaukauna, Menasha, Plymouth, Stoughton, Eagle River, Manitowoc, Algoma, Sturgeon Bay, Two Rivers and Marshfield, unanimously elect officers, pass a constitution and by-laws and vow to bring in the remaining 77 municipal utilities.

—Raught Heads Municipal Utility League,
The Kaukauna Times, November 2, 1928

Legacy of Leadership

Honoring Our Members

Public power depends on people power.

1970s

1971— First year MEUW honors retiring managers with a congratulatory plaque. First honorees retired August 10, 1970, or later.

1973— Heroism Award established. (This has been renamed the Meritorious Service Award.)

1973— Distinguished Service Award established. It is later named the Donald L. Smith Distinguished Service Award.

2000— Award recognizing the public service of public power governing board members established and named the **Pillars of Public Power Honor Roll.** It is later renamed the Charlie Bradburn Pillar of Public Power Award.

2003— MEUW creates the **Outstanding Lineman Award**.

Other MEUW awards are the Phillip F. LaFollette Public Official Award and the Friend of Public Power Award.

1980s

1980— Don L. Smith retires after serving more than six years as part-time Executive Director of MEUW. Don dedicated his professional life to public power, working for Columbus Water & Light from 1938—1973, the last 17 years as superintendent. Don was a key player in the formation of the Municipal Wholesale Power Group in 1961 and was elected MEUW president for the 1963-64 term. While executive director, he oversaw the creation of WPPI. In 1978 he wrote a comprehensive history of MEUW entitled *Commemorative History of MEUW, 1928-1978.* The Distinguished Service Award is named in his honor.

Don Smith
(1910-2000)

2012— Cedarburg's Charlie Bradburn retires after 60 years of service as a public power utility commissioner. At the celebratory gathering honoring his service, Mr. Bradburn said, *I can't thank you all enough for this wonderful event, but I am very grateful for being allowed to serve the citizens of Cedarburg for 60 years. It's just what we do.* Said one attendee, *There were smiles, and some tears, as the most beloved public power utility commissioner in our generation, a living pillar of public power, reveled in the moment.*

Charlie Bradburn
(1919-2012)

The Executive Director Story

1965— MEUW members authorize the board to hire a part-time Executive Director and the board budgets for a monthly salary of $100 and a monthly expense account of $150. Mills Keithley of Reedsburg and T. M. McGuire of Menasha are the finalists and there is a tie vote! After another vote of the board, Keithly is selected , 7—5. Dues are increased by 1/40th percent of gross revenues to pay for the position.

1970— A committee studies the creation of a full-time Executive Director position and reports that it would *cost in the neighborhood of $7,500 a year if all the duties of that office were properly carried out.* At this time, the annual expenses of the association are $4,000 a year and revenues are $6,800 per year. This means an additional $4,700 would need to be raised from dues. The idea fails to gain traction.

1976— The board votes to hire a full time executive director and President William Baudhuin, Sturgeon Bay, urges members to support the action. *I know this will increase the dues, but this is a small investment for the benefits we could gain. We cannot get the representation and action we need [at the capitol] under the present system.* He fails to sway the membership.

1987— The board yet again votes to hire a full-time executive director. This time it succeeds. *The demise of the VTAE [Vocational Technical and Adult Education] Consortium and the increased pressure to provide conservation programs to our members necessitated this change.* Also approved is a half-time secretarial position. Bart Rule becomes the first MEUW executive director and Linda Peterson Olson is hired as secretary.

Foundations

Tracing the History of *Live Lines*

1930s

1934— WMUA affiliates with the National Municipal Utilities Association, a forerunner of the American Public Power Association.

1938— Electrical dealers and manufacturers invited to join the WMUA as associate members for an annual fee of $10.

1940s

1940— 250 delegates attend the twelfth annual conference held in Waupun.

1950s

1950—Legislative committee formed and funding allocated to *counteract propaganda being spread by the investor-owned utilities.*

1953— WMUA affiliates with the American Public Power Association

1960s

1960— First workshops held.

1961— First newsletter published.

1962— Equipment manufacturers and other professionals supporting utilities are invited for the first time to the annual conference, held in Baraboo.

Attorney Richard Olson

— Richard L. Olson of Roberts, Boardman, Suhr, Bjork and Curry is selected to be WMUA's attorney.

1964— An Executive Committee elected by the board is created in the bylaws *to expedite emergency decisions and to meet the demands for faster action, which at times is so essential to the effectiveness of the Association.*

— WMUA becomes the Municipal Electric Utilities of Wisconsin at the annual conference in Sturgeon Bay. According to Adolph Sime, President, *We were often mistaken for the Wisconsin Utilities Association, a Private Power Company Association. Consequently there was a feeling among us for distinction.*

1966— MEUW redraws its region boundaries so they no longer follow congressional district lines.

— First part-time Executive Director hired.

1968— Gov. Knowles appoints Chester Harrison, President of MEUW, to the Public Service Commission, an event many saw as the fruition of many years of advocacy on the state level.

1961—Published for the first time on December 4, President Edmund Malinowski says, *It is my feeling that this Newsletter, discussed in previous years, will prove to be a very important link in the work of the Association.*

1967— *Live Lines* becomes a quarterly publication.

1970 —*Live Lines* begins carrying the tagline used on MEUW letterhead — *Organized for Mutual Protection.*

1980— First job opportunity posted.

1981— Board approves selling ads on a regular basis.

1990—*Live Lines* gets a new look!

1992—*Live Lines* expands from six to eight pages.

1994— *A* regular column on HR begins. It is the first of many monthly features developed.

2013— *Under the Dome* created to follow legislative and regulatory activities is published in *Live Lines*

2011—*Live Lines* goes electronic.

2012— *Live Lines* gets a new look!

2015— *Live Lines* gets another new look — this look is the one you see today.

WUSA Show at the 1998 MEUW Conference.

Foundations

1970s

1972— MEUW & REC Joint Action Committee is formed.

1977— Safety and Job Training Program is launched.

1980s

1987— Every municipal utility is a member of MEUW! The 1928 goal to have every municipal utility as a member is reached. The last three to join are Rice Lake, Argyle and Wisconsin Dells.

— First Joint Superintendents Conference.

1988— MEUW hires first full-time Executive Director and part-time secretary.

— MEUW opens a full-time office in Sun Prairie at 1150 West Main Street.

1990s

1993— First full-time safety instructor, Doug Lewis, is hired.

1995— Members of the Wisconsin Utility Supply Association, originally formed to support WECA , become Associate Members of MEUW and vice-versa, tripling the number of associate members to 120, according to Bruce Beth, Forster Engineering, who was President of WUSA at the time.

1996— Customers First!, a coalition to promote affordable electricity, is formed. MEUW is a founding member.

1997— A Regulatory Compliance Director is hired to help members design and implement programs to comply with federal and state regulations. Al Hoffman gets the job.

1999— MEUW changes district lines and dinners are scheduled so everyone can get to know their new neighbors.

— Three-part Leadership Development Seminars launched (now the Management Training Program).

2000s

2001— MEUW creates a new position, Government Affairs Director. Scott Meske is hired to fill the role.

—MEUW moves to Lois Drive in Sun Prairie and purchases the building in 2002.

2003— MEUW hires Dean Larson to be MEUW's second Safety Director. He joins Steve Hedden. The program now provides eight safety sessions each year at 25 locations around the state.

2009— MEUW taps Lisa Haen, MEUW Regional Safety Group Coordinator, for the new position of Safety and Health Manager, which will oversee the Job Safety & Training Program and the Regulatory Compliance/Regional Safety Group Program.

MEUW moves to its current location in Sun Prairie in 2001.

2010s

2012— First Webinar offered.

2014— New logo and website unveiled.
The new logo exudes a clean, simple, contemporary feel.

2015— MEUW hires the Kammer Group, professional lobbyists, to represent MEUW's interests on the state and federal level; Members contribute nearly $20,000 to political campaigns, more than double any previous year.

2018— MEUW initiates the ENERGY Project, an extensive assessment and evaluation of the association designed to ensure MEUW continues to be the most valuable, reliable and trusted partner for Wisconsin's public power communities.

— The MEUW Job Training & Safety Program has a new name! It's now the Electric Utility Safety and Training Program.

Mutual Aid

Mutual aid is a cornerstone of the public power community. Here are just a few of their stories ...

Tradition *of* Service

1970s

1975— Storm knocks out one-third of Lake Mills. Jefferson, Waterloo and Sun Prairie respond and work with Lake Mills through the night and all the next day to restore power. *The cooperation I received was unbelievable. As a matter of fact, it seemed I had just put down the phone and Art Jark of Jefferson already had his crew here. I am indeed grateful for having the MEUW Mutual Aid Book.* — Lake Mills City Manager Harold Wagner

1976— Ice storm hits Mount Horeb on March 4 knocking out power throughout the village. Crews from Reedsburg, Brodhead, Wisconsin Dells, Lodi, Sauk City and Prairie du Sac worked for several days clearing trees, replacing poles and stringing wire. *Just like the cavalry in a western movie, you guys started roaring to the rescue. We had been at it all week and were tired and discouraged but when you guys came rumbling into town we sure felt better!* — Elwin Bendickson, Superintendent, Mount Horeb Electric Utility.

1979— On June 20 tornado force winds hit Barron at midnight and the line crew worked through the night. *Daybreak, however, revealed that our five circuit trim line was down across the main rail line for a quarter of a mile. Three of these circuits fed the main parts of the city. A call went out to Cumberland...The Cumberland bunch worked with us getting the heavy 500 MCM and 350 MCM lifted off the Soo Line rails and up on some quickly placed poles. Power was restored to all parts of the main city by 9:15 p.m. ...Hats off to [the Cumberland crew]!"* — Dave Hoff, Barron

Mount Horeb ice storm, 1976

1990s

Making Mutual Aid Possible

1964— Bill permitting municipalities to work together and establishing mutual aid requirements is drafted by MEUW Legal Counsel, Richard Olson, Boardman Law Firm.

1966— Governor Knowles signs Mutual Aid bill into law.

1970— MEUW prepares a model Mutual Aid Agreement for utilities pursuant to Wisconsin law to encourage more utilities to implement such agreements.

2005— MEUW purchases 12 emergency handheld mutual aid radios and makes them available to members during emergencies.

2014 —MEUW gets a toll-free number for reaching MEUW staff 24 hours a day, seven days a week to request mutual aid. 1-844-MEUW911 or 1-844-638-9911.

1991— On July 7, a warm and humid Sunday afternoon, a squall line of severe thunderstorms developed causing severe damage in Cedarburg, forcing crews to start *from square one* in rebuilding the system before power could be restored. General Manager Glenn Frank *immediately referenced the MEUW Mutual Aid Manual.* Crews from Hartford, Kaukauna, Manitowoc, Plymouth and Sheboygan Falls responded along with four line crews from Superior Electric in Appleton and one crew from Dave's Tree Trimming in Sturgeon Bay. By 8 p.m. Tuesday, power was restored.

1997— *The worst ice storm since 1968* hits Minocqua, Woodruff, Boulder Junction, Rhinelander, Eagle River and Tomahawk in mid-November, cutting power to 12,000 customers. Ice as thick as a half-inch covered tree limbs. *"Treacherous road conditions slowed the cleanup. Some roads were so covered by downed limbs that snowplows were used to simply push them off to the side of the road!"* Three MEUW member utilities, Two Rivers, Wisconsin Rapids, and Marshfield, provided Wisconsin Public Service Corporation with up to four days of service restoration assistance including lineworkers and trucks.

1998— After a severe windstorm, Cedarburg and Manitowoc help Wisconsin Electric Power Co. restore service to the Port Washington area while Kiel helps WEPCO there. Among the many crews dispatched all across the state during the summer of 1998, New Richmond assisted River Falls, and Jefferson, Hartford and Waunakee assisted Sun Prairie, and 11 crews with a total of 32 lineworkers assisted Elkhorn after it was hit by a double twister tornado on July 21.

Tradition of Service

2000s

2004— An F3 tornado with winds registering between 156 and 206 mph hits Waupun around 9 pm on June 23rd causing more than half the city to lose power. Zak Bloom, Waupun Utilities Assistant Manager and Finance Manager said, *By the time I arrived at the office, a number of utilities were already offering up help.* MEUW member utilities who came to the rescue were Cedarburg, Columbus, Juneau, Lodi, Sheboygan Falls, Sun Prairie, and Waunakee. MEUW Safety Director Steve Hedden provided mutual aid communications and safety awareness. It took more than four days to get things back to normal. *We had spouses bringing in food for crews and our office personnel were distributing water throughout the operation. Keeping the crews fed and rested was one of our biggest challenges, along with communications once we had all this help arrive,* said Bloom.

2004 Florida Crew

2004— In August and September, four hurricanes hit Florida and the call went out for mutual aid. With coordination from MEUW, seven utilities responded with fourteen lineworkers: Cedarburg, Manitowoc, Marshfield, Shawano, Sun Prairie, Two Rivers and Wisconsin Rapids. *They gathered in Sun Prairie for some last minute instructions and directions and left in "convoy-fashion" with Wisconsin flags whipping behind them down Main Street.* David Benforado, MEUW Executive Director said, *Without much notice, they said goodbye to their families, packed their bags, jumped into their bucket trucks, drove close to 1,500 miles and then worked 16-hour days, day after day in hot and humid weather conditions to restore the flow of electricity to Lakeland.*

2010s

2011—Kaukauna and Menasha were hit with tornado-force winds in April. More than 6,000 customers were without power. New London, Cedarburg and Two Rivers responded to a call for mutual aid from Menasha and even Kaukauna Utilities, finished with their work, came along to help!

2012— MEUW member utilities provide mutual aid to communities in Pennsylvania and New Jersey after Sandy slams the East Coast. MEUW member utilities of Cedarburg, Oconomowoc, Kaukauna, Shawano, Stoughton, Clintonville, Wisconsin Rapids, Marshfield, Rice Lake, New Richmond, River Falls, Sun Prairie, Elroy and Menasha help out. JT&S Safety Instructor Steve Hedden was full of praise for the crews, *who,* he said *worked alongside crews from the industry's best utilities and contractors and excelled at their jobs while restoring power to thousands of customers."* Governor Walker recognizes the contribution by commemorating a Utility Worker Appreciation Day.

St. Croix

2017— Hurricane Irma rips through Florida leaving seven million customers without power. Crews from sixteen MEUW utilities drove down to Florida with their equipment and trucks to help for days to restore power. Lineworkers from Plymouth, Waunakee, Reedsburg, Columbus, Hartford, Lake Mills, Oconto Falls, Kaukauna, Jefferson, New Holstein, Prairie du Sac, Lodi, and Plymouth would gather at morning tailgates where Jake Kallies would provide some *rather odd* safety reminders: *Cottonmouth snakes are mean, will strike at you and are currently in areas they shouldn't be due to the hurricane. If bitten, call 911 for a ride to the hospital and a large dose of antivenom. Great for a bunch of boys from Wisconsin! While climbing poles, make sure you keep a hammer with you to take care of the scorpions that live in the holes– they come out as you climb! Finally, my favorite, there are gators everywhere and when or if you come across one, do not run straight away. You must zig-zag because of the way their eyes are on their heads, they must turn their body to see you and that slows them down. Apparently, they can catch you on a straight-away even with those short stubby legs!*

2017— Lineworkers from Rice Lake, Marshfield, Two Rivers, Arcadia, Fennimore, Clintonville, and Reedsburg spend weeks in St. Croix, working through the Christmas holiday to help rebuild after Hurricanes Irma and Marie. MEUW's Steve Hedden reported, *"The damage here is unfathomable. Nearly every span of feeder, taps and secondary was damaged and nearly all wires and poles were pushed over or broken."*

Continuing Education

How MEUW helped to develop a professional workforce

Training *for* Safety and Skill Development

1960s

1960— First annual Meter School, later called the Watt-Hour Meter Workshop

— First Accounting Workshop; in the early years, it was held bi-annually

1961— First Foreman's School

— First Utility Management Seminar

1965—First Safety and Job Training workshops begin bi-monthly

1967— Seminar on advertising and selling electricity held in Sun Prairie, New London and Rice Lake.

1970s

1971—First Underground Residential Distribution school
There is now wide acceptance of URD.

1972—A Safety Manual is created and adopted as the standard safety manual of all MEUW member utilities. Norman Dietrich, Marshfield and Bud Lueders, MEUW Executive Director, are instrumental in its creation.

1973— Seminar on the new Occupational Safety and Health Act (OSHA) . *"OSHA is a recent Federal law that will likely have direct and continuing implications for public power systems,"* says MEUW President Jim Taylor. The first OSHA Manual is distributed.

1977—Labor Relations Seminar offered with the Wisconsin Section of the American Water Works Association

—Safety and Job Training Program is formed

1990s

1990—Hotline School is co-sponsored with Northeast Technical College.

1991—First "Get Acquainted" Meeting held in Bloomer in District One.

— Training videos are made available through MEUW's Free Loan Library, so line workers don't have to be taken away from work for training.

1993—Hands-on Transformer Workshop is co-sponsored with Beaver Dam Moraine Park Technical College.

Safety Session class in Stevens Point, 1996

Starting the Safety & Job Training Program

As a magnet draws to it pieces of steel, so the magnetism of similar ideas and common interest will draw us together in Marshfield.
- MEUW President Robert Doan

1963— During the presidency of Robert Doan, the MEUW Safety Committee organizes a meeting in Marshfield to get feedback from members on whether they want safety training. President Doan forcefully pitches the meeting and safety training, saying *Where could we hope to get training at such a nominal cost? ...History is not grown, but rather is made by action. The program either goes forward from this point, or falls along the pathway of time.*

1977 — The first safety and training workshop is held in 1965, but it is not until 1977 that the MEUW–REC Joint Action Committee and the Mutual Aid and Safety Committees work with the Wisconsin Vocational Technical and Adult Education (VTAE) to form the Safety and Training Program. *This is a program the municipal utilities have long needed...it has at last reached the stage where some action can be taken. It is my hope that...the membership will take part and support it 100 percent, says* Don Smith, MEUW Executive Director.

Training *for* Safety and Skill Development

Making an Ideal a Reality

1972— Group safety school sessions, concludes the MEUW Board, are *less than ideal because no utility would allow its entire line crew to travel to another city for a safety school. The result is that only a part of the crew gets the training and the utility is still left with a skeleton crew, which may not be adequate in case of an emergency. The best would be if Safety Schools could be held for each utility regardless of size. Then the entire crew could get the training and still be available for the emergency.*

- Live Lines, October 1972

2004— Regional Safety Groups are launched in 2004. By 2006, there are four groups. These share a safety coordinator, who helps each utility meet safety compliance standards and spend between two and five days per month at each utility.

1990s

1995— MEUW releases three more compliance manuals: *Electric Power Generation;Transmission & Distribution; Hearing Protection Program; Personal Protective Equipment; Hazardous Energy Control; Hazard Communication; Respiratory Protection; Bloodborne Disease Exposure Control; and Permit Required Confined Spaces*.

—Safety Compliance Workshop is held at the Wisconsin Rural Water Association Resource Center in Plover.

—First week-long Executive Program co-sponsored by MEUW and APPA is held.

1997— First Power Quality Seminar

— First Tree trimming seminars are co-sponsored with WECA and Dairyland Power Cooperative.

1998—Two-day substation workshop

1999— Three-part Leadership Development Seminar launched. This is the forerunner of the Management Training Program.

The three seminars in the series were Part One: *Leadership Challenges and Responsibilities and Planning and Setting Performance Standards;* Part Two: *Communicating Effectively and Training, Coaching and Delegating,* and Part Three: *Keeping Employees Motivated.*

1999— MEUW establishes the **Safety Achievement Awards** to encourage safety practices and to honor utilities who achieve a zero "on-the-job" injury incidence rate. *Employees who work in a safe work environment feel valued and thus tend to be more productive and happy at work.*

Substation Workshop attendees walk through a WEPCO facility in 1998.

Training *for* Safety and Skill Development

2000s

2002—First Collections Workshop

2003— First Crisis Communications Workshop

— First Municipal Telecommunications Conference

— First Leadership Seminar

2004— Regional Safety Program is launched.

—Lineman Pole Climbing School is co-sponsored by MEUW and Chippewa Valley Technical School.

— Leadership Development Seminars become the Management Certification Program.

2006— First graduates of the Management Certification Program receive certificates.

—First annual MEUW Lineman's Rodeo held in Menasha at Jackman Park. MEUW sponsored the event for eight years. (Pictured at right)

2007— Spill Prevention, Control and Countermeasure Seminar

— First Crew Leadership Seminar

2008— Customer Service Roundtables begin.

— Commitment to Community Seminar

— Employee Evaluation and Performance Review Seminar

2009— MEUW Pandemic Planning Webinar

First Lineman's Rodeo held in Menasha at Jackman Park.

A lineman must show up to the job site mentally as well as physically. The decisions a lineman makes during the course of a work day impacts various aspects of the utility operation's efficiency, safety, and reliability. Effective problem-solving skills often result in a job done efficiently, safely, and to the customer's satisfaction. Good decision-making in the field also helps prevent employee injuries and property damage.

2010s

2015's Accounting and Customer Service Seminar

2010— Bankruptcy Seminar

— MEUW Municipal Utility Labor Management Relations 101 Seminar

— First Customer Service Roundtables held in Cornell, Kaukauna, Muscoda, Waunakee and Hartford.

2012— MEUW Transformer Connections workshop

— Territorial Seminar

— First MEUW Webinar is on collecting delinquent utility accounts in small claims court

— *Regional* utility metering safety sessions offered

— MEUW Emergency Preparedness Seminar: Creating a comprehensive hazard vulnerability analysis (HVA) for your utility

2013— MEUW Physical and Cyber Security Seminar

2014— Work Order and Asset Management Accounting Seminar

— Safety Region 6 offers confined space training

2015— Utility Management Roundtables begin

2018— MEUW contracts with MSDSonline to provide members with discounted rates on this digital chemical inventory tool

Why Public Power?

Here's how MEUW has explained it through the years

Advocates *for* Public Power

1920s

Profits are Reinvested at Home

1928— *The people of Wisconsin must either develop municipally owned plants or submit to the idea of being Roman provinces to furnish profits to men living outside of the state… Wisconsin businessmen have lost their power so far as managing the utilities is concerned. They are unable to keep their compact with the state to give the consumers the best service at the lowest possible price because control of the three big utility concerns in the state has passed into the hands of holding companies with offices in Chicago and New York…* from a speech by Frank Putnam of Chicago, an *employe of private concerns*, who spoke to the organizing meeting of the WMUA on October 17, 1928 — *Municipal Utilities Organize League* , **The Kaukauna Times,** October 19, 1928

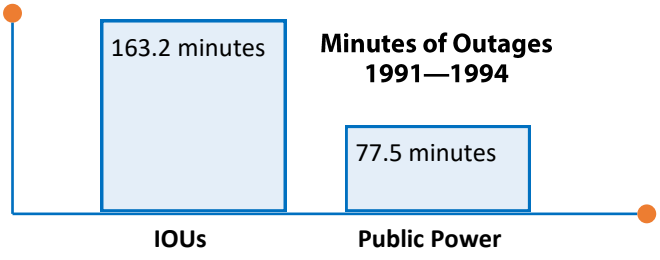
1965— *These figures [showing the assets, revenue, expense, depreciation, taxes paid and profits of Wisconsin public power utilities] are the best answer to the steady avalanche of propaganda poured out by the private utilities to discredit public ownership. The profits made by these utilities is money that stays in the community and helps to make it a better place to live rather than going out of the community to absentee utility owners.* — **The Madison Capital Times**

Accountable to the Community

1995—*Each MEUW member is a hometown institution [that] allows each member community to make its own decisions...MEUW member communities have access to and influence over the municipal utility….Service — not profit — is our goal.*

Public Power is More Reliable

1997— Based on one objective measure — average minutes of outage per customer — public power utilities are *significantly* ***more reliable*** than Investor-Owned Utilities. Over a four-year period the public power utilities' customers were without power less than half as many minutes as customer of investor-owned utilities. —APPA-commissioned study by Resource Management International, Inc.



Minutes of Outages 1991—1994

2000s

1980— About 35 million Americans, 13.6% of all utility customers, receive their electricity from local publicly-owned power systems; municipal power providers own 10% of the nation's electric generating capacity.

Public Power Customers Pay Less

1995— Private power company residential customers pay average electricity rates that are about **30 percent more** than those paid by public power customers. - From data reported to the U.S. Department of Energy.

Public Power Lowers Rates for All

1996— *Municipal electric utilities (or just the threat of their formation) continue to be the best way to spread the benefits of competition to the most people...Public power communities that have considered buying their power elsewhere have found their local investor-owned utility suddenly amenable to negotiation of new rates — often 30% to 40% lower than what they charged in the past. Public Power's Competitive Role*, Robert Varela, Editor, **Public Power Weekly**

Public Power has Great Service

2001– *Crews and decision-makers are a local call away, not some 1-800 voice system phone call.*

The Local Economy Benefits

2001— *With a local electric utility that employs locally, banks locally and purchases supplies locally, the local economy benefits. We are part of our communities' long range plans and outlook .*

Advocates *for* Public Power

Collaborating with Utility Cooperatives

1930s

1930's— At the urging of WMUA, the State of Wisconsin passes a law exempting municipally-owned utilities from taxation. Governor Philip F. La Follette (Progressive Party) is a strong advocate of public power. To show its appreciation, MEUW names the award given to elected or appointed officials who support public power principles after him.

1933— WMUA supports amending state law so that delinquent electric and water bills are first presented to the property owners before being placed on the tax roll.

1950s

1950— WMUA and the Wisconsin Section of the American Water Works Association commission a report that explains the laws and regulations governing municipal utilities.

1960s

1964— MEUW supports and is instrumental in removing a 3% tax on household electricity.

1965— MEUW seeks and receives permission from the PSC to discontinue penalties on water and electric bills for late payment. *Most people pay their bills on time as a matter of good practice. A lot of internal accounting and routine work will be now eliminated because of this simplification.*

1970s

1970— MEUW succeeds in preventing the PSC from raising interest rates on customer deposits from 5% to 7%.

1971—MEUW opposes requiring utilities to notify customers of pending rate changes saying it's unnecessary due to the attention paid to the city council approval process. PSC issues order requiring notice in 1972.

1974— MEUW provides its perspective on disconnect rules. The PSC had adopted emergency rules after a man is found frozen to death in his home in Peshtigo. Final rules are adopted quickly in January 1975 that forbid utilities from disconnecting customers if it could *endanger human life, or constitute a serious threat to human health.*

1979— Responding to a complaint from the PSC that public power communities are not being responsive to new reporting rules, MEUW creates a model form members can use to file their disconnect policies and records with the PSC.

— MEUW drafts a model customer information statement explaining disconnect, deposit, dispute, and budget billing procedures that is in compliance with PSC rules, and a model Deferred Payment Agreement.

— MEUW creates a Joint Purchasing Guide for members based on the joint purchasing experience of the "Muni 8" —Algoma, Kiel, Manitowoc, New Holstein, Plymouth, Sheboygan Falls, Sturgeon Bay and Two Rivers.

1964— MEUW forms a committee to *meet and discuss mutual problems with representatives of rural electric cooperatives thereby having closer relationship between our organizations.*

1970— Richard Olson, of the Boardman Law Firm and MEUW legal counsel, addresses the Wisconsin Electric Cooperatives annual meeting. He urges cooperation, *citing the coops' and municipals' similar origins stemming mainly from the reluctance of private power companies to serve small communities at reasonable rates; the fact that both groups have been continuously under attack from private utilities since their inception, including attempts to force sell-outs; and that both co-ops and municipals provide a 'yardstick' for measuring the performance of the investor-owned utilities. Another factor, he added, is their small size and a common concern to have a reliable source of bulk power.*

In September, both groups adopt a statement of intent that outlines areas of mutual interest where joint effort would be beneficial.

1972— A six-member committee named the MEUW & REC Joint Action Committee is formed with three representatives from each group. It deals with issues related to *wholesale power, mutual aid, training, joint purchasing, joint use of equipment, legislation, territorial agreements, and financing and research.*

— JAC recommends and the groups fund a statewide power study to determine the feasibility and desirability of joint generation and transmission. William R. Mayben of R. W. Beck and Associates is hired to do the study.

1974— Mr. Mayben reports in the *Reconnaissance Power Supply Study* that *the greatest opportunity for savings in future power supply cost [is] through participation with existing regional utilities in Wisconsin…* Those *not otherwise affiliated* have *"three fundamental alternatives...namely: 1. Continue to purchase all or virtually all power requirements from regional utilities to which they are presently interconnected... 2. Construction and operation by individual public utilities and cooperative systems of local generation sized to meet individual load requirements. 3. Construction and operation of large units that would be sized on the basis of group requirements...*taking into consideration existing regional utilities.

1976— JAC, Mutual Aid and Safety Committees develop a Safety and Job Training Program open to both cooperatives and municipal utilities. By 1978, 38 municipal utilities are participating.

Advocates *for* Public Power

1980s

1986— The Wisconsin Court of Appeals finds that it is legal for municipalities that own electric utilities to pass ordinances imposing tax liens against property with unpaid electric bills.

1989— The PSC orders Wisconsin's electric utilities to develop an integrated statewide transmission system and requires investor-owned utilities to give municipal power utilities the opportunity to access private transmission lines to provide economical power.

1990s

1992— MEUW celebrates a victory when an amendment to SB 123 is signed into law preserving the right of municipal electric utilities to serve their customers following annexation.

— The Energy Policy Act passes Congress. MEUW reports that *it will make bulk power supply markets more competitive, increase efficiency in the end-use of electricity and enhance protection of the environment.*

1993— At a national meeting of state-level public power executives, five threats to municipal power are identified:
1) Competition; 2) Ability to Respond to Change;
3) Loss of Political Base; 4) Territorial Annexation;
5) Environmental Concerns.

Atty. Mike May, Boardman Law Firm, addresses the first legislative rally.

1994— MEUW hosts first legislative rally in Madison; 37 people attend.

1995— MEUW hires a lobbyist and public relations consultant to help with the utility deregulation/retail wheeling issue.

1996— MEUW and the Citizen Utility Board form the advocacy group, Customers First!, *a coalition to preserve Wisconsin's reliable & affordable electricity, a group of individuals, small businesses, environmental and labor organizations, consumer-owned utilities, an investor-owned utility and electric co-ops.*

CUSTOMERSFIRST!

Retail Wheeling and Deregulation

"Retail Wheeling" is a form of deregulation that allows retail customers to choose an electric provider outside the incumbent provider's territory. Retail wheeling was a popular idea in the 1990s and was considered for a time in Wisconsin.

1995— PSC appoints an advisory committee to study electric industry restructuring and *determine which functions should be performed by a competitive market.* On the committee of 18, two are MEUW representatives. The committee overwhelmingly supports requiring *several prerequisites regarding transmission access, generation market power and a competitive wholesale market be met before the PSC even considers whether to recommend retail wheeling.* Dan Rodamaker, MEUW President, says, *the strong vote for positive change to the electric industry, instead of radical change, should send the PSC and the Legislature a loud message that 'we don't need to break it, because it isn't broken!'*

1996— PSC Commissioner Scott Neitzel suggests a 32-step timetable, culminating in retail wheeling by July 2000 only if all requirements are met.

If REAL competition cannot be achieved—we should not settle for a world of less regulation and no increased competition.

— Scott Neitzel
A Guide to Judging Restructuring Proposals

1997— PSC announces that the development of a robust wholesale electric market will be the PSC's objective for the foreseeable future. *The Commission concluded that Wisconsin's utilities do not have the existing infrastructure in place to accommodate robust wholesale power transactions much less retail transactions.*

1998—After receiving permission from the State of California to enter the residential market there as a retail wheeler, Enron pulls out when it attracts less than 1% of electric customers.

Advocates *for* Public Power

Staying a Public Power Community

Throughout MEUW's history, public power communities have often been challenged to keep ownership in the hands of the municipality. Here are some of those stories.

1964—Wisconsin-Michigan Power, a private company, attempts to buy Menasha Utilities. MEUW votes to offer legal and financial help to avert the sell-out.

1971— Hustisford votes against selling its public power utility to a privately owned company. MEUW Executive Director Bud Lueders and President Bert Hunter both spoke at the public hearing prior to the referendum vote, providing information on the issue.

1973— Menasha voters turn down consolidating with the City of Neenah. Keeping their municipal utility was a significant issue. The vote was 3,736 to 314 with 63% of eligible voters weighing in.

1982—The Combined Locks Village Board agrees to sell its utility to Kaukauna Electric and Water Department for $1 and later adds a case of beer! The Combined Locks utility required at least $13,000 in upgrades and improvements.

1985— Eagle River rejects offer from Wisconsin Public Service Corporation to sell after residents vote 345 to 84 against the idea.

1988— On a five-to-one vote, Slinger rejects a $1.5 million buy-out offer from Wisconsin Electric Power Co. At the time, Slinger's rates were 20 percent lower than WEPCO's.

1994— PSC allows MEUW to intervene in MG&E's request to purchase Elroy's municipal electric utility. PSC agrees it is important to hear the potential risks of reducing the number of municipal utilities in the state.

2010— Plymouth City Council votes unanimously to continue to own and operate a municipal utility after reviewing a report it commissioned on the value of the utility prepared by Baker Tilly/Virchow Krause.

1990s

1996— MEUW commissions its legal counsel, the Boardman Law Firm, to create a brochure for landlords on the new notice procedures in Act 419, pertaining to the placement of delinquent utility bills on the property tax rolls.

— The PSC endorses the concept of an Independent System Operator (ISO) that will have day-to-day operational control over the transmission system and that this system will be open to all users and owners on an equal basis.

— On MEUW's petition, PSC adopts rules preventing railroads from charging public utilities exorbitant license fees for use of railroad rights-of-way and sets conditions. (per Gallucci)

1997— Governor Tommy Thompson's Reliability Assessment Task Force, which includes MEUW representatives as members, concludes that new generation capacity and new transmission lines should be built to serve eastern Wisconsin.

1999— MEUW scores a big legislative victory when The Electric Reliability Bill, supported by Customers First! becomes law. The bill paves the way for substantial additions in generation supply and transmission line availability while ignoring investor-owned utilities' (IOU's) desire for deregulation.

— MEUW commissions the Boardman Law Firm and its team, the Baller Law Group, Virchow Krause and Forster Engineering to develop a model pole attachment agreement and Boardman negotiates new agreements with cable TV and telephone companies on behalf of over two dozen MEUW members. (per Anita Gallucci, Boardman Law Firm)

— MEUW forms a pass-through PAC to collect campaign donations from members.

2000s

2001— Customers First! Coalition petitions the PSC with its "Generation Action Plan" to take *decisive action to prevent Wisconsin's electric industry from stumbling into the same deregulation quagmire currently holding California's power markets captive and threatening the livelihood of that state's economy."* The plan encourages the construction of much-needed new generation capacity that would remain under the state's jurisdiction.

2003— Customers First! Coalition hosts first Annual Energy Conference, *Are Power Markets Benefitting Customers?*

2004—Governor Doyle signs Senate Bill 300 into law as **2003 Act 89**, which creates an expedited, more streamlined approval process for new generation and transmission capacity. MEUW Executive Director David Benforado applauds the move saying, *When delays occur in the approval process either at the PSC or the DNR, costs tend to go up.*

2005— First "All Municipal Utility Rally" held in Madison. It brings together municipal electric, water, wastewater and telecom officials.

2010s

Advocates *for* Public Power

2013— Tax-exempt financing is top federal issue. *"Without the ability to use tax exempt municipal bonding, many public power communities couldn't improve their infrastructure without significantly raising electric rates,"* says Lodi Mayor Paul Fisk.

— Governor Walker signs the Customer Privacy bill **(Act 25),** a bill MEUW supported, which assures customers that their data remains private. MEUW commissions a FAQ document from the Boardman Law Firm to explain it to member utilities.

2014— **Act 134** creates an exception to **Act 25**, allowing a municipal utility to release customer information in connection with real estate transactions and appraisals. Postcard billing is explicitly okayed. **Act 274** provides more guidance on the collection of delinquent tenant utility charges requested by landlords. MEUW, League of Wisconsin Municipalities, Wisconsin Rural Water Association and MEG-Water, release Guidance on the law.

— MEUW supports increasing fixed charges on customer bills to ensure all customers pay for the grid and to prevent residential customers from subsidizing those that choose to install solar PV.

— MEUW coordinates in-district meetings with state legislators to encourage members to build relationships.

— MEUW joins the Wisconsin Energy Workforce Consortium, a collaborative effort between investor-owned, municipal utilities, electric cooperatives, electric contractors, technical colleges and the state of Wisconsin to address the anticipated workforce shortage.

— A survey of MEUW members finds that 53% of member utilities had a lineworker resign after **2011 Act 10** was passed. The survey found that a majority of those who left went to work for an investor-owned utility and cited the 50% WRS contribution and noncompetitive wages as reasons for leaving.

— Time Warner, Charter Communications and the Wisconsin Cable Communications Association file a complaint with the PSC against Oconomowoc Utilities over unreasonable pole attachment rates, asking that municipalities not be exempt from the FCC cable rate formula, which puts rates in the $3 to $5 range. A loss for Oconomowoc could affect rates for all MEUW members. MEUW joins Oconomowoc in defending the exemption before the PSC and allocates funds for legal fees.

2017— MEUW opposes **AB 348** the small cell bill, which would have a negative impact on the ability of municipalities to control access to their own right of way facilities.

2017— MEUW forms the Friends of Public Power PAC, a political conduit organized to make campaign contributions to candidates for elective office supportive of public power utilities.

FRIENDS OF **PUBLIC POWER**
TOGETHER, WE CAN MAKE A DIFFERENCE

Public power local officials are shown here meeting with US Senator Herb Kohl (center front) in the atrium of the Senate Hart Office Building in March 2011 during the APPA Legislative Rally.

Building Up!

Power purchasing, generation and transmission

How Public Power fought for fair wholesale prices and won

1960s

Beginning in the 1960s, public power communities fight a series of protracted rate cases against investor-owned companies (IOUs) on wholesale prices. These cases would typically be settled after months or years on the federal level at the Federal Power Commission or as it was called after 1977, the Federal Energy Regulatory Commission. Sometimes the Public Service Commission of Wisconsin would allow municipal utilities to increase retail rates to customers pending the appeal of wholesale rates and often settlements were retroactive, resulting in refunds for customers. Here are some of the headlines during this period.

1973— The United States Supreme Court "Otter Tail" decision is a major victory for public power, requiring IOUs to "wheel power" to municipal utilities at wholesale prices. The decision enables municipal systems to jointly own generation facilities and ends restrictive wholesale contracts.

1970s

1974—The FPC brokers a settlement between Wisconsin Power & Light and a group that includes Algoma, New Holstein, Sturgeon Bay, Eagle River, Stratford and Stephenson, MI, which reduces the rate increase from 9.9% to 7.4%.

1976—Public power utilities receive "good news" from the United States Supreme Court in *FPC v. Conway*. The case finds that the FPC must take into account "price squeeze" allegations when settling wholesale rate cases. A price squeeze occurs when a wholesale provider sets wholesale rates higher than retail rates with the intention of "squeezing" its wholesale power buyers by making it difficult for them to set competitive rates.

1978—*Live Lines* publishes a chart showing how joint action against investor-owned utilities has paid off. FPC settlements during 1976 and 1977 saved members nearly $5 million in rate reductions that averaged 55% of the rates the companies had initially proposed.

Municipal Wholesale Power Group

1961—The Municipal Wholesale Power Group was founded in response to the high wholesale rates being charged by Wisconsin Power and Light Company to municipal utilities — 15% higher than rates charged to rural electric cooperatives.

1960s & 1970s— MWPG brought cases before the PSC and the FPC (later the FERC) to challenge the wholesale rates municipalities in the group were being charged with a positive result.

1974—The FPC brokers a settlement between Wisconsin Power & Light and the Municipal Wholesale Power Group for a 6.1% increase down from 9.2%.

2010— MWPG has 23 members. Dave Mikonowicz, Reedsburg Utilities General Manager, who was President of MWPG for ten years says, *Having MWPG has been one of the only checks and balances on WP&L's continual rate increases.* The article continues, *One of the early undertakings of the group was the "price squeeze" and antitrust claims in the late 1970's and early 1980's The cost of bringing these cases exceeded $800,000 at the time. After years of battle, the cases were effective — rate increases were rolled back, WP&L paid the MWPG interveners their costs of bringing the cases, and WP&L eliminated some of its objectionable practices. After the price squeeze/antitrust cases, the MWPG including the members which had joined WPPI, were instrumental in forcing WP&L to file transmission tariffs at the FERC. These tariffs allowed [MWPG members] access to other power suppliers.* [Note: In 2018, it has 28 members]

2010 Municipal Wholesale Power Group:
Front Row (L-R): Herman Mack, Sauk City; Pat Drone, Prairie du Sac; President Dale Bender, Richland Center; Secretary Rick Wicklund, Sun Prairie; and Vice-President Art Schmitz, Elkhorn.
Second Row (L-R): Jeff Peterson, Brodhead; Lowell (Buzz) Holcomb, Vanguard Commission, serving Black Earth and Mazomanie; Jim Kolbe, Hazel Green; and Dave Tracey, Pardeeville.
Back Row (L-R): Dave Euclide, Sun Prairie and Eric Anthon, Columbus.

Building Up!

1980s

1980—Wisconsin Power & Light wholesale rate case is settled after nearly three years. Atty. Olson estimates that refunds to municipal utility customers could exceed $8,000,000.

Some cases go to court about anticompetitive practices, restraint of trade, monopolization and attempts to further monopolize the retail distribution and sale of electric power. Public power gets positive results.

By taking greater control over the generation and transmission of power, Wisconsin public power utilities position themselves to be able to serve their communities long into the future.

Wisconsin Public Power Incorporated

1975— MEUW Board allocates $10,000 to the Generation & Transmission Committee, mostly for legal fees to explore the formation of what would become WPPI.

1976— MEUW votes to support enabling legislation to form WPPI. *The message that came through loud and clear was that each utility had the duty and responsibility to their customers and themselves to at least attempt to become independent for future energy requirements.*

— WPPI is formally incorporated at a meeting in Sun Prairie. There are 33 founding municipal utility members. David Penn is named general manager. Its primary purpose is to provide a bulk power supply for its members.

1977— State legislation is passed overwhelmingly to enable WPPI to operate as planned by allowing two or more communities with electric utilities to form a "joint action agency."

1981— On November 2, WPPI starts delivery of power to 22 Wisconsin municipal utilities. Several other communities soon follow. Capacity is added through the years.

1996— An 86 MW combustion turbine is activated at WPL's South Fond du Lac generating station. WPPI owns a 50% interest.

2004— WPPI dedicates a 52 MW peaking plant in Kaukauna; Kaukauna and 36 other MEUW member utilities will benefit from the plant.

Great Lakes Utilities

2000— Ten MEUW member utilities form Great Lakes Utilities (GLU), a wholesale energy company. By 2003, it is a power supplier for five of its members.

2008— GLU enters into long-term 25-year power supply contracts for the majority of its members enabling GLU to begin pooling resources, including member-owned resources, under a uniform rate.

2018— Stratford becomes the 12th GLU member joining Bangor, Clintonville, Cornell, Kiel, Manitowoc, Marshfield, Medford, Shawano, Trempealeau, Wisconsin Rapids and Escanaba, Michigan. It has a total peak load of 385 MW.

American Transmission Company

2001— Thirteen MEUW communities invest in the American Transmission Company and transfer their transmission assets to the newly created company.

2008— *ATC's 220-mile, 345 kV Arrowhead-Weston transmission line linking Wausau with Duluth is energized in early February. The line has a carrying capacity of up to 800MW. The new line will improve overall electric system reliability in Wisconsin by reducing the strain on the State's single transmission connection to the west, the Eau Claire-Arpin Line.*

Going Green!

Focus on the Environment

1968— US has 6% of population but uses 40% of the power generated in the world, notes Wisconsin PSC Commissioner Walter J. Cole in a speech.

1970— Larry Hobart, APPA Assistant General Manager prepares to speak at the MEUW annual conference on the topic, *Should We Limit the Use of Electric Power?*

1971— New Wisconsin PSC Chair William Eich says he supports statutory changes to consider the environmental impact of policies. Currently the PSC is required only to ensure that the state's utilities offer adequate service at fair rates.

— In his remarks at the MEUW annual conference, Allan Thompson, President of the Great Lakes Coal and Dock Company of Milwaukee says, *The 'mountains of emotionalism' on pollution hopefully will not develop into 'over reactions' which will result in such stringent regulations on the use of energy fuels that we find a return of the Dark Ages.*

1972— Wisconsin Environmental Policy Act is signed into law, requiring state agencies to take into consideration the environmental impact of policies and regulations.

1999— 1999 Act 9 becomes law in 1999, making Wisconsin the first state to put in place a renewable portfolio standard (RPS) without having restructured its electric utility industry.

2006— 2005 Act 141 promotes energy conservation and renewable energy usage.

2008— Governor's Task Force releases final report: *Wisconsin's Strategy for Reducing Global Warming.*

2009— Wisconsin **2009 Act 40** creates a standardized process to site windfarms.

2014— The EPA Clean Power Plan requires the state of Wisconsin to cut emissions by 34% based on 2012 emission levels. The industry had pushed for a 2005 baseline. MEUW is participating in the PSC and the DNR EPA stakeholder group to work through issues of concern.

2015— The EPA Clean Power Plan poses three concerns for municipal utilities: lack of credit for early action on emission reduction, an unrealistic interim compliance goal and the lack of credit for out-of-state renewables. These were all addressed to some degree in the final rule. Several states sue to stop implementation. [Note in 2018, the Trump EPA releases the Affordable Clean Energy (ACE) Rule in August that replaces the CPP, - R. Heinemann, Boardman Law Firm.]

1970s

1971— Marshfield converts 2 boilers from coal to gas and oil.

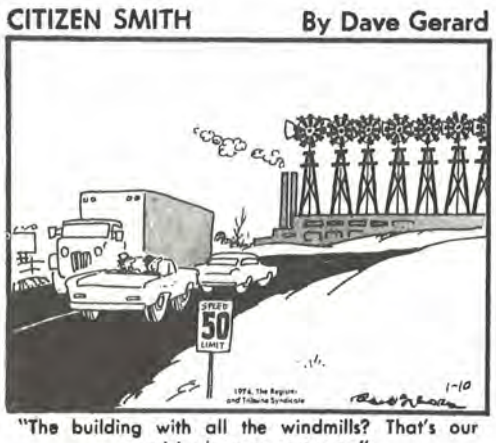
1974— Menasha approves the purchase of a $243,472 electrostatic precipitator system to filter ash from the utility's coal-fired generating plant.

1980s

1989— MEUW Board approves a Conservation Service Plan for use by MEUW members. Engineering consultants are retained to assist member utilities in developing a plan based on their own needs from a *laundry list of projects already approved by the PSC.*

The obligation to provide service and public concern for the environment can often clash. The challenge is to seek solutions that will enable public power to meet its energy obligations and, at the same time, to ensure the highest possible degree of environmental protection and safety.

— Gordon Roberts, *APPA Washington Report*
October 10, 1990



"The building with all the windmills? That's our municipal power company."

1990s

1994— The MEUW Demand Side Management Task Force builds a fast track for rate recovery for implementing DSM programs. Finding the least-cost DSM management programs is a hot-button issue.

1996— Fennimore applies for a U. S. Department of Energy grant to help finance a large-roto 600 kW wind turbine. It may become the first Wisconsin municipal utility with a commercial-scale wind turbine on its distribution system in 1997.

1997— Marshfield receives APPA's Golden Tree Award for reaching its goal of planting one tree for every one of its 14,000 customers. APPA started the program in 1992.

Going Green!

2000s

2002— Menasha Utilities, WPPI, and the Menasha Neenah Sewage Commission embark on a renewable energy project to convert waste methane gas into a renewable energy source. Besides Menasha, other Fox Valley municipal utilities offering renewable energy are New London and Kaukauna.

2007— Manitowoc adds generation capacity. Unit 8 uses "clean coal" circulating fluidized bed (CFB) boiler technology, which burns fuel more efficiently by re-circulating solid particles of unburned fuel until virtually all of the solids have been combusted. Unit 9 is fueled by petroleum coke.

Manitowoc Utilities ribbon cutting ceremony for new generation plant.

2007— Waupun Utilities installs two 2.8-kilowatt photovoltaic solar arrays at its main office building. The array will provide 9,000 kWh of emissions-free electricity each year.

2008— Stoughton Utilities installs 34 photovoltaic solar panels on the south side of the building. The array will provide 8,500 kWh of emissions-free electricity each year.

2009— MEUW and the University of Wisconsin—Stevens Point co-sponsor a Climate Change Summit convened by Lt. Governor Barbara Lawton. Attendees sign a Climate Change Regional Action Resolution.

2009— Four MEUW communities, Columbus, Evansville, Marshfield and Oconomowoc, are awarded a "25x25 EIC Plan Grant in 2009 through the State of Wisconsin's Office of Energy Independence created in 2008 by Governor Doyle. One of its goals is reaching "25x25" - using 25% renewal energy by the year 2025. The EIC program was launched in late 2008.

Representing MEUW communities at the December "Energy Independent Communities" Conference in Green Bay were: Dennis Bednarski, Oconomowoc Utilities Director; Marty Anderson, Marshfield; Steve Sobiek, Columbus Economic Development/Sustainability Coordinator; former Columbus Mayor Nancy Oosterhaus; and Mayor Sandy Decker, Evansville.

2010s

2010—Through WPPI's GreenMax Home initiative, two homeowners, one in Stoughton and one in Black River Falls are the first two families to occupy a net zero energy home (NZEH) in Wisconsin.

2010— American Recovery and Reinvestment Act (ARRA) grants are awarded to 23 MEUW communities — Algoma, Columbus, Cornell, Evansville, Fennimore, Jefferson, Juneau, Lake Mills, Manitowoc, Marshfield, Menasha, New Richmond, Plymouth, Rice Lake, Shawano, Sheboygan Falls, Two Rivers, Waupun, Wisconsin Dells, La Farge, Sauk City, Slinger and Viola — for one of two projects: LED street lighting or retrofitting municipal facilities with energy efficient measures.

2010— Reedsburg Utility Commission receives a $5.2 million USDA Rural Utilities Service grant from the American Recovery and Reinvestment Act to enable Reedsburg to extend its municipal FTTP network to the surrounding rural areas.

2011— Mount Horeb dedicates new utility garage and office facility, which sports a 9 KW solar unit that will produce 11,000 kWh annually and a garage heated with a radiant hot water floor system among other energy conservation measures.

2011— WPPI Energy building in Sun Prairie earns a perfect EPA efficiency rating.

2014— In a joint venture with Half Moon Ventures and WPPI Energy, the City of Jefferson launches a 1 MW Solar Project. (per Atty. Richard Heinemann, Boardman Law Firm)

2014— Kaukauna Utilities dedicates new hydroelectric plant, which replaces two plants that had been serving the community since 1908 and 1928. The Badger Hydro project ribbon cutting provided an opportunity to look back at the vision it took to invest in hydroelectric power more than 130 years ago. *Without their vision, we would not be assembled here today. Kaukauna's proud history of owning our own utility and the tradition of delivering clean, renewable and affordable electricity to our residents was a bold and progressive idea in its day,* said Lee Meyerhofer, President of the Kaukauna Utilities Commission.

2015— The Wisconsin PSC approves two community solar programs for New Richmond Municipal Utility and River Falls Municipal Utility. (per Atty. R. Heinemann, Boardman Law Firm)

A Changing World

This and That

From the pages of Live *Lines*, evidence of a changing world.

1940s

1943— To assist the war effort and reduce consumption, members advertised their surplus equipment.

1960s

OPEN HOUSE IS HELD AT MARSHFIELD FOR NEW UTILITIES HEADQUARTERS BUILDING

Left to Right: RAY FINUCANE, President of Marshfield Commissioners; NORMAN E. DIETRICH, Marshfield Utility Manager; GEORGE STRAUS, President of Municipal Electric Utilities of Wisconsin and GORDON RASMUSSEN, Pres. of the Marshfield City Council.

First photo in ***Live Lines***, August 1966

1961—Manitowoc purchases a power plant that had been destined for Cuba. The Cuban purchase was blocked due to the trade embargo and Manitowoc got it at bargain basement prices.

1962— From a promotion for the MEUW Annual Conference in Baraboo *"A fine program has been arranged for the ladies, so bring your Wife along"* for a card party, swimming, sightseeing, and a coffee hour. Member Registration fee: $3; ladies complimentary; Vendors: $10 plus $3 for every rep.

1963—*The Arcadia Utility is believed to be the first in the State doing meter reading with Walkie-Talkie two-way radios. The meter readers no longer carry a meter book or flashlight and to date the Utility is realizing a 20% saving in meter reading time. With the acquisition of a billing machine in the near future the meter reading book will be done away with completely.*

1968— Dale Kelly Consulting Engineers is maintaining file cards on who has surplus material other utilities may need.

— Medford Electric Utility gives away a "*handsome portable television set*" with the purchase of a new electric washer, dryer, and hot water heater.

1970s

1970 — Oconomowoc approves $1 million bond to convert its overhead utility facilities to underground. It may be the first.

1971— Manitowoc installs mercury street lights.

—Adams-Marquette Electric Co-op ends self –billing and hires 45 meter readers.

— Cost of a stamp goes up to 8 cents. Milwaukee utility considers hand-delivering utility bills given the price of stamps.

— Marshfield converts to computer billing.

1972— 25,000 New Yorkers are still on direct current. Changing over all buildings for free was halted in the early 1930s since, the PSC found, Con Ed was not treating all ratepayers equally by doing so. —*Direct Current Users (Yes, There Are Some) Find Ways of Coping*, **Wall Street Journal**, July 19, 1972

1973— 25', 30' and 35' poles are going to be in very short supply for most of 1973 due to high demand domestically, better prices for exports, and several pole treating plants going out of business rather than installing pollution controls.

—Accidental electrocution of eagles is stopped by raising the center wire 38 inches so an eagle can't touch two wires at once or by wrapping protective insulation around the center top wire for several feet from the top of the pole or constructing a safe perch atop the pole. *Some Natural Enemies Join Forces to Curb Electrocution of Eagles*, **Wall Street Journal**, July 11, 1973.

— MEUW plans a week-long trip to Yugoslavia for members using the College City Travel Service.

1974— Marshfield Water & Light Commission and Clark Electric Cooperative sign the first territorial agreement between an electric cooperative and a municipal utility.

Cartoon published in *Live Lines*, June 1963

A Changing World

1980s

1981— Oconto Falls Power & Light Commission announces that it is starting construction on the first municipally-owned cable television system in Wisconsin. Subscriptions to the 18-channel system are being sold for $7.95 per month.

1983— Barron defers billing customers indefinitely to dispose of their cash surplus. The decision was later challenged by the PSC, but Barron customers receive "free" electricity for several months.

1985— MEUW's MEET Committee (Municipal Electric Education and Training) purchases a video cassette recorder and Zenith 19 inch color television to assist VTAE in training MEUW members.

Norbert Wurtzel, District One Director; Bob Selchert, MEUW; Ron Wilhelm, District Consortium; Dennis Rydzewski, MEET Chairman

1990s

1996— Eight municipalities offer automatic bill payment, a service gaining in popularity. Evansville, Manitowoc, Stoughton, Sturgeon Bay, Sun Prairie, Waupun and Wisconsin Rapids now offer this service, allowing customers to have their bill payments directly withdrawn from their checking account.

— Two massive power outages hit western U.S. In July and August, 1996 cutting power to 2 million customers in 14 western states. First big one since 1990.

1997— Diggers Hotline goes into effect on January 1, 1997.

— Packers win Superbowl— Manitowoc Mayor Kevin Crawford plans to hold a $250-a-plate brat and lobster dinner to raise funds for a new library and use the 31 lobsters, 31 pints of baked beans and 31 pints of clam chowder he won from Foxboro, Mass. Mayor Michael Coppola.

— PSC Report goes electronic.

2000s

2000— Reedsburg and Sun Prairie become the first cities to be certified by the PSC to provide telecommunications services to the public. (per Anita Gallucci, Boardman Law Firm)

2001— Juneau Utility Commission implements E-Government, which will allow customers to view their billing history and pay online. *With the increasing pressures of potential retail access in Wisconsin and the increasing technical proficiency in our community, it was time for our utility to make this move,* says Andy Christensen, Clerk-Treasurer.

2005— PSC Electronic Regulatory Filing (ERF) system, goes online. All case documents and filings are now available electronically.

2007— FCC launches the 811 Diggers Hotline number to help simplify contacting one-call centers across the country.

2010s

2012— Manitowoc changes billing systems, adding mobile feature through CIS Infinity. Infinity Link is a web-based application that permits customers to view account information in real time, receive e-bills and make on-line payments. Infinity.Mobile is an automated service order management system that operates through mobile wireless connectivity, providing real-time paperless dispatching and completion of service orders.

— Stoughton Utilities rebuilds demolished chimney at the request of Madison Audubon to give chimney swifts a home.

2013— Line workers start carrying iPads in Reedsburg. *With our system maps on the cloud, line workers using tablets can access any part of the maps instantly when out in the field,* said Brett Schuppner, Reedsburg Utilities General Manager.

2018— MEUW sends its first Tweet.

Community service extends to providing a roost for birds at Stoughton Utilities.

MEUW Management Training Program

Session A
COMMUNICATION, TIME AND PROJECT MANAGEMENT
February 27, 2019

Session B
EFFECTIVE SKILLS FOR LEADERSHIP AND TEAM BUILDING
June 5, 2019

Session C
UTILITY PLANNING AND RISK MANAGEMENT
October 16, 2019

Session D
UTILITY ACCOUNTING AND FINANCE
February 26, 2020

Session E
PERSONNEL ISSUES
June 3, 2020

Session F
CUSTOMER SERVICE AND PUBLIC RELATIONS
October 14, 2020

New Location:
Hotel Marshfield

Registration will open six weeks before each scheduled session

MEUW District Dinners

Getting members together for dinner and networking is a time-honored MEUW tradition. It's a great opportunity to connect with public power colleagues and to hear the latest happenings with MEUW and the industry.

Join us for the dinner in the location most convenient to you:

- **Tuesday, Oct. 23** – Hi-Way Harry's, Johnson Creek (Districts 7, 9 and 10)
- **Thursday, Nov. 1** – Woodlands Supper Club, Gresham (District 3)
- **Tuesday, Nov. 6** – Reedsburg Country Club (District 6)
- **Tuesday, Nov. 13** – Lehman's Supper Club, Rice Lake (District 1)
- **Wednesday, Nov. 14** – Skyline Golf Course, Black River Falls (District 2)
- **Thursday, Nov. 15** – Red's Supper Club, Cuba City (District 8)

Each dinner begins with a cash bar at 6 p.m. and dinner at 6:30, followed by a brief program.

Register online at *MEUW.org*
Deadline is one week prior to each event

From Page 2

Stoughton's Kardasz, a Legend of Public Power in Wisconsin, Calls It a Career

"I have seen first-hand the positive changes that occurred in the industry with changes in laws and the formation of new ideas, such as the American Transmission Company, which would have never come to fruition without leadership from our industry groups," Bob said.

By eliminating the vertical integration of utilities, public power companies were better able to access transmission lines, thereby improving reliability and efficiency for customers.

Bob Kardasz at his Retirement Party surrounded by the people who will miss him the most , his staff at Stoughton Utilities.

In recent years, Bob has experienced a more contemptuous relationship with larger investor-owned utilities. "Years ago, we didn't fight over customers," he said. "But today investor-owned utilities are scrutinizing boundary agreements to gain more customers as they are under such intense pressure to satisfy their stockholders."

Bob also anticipates much more disagreement over pole attachments that are needed to deploy 5G technology. He says public power providers must continue to work together to face the challenges ahead. "Partnerships have helped in the past, and they will continue to do so in the future," Bob said.

In addition, Bob believes the industry must also continue to focus on attracting good people.

People are the Key to Success

"As I look back, I am most proud of the people who I have had the pleasure to work with at Stoughton Utilities," Bob said. "Some stayed for just a little while, but others have dedicated many years to our utility and our community," he continued. And Bob has gained great personal satisfaction from his strong bonds with employees, who he considers to be family.

"People are everything," Bob said. "I am beyond grateful for their energy, comradery and also their expertise, foresight and their attention and focus on safety."

The staff has also gained much from Bob's guidance and leadership. "Bob would always go above and beyond for all of us; and he always encouraged us to put family first," Sean said. "He empowered his managers and employees … he let us carry the torch on so many issues."

Brian added that Bob was always respectful and professional, and he encouraged employees to succeed. "Bob never micromanaged people, instead he gave them the freedom to explore new innovations," Brian said. "And he was also more than willing to shoulder the burden of local politics, when necessary. He will be missed."

While a leader like Bob can never be replaced, Stoughton Utilities plans to launch a nationwide search for a new director in the next few months.

Bob is excited to now have more time for fishing and traveling. He also knows what he won't do with his time. "I will never complain about my utility bills," he claims. "And I will stay far away from politics!"

Continued on page XXXX

From Page 1

MEUW celebrates 90 years of Service, Advocacy and Safety

This special edition of MEUW's hallmark newsletter, *Live Lines*, details – and celebrates – the association's history. And while you won't find mention of Super Bowl championships or Lombardi trophies (or maybe you will!), there have been numerous victories along the way. There are also stories of rivalries and small-town triumphs. We can all be proud of the contributions and sacrifices so many made through the years to ensure that public power can continue to thrive for generations to come.

Even as we look back on 90 years of achievements, we are focused on creating a future that enables MEUW to be an ever more valuable resource for our member utilities. Beginning with the ENERGY Project that launched early in 2018, we are developing a long-term strategic plan to guide the association toward its 100th anniversary. Together, we're exploring new ideas and enhancements that will help MEUW to achieve a vision to deliver exceptional programs and services members value. We're excited to get members' input about the plan, and we all look forward to seeing MEUW flourish in the coming years.

Thank you for your continued support of MEUW.

This special edition of *Live Lines* reflects the hard work of **Mary Cardona**, who is wrapping up her time as MEUW's interim marketing coordinator. Mary has produced every edition of *Live Lines* in 2018 with her strong attention to detail and penchant for making the publication an informative and useful resource for MEUW members. We are grateful for her contributions and wish her all the best as she devotes more time to her role as executive director of Wisconsin Community Media.

Classifieds

For more detail on any of these job opportunities, go to the MEUW website and click Employment or Click Here!

City of New Lisbon municipal electric and water utility is accepting applications for two Journeyman Line workers. These are skilled positions in operating, maintaining, and constructing electric distribution, transmission, and substation systems. Experience with municipal generators is a plus but not required. To apply send a resume, including work history to: City of New Lisbon attn: Nick Wyss at 232 W. Pleasant Street, New Lisbon, WI 53950. **Positions are open until filled.**

Waunakee Utilities is seeking a full-time Customer Service Representative. This position requires an in-depth knowledge of utility operations and procedures and is responsible for serving walk-in customers, processing customer paperwork, developing content for the utility website and social media accounts and a variety of other tasks. For more information and to apply go to www.waunakeeutilities.com for details. **Position will remain open until filled.**

Menasha Utilities is seeking an Electric Distribution Technician. This is technical work in the design and maintenance of the electric distribution system. Work involves preparing work orders, maintenance orders and project estimates that contain distribution site-plans, staking sheets, materials summaries, and design details. Position involves frequent contact with the public, contractors, and customers. For more information and to apply please go to: https://www.governmentjobs.com/careers/menashautilities no later than **October 19, 2018 4pm.**

Menasha Utilities is seeking an Engineering Technician. This is a management position responsible for assisting the Technical Service Engineer, GIS Specialist, Distribution Technician, Metering Department and Engineering Manager in the design, implementation, and maintenance of technical projects of the water, electric and telecommunications utility as well as supervising contractor activities, GIS/CAD mapping, and construction standards. For more information and to apply please go to: https://www.governmentjobs.com/careers/menashautilities no later than **October 19, 2019 4 pm.**

Village of Pardeeville is seeking a full-time Utility/Office Clerk. This position processes bills, payments and disconnections, provides assistance to residents with animal licenses and tax payments, and handles general office work. Strong customer service skills, cash handling and office experience required. For more information and to apply no later than **October 24, 2018** go to www.villageofpardeeville.net.

City of Two Rivers is seeking a Customer Service Supervisor. This is a supervisory position that also performs technical and administrative functions related to utility billing and accounting, utility customer service, cashiering, and miscellaneous services. Utility services provided by the City currently include electric, water, sewer, storm water, telecommunications and solid waste. For more information and to apply contact Kim Graves no later than **October 29, 2018** at (920) 793-5526 or send an email to kgraves@two-rivers.org.

The State of Wisconsin

OFFICE OF THE GOVERNOR

CERTIFICATE OF COMMENDATION

HONORING

MUNICIPAL ELECTRIC UTILITIES OF WISCONSIN

90th Anniversary

WHEREAS; Municipal Electric Utilities of Wisconsin has worked to unify and strengthen Wisconsin's family of 81 community-owned electric utilities as a non-profit for 90 years; and

WHEREAS; Municipal Electric Utilities throughout Wisconsin provides homes and businesses with safe, reliable power at affordable rates, helping to support the economic vitality of the Wisconsin communities they serve; and

WHEREAS; Wisconsin's public power utilities have proven to be valuable community assets that enhance customers' lives by providing reliable and safe electricity, local jobs, high-quality service, and exceptional programs that help reduce costs and conserve energy; and

WHEREAS; Municipal Electric Utilities of Wisconsin, since 1928, has focused on maximizing Wisconsin's municipal electric utilities' shared interests and celebrating their unique differences to advance the benefits of public power, and is therefore worthy of gratitude, appreciation, and honor;

NOW, THEREFORE, I, Scott Walker, Governor of the State of Wisconsin, do hereby commend everyone with Municipal Electric Utilities of Wisconsin on their 90th Anniversary and wish them well in the future.

DONE AT THE CAPITOL IN THE CITY OF MADISON THIS 26th DAY OF SEPTEMBER 2018.

SCOTT WALKER
GOVERNOR

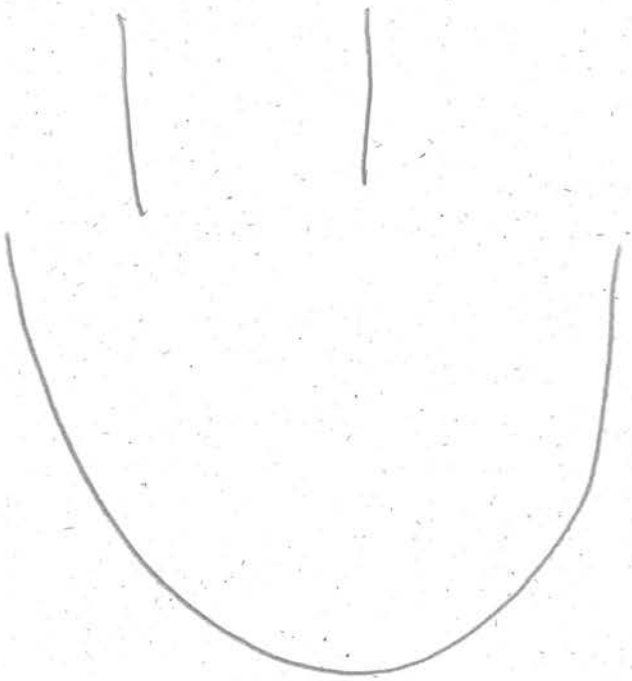
To whom it may concern,

I am sending along a note with my son's hand-written request to translate his writing. He states "I hope you might start working soon. From: Trip H." He is concerned that there is no one "keeping an eye" on the building located at the corner of W. South street and King St. This outpost is located near our home and he walks past it everyday on the way to school. He has said that he never sees any one at this location and is concerned that it is not being monitored. If you could send something indicating that his concerns are appreciated and that in fact someone does provide some sort of maintenance (he does not trust our assurance) I am sure he could rest easy.

Thank you kindly,

Becky & Tyler Hedstrom

I HOP YOU Mite
2trte wrking 2oon



fUm TriP.H

Stoughton Utilities
600 South Fourth Street
P.O. Box 383
Stoughton, WI 53589-0383
Serving Electric, Water & Wastewater Needs Since 1886

October 22, 2018

Mr. Trip Hedstrom
1323 W. Main St.
Stoughton, WI 53589

Dear Trip:

I received your note about our building located near your home and school. This building is a groundwater well, pumping station, and water storage reservoir. We appreciate that you are keeping careful watch of the building.

We also keep a close eye on all four of our water well facilities. Employees from the Stoughton Utilities' Water Department visit this building every workday. While there, they perform an inspection of the building and grounds, inspect the pumps and all equipment to make sure everything is functioning properly, sweep and clean the inside of the building, and pick up any litter outside.

Inside this building, water is pumped up from over 1,000 feet underground. This water is disinfected, and then sent through pipes under the streets up to the water towers. From there, the water travels to every home and business in the City of Stoughton. This is the water you drink and use to take a bath, and it is also used by the fire department for putting out fires. This one well is able to pump nearly 1.5 million gallons every day, however it typically pumps much less.

Office 608-873-3379
Fax 608-873-4878
stoughtonutilities.com

Also inside this building is a concrete storage reservoir that stores water. Water is held here before it is pumped through underground pipes up to the water towers. This reservoir holds 400,000 gallons of water… enough to fill about 20 large backyard swimming pools.

All equipment inside the building is run by computers. A central system in our administration office tells the pumps when to turn on and off, based on the amounts of water inside the storage reservoir and the water towers. Employees do not need to visit the building to turn equipment on or off, and can do so from a computer in their office. The pumps can even run during a power outage since there is an emergency power generator that starts automatically when needed.

If you would like to learn more about this well and would like to see the inside of the building, I would be glad to arrange for you and your parents to be given a tour by one of our water system operators. Please have your parents contact me to set up a date and time for a tour. I would also be happy to answer any other questions you might have about this well or our drinking water system.

Sincerely,

STOUGHTON UTILITIES

Brian R. Hoops
Assistant Utilities Director

cc: Kent Thompson
Water System Supervisor

MAKING SPIRITS BRIGHT WITH ENERGY EFFICIENT LIGHTS

Make your holidays shine bright with energy efficient LED holiday lights.

LEDs can last up to 40 years, use 90% less energy than traditional lights, and are easy to install. All of which means a safer (and less expensive!) holiday season for you and your family. This year, bring in donations for the Stoughton Personal Essentials Pantry and receive a new string of LED holiday lights and light timer! The Personal Essentials Pantry helps families in Stoughton with household essentials that aren't provided at the food pantry, including: toilet paper, kleenex, body wash, toothbrushes, winter hats and more. Visit our website for a full list of items needed!

STOP BY OUR OFFICE TO GET YOUR FREE LIGHTS!

Available while supplies last. Four item donation required for one string of lights and one light timer. Limit one string of lights and one timer per account.

Stoughton Utilities

At Stoughton Utilities, we join forces with other local not-for-profit utilities through WPPI Energy to share resources and lower costs.

stoughtonutilities.com **(608) 873-3379**

Shared strength through WPPI Energy

FISCAL YEAR 2018
THIRD QUARTER HIGHLIGHTS

1425 Corporate Center Drive
Sun Prairie, WI 53590-4500
Phone: 608.834.4500
Fax: 608.837.0274

WPPI energy

November 6, 2018

Financial Highlights

During the third quarter of 2018, WPPI Energy's change in net position was $15,153,575 compared to $18,744,561 in the third quarter of 2017. WPPI Energy planned for its largest change in net position during the third quarter in both 2017 and 2018 due to seasonal wholesale rates that include a higher demand charge during the summer months.

Energy sales to members totaled 1,396,724 megawatt-hours (MWh) in the third quarter of 2018. This is 44,485 MWh, or 3.3%, more than the same period a year ago. Total operating revenues for the third quarter in 2018 were $138,874,674, which is 4.8% lower than the same period a year ago. Total operating expenses for the third quarter in 2018 were $122,227,314, which is 1.1% lower than the same period a year ago. The decrease in operating revenues is primarily due to a lower average cost of power to members in the third quarter of 2018 compared to 2017. The decrease in operating expenses is primarily driven by lower purchased power and transmission expenses.

Power Supply Update

WPPI Energy's 20% share of Boswell Energy Center Unit 4 generated 204,408 megawatt-hours at an average capacity factor of 79.1% during the third quarter of 2018. This compares to generation of 206,304 MWh and an average capacity factor of 79.9% in the third quarter of 2017. The unit was out of service for three days in July of this year to repair a tube leak.

WPPI Energy's 8.33% share of the Elm Road Generating Station units generated 181,306 MWh at an average capacity factor of 77.7%. During the same quarter a year ago, the units generated 175,721 MWh at an average capacity factor of 75.3%. Unit 1 was out of service for 22 days in September of this year for a planned outage. Unit 1 was also out of service for six days in August of this year to repair a tube leak.

News Highlights

The WPPI Energy membership's 2018 WPPI Annual Meeting took place September 13 in Madison, Wis. With a theme of "Utilities of the Future: Ready to Serve," the program featured a State of WPPI address by President and CEO Mike Peters and Board of Directors Chair Jeff Feldt, an awards presentation recognizing 11 individuals and one community for their significant contributions to public power and joint action, and a variety of guest presenters covering topics ranging from innovation and the economy to electric system disaster recovery and more. The Board of Directors met the following morning.

Company Profile

WPPI Energy is a regional power company serving 51 locally owned, not-for-profit electric utilities. Together through WPPI Energy, these public power utilities share resources and own generation facilities to provide reliable, affordable electricity to more than 200,000 homes and businesses in Wisconsin, Michigan's Upper Peninsula and Iowa.

FINANCIAL STATEMENTS

Statements of Net Position (Unaudited)

September 30,	2018	2017
Assets		
Current assets	$ 152,474,737	$ 167,001,535
Non-current assets	241,486,291	234,057,272
Electric plant, equipment, and land, net	379,454,876	388,184,028
Construction work in progress	9,956,594	7,858,730
Total assets	783,372,498	797,101,565
Deferred Outflows of Resources	17,262,476	20,652,735
Liabilities		
Current liabilities	57,532,980	70,524,071
Non-current liabilities	8,280,843	8,031,909
Long-term debt, net	367,510,740	406,819,818
Total liabilities	433,324,563	485,375,798
Deferred Inflows of Resources	76,419,796	60,716,851
Net Position	$ 290,890,615	$ 271,661,651

Statements of Revenue, Expenses and Changes in Net Position (Unaudited)

	Quarter Ended September 30,		Fiscal-to-Date	
	2018	2017	2018	2017
Operating Revenues	$ 138,874,674	$ 145,849,209	$ 350,248,862	$ 369,854,817
Operating Expenses				
Purchased power	81,498,749	82,492,635	212,647,273	228,174,956
Transmission	17,138,827	17,933,679	49,454,814	49,816,654
Fuel expense	9,003,202	8,968,284	25,994,481	25,398,938
Operation and maintenance	3,658,788	2,891,686	9,314,300	8,529,353
Customer service and administrative and general	5,123,696	5,560,454	15,265,297	15,538,014
Depreciation and amortization	4,087,549	4,023,836	12,306,618	12,271,821
Taxes	1,716,503	1,755,461	5,364,222	5,301,186
Total operating expenses	122,227,314	123,626,035	330,347,005	345,030,923
Operating Income	16,647,360	22,223,174	19,901,857	24,823,894
Non-Operating Revenues (Expenses)				
Investment income	3,450,390	3,254,389	10,543,947	9,475,980
Interest expense	(4,230,486)	(4,814,392)	(13,794,782)	(14,994,167)
Other	(713,689)	(1,918,610)	(4,749,928)	(5,942,128)
Total non-operating revenues (expenses), net	(1,493,785)	(3,478,613)	(8,000,763)	(11,460,315)
Change in Net Position	$ 15,153,575	$ 18,744,561	$ 11,901,094	$ 13,363,579

Some 2017 amounts were reclassified to conform to the 2018 presentation.

WPPI ENERGY IS THE POWER SUPPLIER FOR THE FOLLOWING LOCALLY-OWNED UTILITIES

WISCONSIN
Algoma
Black River Falls
Boscobel
Brodhead
Cedarburg
Columbus
Cuba City
Eagle River
Evansville
Florence
Hartford
Hustisford
Jefferson
Juneau
Kaukauna
Lake Mills
Lodi
Menasha
Mount Horeb
Muscoda
New Glarus
New Holstein
New London
New Richmond
Oconomowoc
Octonto Falls
Plymouth
Prairie du Sac
Reedsburg
Richland Center
River Falls
Slinger
Stoughton
Sturgeon Bay
Sun Prairie
Two Rivers
Waterloo
Waunakee
Waupun
Westby
Whitehall

MICHIGAN
Alger Delta
Baraga
Crystal Falls
Gladstone
L'Anse
Negaunee
Norway

IOWA
Independence
Maquoketa
Preston

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MEUW
Service. Advocacy. Safety.

LIVELines

Volume 66, Issue 11 November 2018

PSC awards $5 million in Energy Innovation Grants

The Public Service Commission (PSC) recently awarded grants totaling nearly $5 million through its new Energy Innovation Grant Program. The overall goal of the program is to reduce energy consumption, increase the use of renewable energy and transportation technologies, bolster preparedness and resiliency in the energy system, and ensure that steps are taken to create comprehensive energy plans for Wisconsin's future.

The Commission funded a total of 31 grant applications from municipal governments, school districts and manufacturers. Three public power communities — Arcadia, Reedsburg and Waterloo — were awarded inaugural grants this year.

Grants could fund energy planning, such as facility audits, fleet audits, feasibility studies and comprehensive energy plans. Applicants could also request funds to help cover building energy efficiency projects, renewable energy, alternative fuel vehicles and infrastructure, and associated training and operations.

The School District of Arcadia received $12,000 to replace diesel school buses with propane school buses. The School District of Reedsburg was awarded $345,000 to upgrade lighting at three schools, which is expected to result in estimated energy savings of $124,355 per year. The City of Waterloo received $50,000 in funding to upgrade lighting and install wireless thermostats at five municipal buildings. This is expected to result in savings of nearly $23,000 per year.

Funding for the grant program originated from revolving loan fund proceeds within Wisconsin's Office of Energy Innovation. The life of the program will expire after all funds from the previous loan program have been dispersed.

The Commission expects to issue more than $25 million in grants over the life of the program.

"I'm excited to see the tangible benefits that will be reaped by school districts, local governments and manufacturers around the state in this program's effort to promote energy efficiency and innovation," said Commissioner Rich Zipperer.

Commissioner Zipperer continued that he expects all of the inaugural grants will help spur innovation in the marketplace and will assist local governments and manufacturers achieve their long-term, energy efficiency goals.

For a full list of 2018 awards and to sign up to receive information about how to apply for the 2019 grants, please visit the PSC's web site at www.psc.gov.

Inside this month's issue ...

Municipal Electric Utilities of Wisconsin's mission is to **strengthen and unify community-owned utilities**. Since 1928, MEUW has been the trade association for Wisconsin's 81 public power communities and is affiliated with the American Public Power Association (APPA) — *www.publicpower.org*

MEUW 24/7 Emergency Notification Contact Information:
1-844-MEUW 911 (1-844-638-9911)

A Monthly Municipal Electric Utilities of Wisconsin Publication | 725 Lois Drive, Sun Prairie, WI 53590 | Phone: 608-837-2263 | Website: www.meuw.org

We're moving forward

By Tim Heinrich, MEUW Executive Director

"Windshield time" has always been my best time to mull things over and dream up new ideas.

Since assuming the role of MEUW's Executive Director, I've thoroughly taken advantage of the opportunity to brainstorm and think during my windshield time traveling to various MEUW meetings and gatherings. I've rehashed the past and considered the future.

MEUW has a 90-year history of providing leadership in advocacy for its members, quality training programs, and opportunities for our utilities to network on a regular basis. Electric Utility Safety and Training continues to be a key benefit to our members, and our Regional Safety Program is blossoming, reaching beyond our members and into the communities they serve. Additionally, all of our utilities benefit from a supportive mutual aid program. But now isn't the time to rest on our accomplishments; we need to turn toward the future.

In September, I met with the Board to discuss some exciting new ideas designed to help MEUW achieve the goals set forth by the ENERGY Project. In October, the MEUW staff went through the same strategic planning exercise. While the prioritization of initiatives was different, the energy and excitement in the room during both of the exercises was the same.

I also felt that same "vibe" during our recent District Dinners, which have each been attended by dozens of people, including utility employees and local commissioners and leaders. At every one of the dinners, we feasted on delicious food, and I had the chance to share thoughts about MEUW's future.

Clearly — member utilities, the Board and MEUW staff agree — we need to bring new luster to MEUW over the next 10 years through new initiatives. Toward that end, over the last few months, we've honed in on a handful of ideas and will include them in our long-term plan, MEUW@100. And it starts now.

By the end of the year, we will launch a scholarship program to benefit students who plan to pursue careers as lineworkers. We are also expanding our training offerings. For example, we are exploring a new Leadership Academy for budding utility leaders. Not intended to replace our existing management training program, this series will focus on teaching critical leadership skills — not operational or tactical utility skills. We plan to host a focus group about this prospective new training program at our 90th Annual Meeting to be held in Delavan in May.

MEUW's District Dinner in Johnson Creek, which was held Oct. 23 at Highway Harry's, was well attended.

Additionally, MEUW's agenda for the near term includes creating day-long classes for both managers and non-managers. Classes could run the gamut from learning about legal requirements and regulatory changes to improving business writing skills.

We're launching an inaugural wellness walk/run at the annual meeting, giving attendees the opportunity to get a little exercise and time to network with other participants outside the hotel walls of the gathering. And we're also considering new sponsorships, partnerships and awareness campaigns.

In short, we have put time and effort into strategic planning and goal setting. MEUW is brimming with new ideas and opportunities to strengthen the association. And while I have thoroughly enjoyed brainstorming with you and devising plans during my windshield time, now is the time for action. My focus has now shifted from planning to breaking down ideas into manageable pieces, communicating with our stakeholders and allocating resources to successfully implement new programs and plans.

MEUW may be a 90-year old organization, but it is still strong and agile … and now is to time to drive ahead.

On the art and beauty of civility

By Paul Hermanson, MEUW Board President

Paul Hermanson

People drive me absolutely barmy (*look it up*). This is not good, because I'm in the so-called people-pleasing business.

Every day — without fail — someone I encounter leaves me wondering, "What the hell is wrong with you?"

For example, we received a call to our office from a very upset individual wondering what idiot in our water department was so inept that they allowed the hot water to run out on a Sunday morning. Another individual called and blasted me for the incredibly untimely and inconvenient power outage and demanded that I contact them prior to any outage.

I stopped watching television and listening to the radio, two of my greatest passions, because the political ads have me convinced that no candidate for public office is fit to even be allowed in public.

And social media, our beloved bastion of lunacy, misinformation and virulency (*look it up)* takes societal stupidity to the highest levels.

I was ready to post my own attack-dog, damn-the-facts, I'm-not only-smarter-but better-looking-than-you rage against anyone and everyone … then I looked in the proverbial mirror.

Incivility, typically defined as being intentionally rude, disrespectful and harmful with words, seems to be more common and pervasive now than in years past. American encounters with incivility have increased from more than six times a week in 2016 to more than 10 times a week in 2018, according to the annual study on *Civility in America: A Nationwide Survey* (published by Weber Shandwick and Powell Tate, and KRC Research). Their 2013 study also found that 95% of Americans believe we have a civility problem in our country, and it is getting worse.

My experience is that there is an increase in incivility. People seem to be quicker to anger, are looking to blame someone and care little about understanding why or identifying ways to solve an issue.

An article in *Psychology Today* by Thomas G. Plante, Ph.D. surmised that there may be several reasons for the increase in incivility, but ultimately concluded the reason or source of incivility doesn't matter. What matters is what we do about it.

He offered things to do and things to avoid as a means to being more civil:

Do:

- Think before speaking.
- Focus on facts rather than beliefs and opinions.
- Focus on the common good.
- Disagree with others respectfully.
- Respect diverse views and groups.
- Offer productive and positive feedback.

Don't:

- Interrupt or talk over others.
- Give personal insults.
- Use aggressive, sarcastic or demeaning language.

The reflection in my mirror showed me I am one of the uncivil. Yes, I get surly, crabby, inpatient, angry, insolent, frustrated … add your own negative emotion here.

So my new personal rage will be against incivility. It has to start with me. I know this is very simplistic and perhaps naïve, but it is all I can control.

You're welcome to join me.

MEUW members celebrate Public Power Week!

Public Power Week, which was held Oct. 7-13, marked its 31st anniversary as a nationwide initiative created by the American Public Power Association to educate customers and other stakeholders about the benefits and advantages about public power.

It's also a great time for members to give back to their customers and to showcase their energy conservation products and services, community development efforts and local projects.

MEUW's 81 communities throughout Wisconsin serve more than 280,000 customers. Nationally, more than 2,000 public power utilities serve 47 million, or about 15 percent of the population. Every municipal power system is different due to its community's population, geography, natural resources, economy and local government structure. However, all public power providers have a common purpose: to provide adequate, reliable, not-for-profit electricity at a reasonable price with proper protection of the environment.

Many of our member utilities proudly celebrated Public Power Week in their communities in their own unique ways. Here is just a sampling of what took place:

Juneau Utilities sent lineworkers to visit fourth-grade students of the Dodgeland School District and kindergarten through second-grade students at St. John's School in Juneau. There, they educated students about how electricity works and shared important safety and energy conservation tips.

Kaukauna Utilities held a Public Power Week Customer Appreciation Event on Oct. 11. The approximately 450 people who attended had the opportunity to participate in a Focus on Energy program to exchange old light bulbs or purchase new, more energy efficient light bulbs, test ride an electric bike or to just enjoy a sweet treat. WPPI Energy's 100% electric vehicle and hybrid were on display, and those who attended and signed up for preauthorized payments or e-billing were entered in a drawing to win an electric bicycle or a programmable thermostat.

Kaukauna's customers had the opportunity to learn more about energy efficiency programs and to win exciting prizes at an Open House to recognize Public Power Week.

Continued on page 5

Utility employees provided bucket truck rides and path-to-ground demonstrations.

"Community Powered" was the theme of the Open House **Manitowoc Public Utilities** hosted to celebrate Public Power Week. Despite the 35 degree weather on Oct. 11, more than 250 community members attended the outdoor event. Focus on Energy held a lighting event, exchanging more than 3,800 lights, and the utility's MPU conservation group exchanged old, inefficient Christmas lights for new LED sets. Holiday yard decorations with cost-to-operate information and a command center for cost comparison on household electric items were also on display. Additionally, attendees could also take advantage of power and water plant tours. Other city departments, including Public Infrastructure, Waste Water, Fire and Rescue, and Crime Stoppers, as well local county energy assistance staff members were available to talk about services and programs.

Marshfield Utilities kicked off its Public Power Week activities by hosting a Heavy Metal tour for 8th graders, which is part of a regional effort to inspire students to consider skilled trades careers. The kids, their parents and all utility customers were then invited to attend an Open House on Oct. 11. Nearly 200 people attended the Open House, which was the utility's first in many years. Employees constructed a replica of the top of a power pole, so attendees could see the work lineworkers do up-close, on the ground. "We wanted to give customers the opportunity to see, to touch and also to win some prizes!" said Melissa Barnes, Marshfield Utilities Human Resources Manager. "So many kids and their parents are intrigued by our equipment, and we were happy to help them really experience and understand the work that we do."

Those who attended Marshfield's Open House could take advantage of bucket truck rides and fire extinguisher demonstrations. All kids went home with plastic hard hats and child-sized safety glasses.

Watt's Up meters attached to Christmas tree lights showed the difference in cost between using old, inefficient light bulbs and new LED strands.

On Oct. 11, **Menasha Utilities** celebrated Public Power Week with a Customer Expo. Each attending family was able to choose one conservation gift from an exciting array of options, including LED Christmas lights, power strips, motion sensor lights and outlet covers. Customers who brought a non-perishable food donation, we're also given a string of LED light bulbs. About 450 pounds of food was collected and donated to a local food pantry! Many attendees took the opportunity to exchange their old, inefficient Christmas lights for new LED lights. Interactive displays included Volt and Bolt electric cars and an educational model of the electric distribution system. In an effort to show how much water can be wasted, the city's Water Distribution Department had a popular demonstration showing how easily water can be lost through a toilet leak. Focus on Energy representatives also provided information on energy conservation programs and services.

Continued on page 6

Continued from page 5

Rice Lake Utilities celebrated Public Power Week — and also its own 75th anniversary — by hosting an Open House for all customers to attend. They served refreshments in the lobby and gave away canvas bags and coffee mugs. Five lucky winners received a $50 credit on their Rice Lake Utilities account!

To celebrate Public Power Week, Sun Prairies Utilities sponsored Fun Runs at all nine elementary schools in Sun Prairie.

Public Power Week literally raced by in Sun Prairie, as **Sun Prairie Utilities** sponsored Fun Runs at the elementary schools throughout the community. All utility employees volunteered at one or more of the Fun Runs. The utility provided race day bags and water bottles for all of the participants. According to Operations Administrator Lori Ewoldt, the utility decided to sponsor the Fun Runs in order to get in front of a different audience and to help demonstrate the value of public power to growing families. "It was exciting to see all of the young students power through each run, reward them with fun giveaways and also to provide helpful energy conservation information and tips to all of the kids and parents." The utility will also continue to host open houses and other events to attract other audiences in the future.

About 400 customers attended **Wisconsin Rapids Works and Lighting Commission's** Open House to recognize Public Power Week. Attendees had the opportunity to learn from Power Town and Fuse Switching displays. MEUW staff was also available to provide fire extinguisher safety demonstrations with the kids. Additionally, the utility provided bucket truck rides and filter plant tours … and a painted rock hunt. All enjoyed fabulous food and many prizes. Prior to the event, the utility also hosted an art contest for 6th and 7th graders; the winners' artwork was displayed on bookmarks available to all those attending the Open House.

A Power Town model and bucket truck rides were among the many highlights of the Oct. 11 Open House held at Wisconsin Rapids Works and Lighting Commission.

Digger derricks and OSHA compliance:

Exemptions to crane licensing requirements limited

By Randy Larson, Electric Safety and Training Coordinator

Recently we have seen some changes in the electric utility industry's rules pertaining to using digger derrick units for work outside of utility construction and maintenance.

Since February 2013, OSHA has exempted digger derrick operators from crane licensing certifications if the unit is "used for augering holes for poles carrying electric or telecommunication lines, placing and removing the poles, and for handling associated materials for installation on, or removal from, the poles, or when used for any other work subject to subpart V of this part (Electric Power Transmission and Distribution)," according to the exemption in OSHA 29 CFR 126.1400 (c)(4).

OSHA Occupational Safety and Health Administration

OSHA recently expanded the digger-derrick exemption to also include the placement of padmount transformers. With this revision, the digger derrick portion of the final crane rule exempts most, but not all, electric utility digger derrick operations from certification requirements.

In its final ruling, OSHA emphasized that the utility exemption is very narrow. To be eligible for the crane licensing exemption, digger derricks must be used for electric utility maintenance and construction, and the utility must comply with all provisions of subpart V of the standard. Utility digger derricks used for unrelated tasks, such as the construction of a building or the foundation or structural components of a substation, are still subject to crane operator certification requirements.

Impact on municipal utilities

Randy Larson

If they stay within the usage guidelines of the exemption for digger derricks, utilities can save time and money on crane licensing requirements. However, public power providers that volunteer to use their digger derricks in support of community construction causes — such as helping to place a little league scoreboard, setting rafters for a customer's building or even helping the water department repair or install equipment — are considered to be operating outside the exemption and will need to certify their operators.

Additionally, if the digger derrick's auger is removed, it is now classified as a crane and the operator must be certified.

In short, in order to be in compliance with OSHA's Electric Power Transmission and Distribution exemption for crane licensing exemptions, digger derricks must be exclusively used for doing maintenance or construction for electric utilities. Utilities could risk being fined for non-compliance.

It may seem like regulations are becoming more strict, complicated or confusing, but the rules have been put in place to prevent unqualified employees from sitting in the operator's seat and to help avoid potential accidents and injuries in our worksites and facilities.

The right to know … and to participate

By Steve Isaacson, Regional Safety Coordinator


Steve Isaacson

Complying with the myriad safety regulations can seem like "trying to eat an elephant with a toothpick," as one of my former colleagues so eloquently put it. Yes, implementing and maintaining a comprehensive safety program is a daunting task, even on a good day. But you don't have to execute your safety program alone and, in fact, the law says that you shouldn't.

The Occupational Safety and Health Act of 1970 (OSH Act) makes it a duty of employers to provide workplaces that are free of known dangers that could harm their employees. The law also gives employees important rights to "participate in activities to ensure their protection from job hazards."

Understanding those rights can go a long way toward unraveling the complex web of safety regulations designed to uphold them and to tap into the potential of the workforce to implement creative and proactive safety enhancements. According to the U.S. Department of Labor and the Occupational Safety and Health Administration (established by the OSH Act), all employees have the right to:

- A safe workplace,
- Raise a safety or health concern with their employer or OSHA, or report a work-related injury or illness, without be retaliated against,
- Receive information and training on job hazards, including hazardous substances in the workplace,
- Confidentially request an OSHA inspection of the workplace if they believe there are unsafe/unhealthy conditions or to have a representative make the contact on their behalf,
- Participate (directly or through a representative) in an OSHA inspection and speak, in private, to the inspector,
- File a complaint with OSHA, within 30 days, if they have been retaliated against for exercising their rights,
- See any OSHA citations issued to their employer, and
- Request copies of their medical records, tests that measure hazards in the workplace, and the workplace injury/illness log.

At first blush, the above list of employee rights can seem a bit heavy-handed. However, I believe that given a choice, employees who feel valued would rather participate in an ongoing dialogue about improving workplace safety and productivity than draw a legal line in the sand with their employers.

It's a widely accepted adage that nobody knows a job better than the person doing it. Effective managers and supervisors recognize employee involvement as a pathway to innovation, engagement, job satisfaction and productivity. So, make your life easier by tapping into the creativity of your employees when looking for ways to reduce hazards and enhance workplace safety.

You really don't need the law to remind you that it's simply good business.

New Electrical Safety and Training calendar goes "live"

Get up-to-date training schedules through our new calendar!

- Go to *MEUW.org* and choose "Services"
- Select "Electric Utility Safety Training" from the drop-down menu
- Select "On-line Training Calendar" from the left-hand menu

Note that Adobe Flash is required to view the calendar. The "Session Schedule & Site Locations" is also updated for November. However, at the end of the month, the tab will be removed. From December 2018 through 2019, the "Online Training Calendar" will be used exclusively.

Enjoy a safe hunting season

By Mike Czuprynko, Manager of Safety Services,
and Sean Wall, Senior Regional Safety Coordinator

Safety always come first on the job … but it should also come first during leisure times, especially if you are hunting this season.

Firearm accidents used to be the number one cause of hunting injuries and deaths … but not anymore. Fortunately, most of today's hunters learned and memorized the four rules of using firearms before ever picking up a gun:

1. Treat every firearm as if it is loaded;
2. Always point the muzzle in a safe direction;
3. Be certain of your target and what's beyond it; and
4. Keep your finger outside the trigger guard until ready to shoot.

Additionally, more hunters are now completing hunter education courses and wearing blaze orange. All of these reasons have contributed to the reduction of firearm accidents during hunting season.

Today, the leading cause of injuries and deaths while hunting is falling from heights. OSHA states that in general industry, fall protection is needed at 4 feet and in construction, it is needed at 6 feet and higher. But the tree stands used for hunting average between 15 and 18 feet. That roughly four times higher than what the standard says we need for fall protection.

How many hunters do you know use fall protection when hunting in their tree stands?

All those who hunt in a tree stand should consider "what happens if I fall?" or "if I nod off up here, will I fall and be seriously injured?"

Using fall protection in a tree stand is Deer Hunting 101. One of the Water Operators in MEUW's Regional Training Program reported that the tree stand he uses to hunt is roughly 20 feet off the ground. Thankfully he went on to say that he wears his fall protection vest anytime he goes into his tree stand. He also uses a 4-foot lanyard and anchors off to a point just over his head (roughly 7 feet above the platform of his stand), a point tight enough that — once he's hooked in — he can't bend down and touch his toes.

After doing the math, he learned that, if he falls, he will still be suspended about 12 feet up in the air, dangling by the side of the tree. From there, he can easily grab the ladder and get back up to his stand.

Remember, when in a tree stand, make sure you are wearing the right fall protection and that you are using it correctly. Tree stands come in all different heights, so make sure when you are anchoring off … and do the math of your fall. Don't give yourself too much slack, which could cause your fall protection to become inadequate.

There's no reason you can't use what you're learning at work in your personal (*i.e.*, hunting) lives.

After all, safety doesn't punch a clock!

This month, we are pleased to launch — What's Cookin' Around Wisconsin — a new way for readers to share recipes! We'd love to feature a recipe that's a popular dish at your utility or that has special meaning to your community … or maybe it's simply a recipe you especially enjoy.

This month, we are featuring two recipes that Lori Nyhus, Office Manager from Cumberland Municipal Utility, submitted. The first recipe, Cheesy Brat Casserole, is a super-simple supper for busy week nights. Be sure to use Louie's brats, which are made in Cumberland! In fact, the founder of Louie's Finer Meats, Louis Muench, currently serves as Commission President in Cumberland. The second recipe, Pumpkin Pancakes, are the perfect fall breakfast, especially on a crisp morning. Enjoy!

Super-Simple Cheesy Brat Casserole

- 6 fully cooked bratwurst, (the Cumberland community, of course, recommends Louie's brats!) cut into ½ inch pieces
- 4 medium potatoes, cooked, peeled and cubed (1 ¼ pounds)
- 16-ounce package frozen-cut green beans, thawed and drained
- 10 ¾-ounce can cream of mushroom soup
- 1 cup shredded cheddar cheese
- ⅓ cup chopped onion

Stir together brats, potatoes, green beans, soup, cheddar cheese and onion, Bake in a three-quart casserole, covered at 350 degrees for 45 minutes (or until heated through).

Pumpkin Pancakes

- 1 ½ cups milk
- 1 cup pumpkin puree (this can be canned pumpkin or fresh pumpkin pureed)
- 1 egg
- 2 tablespoons vegetable oil
- 2 tablespoons vinegar
- 2 cups all-purpose flour
- 3 tablespoons brown sugar
- 2 teaspoons baking powder
- 1 teaspoon baking soda
- 1 teaspoon ground allspice
- 1 teaspoon ground cinnamon
- ½ teaspoon ground ginger
- ½ teaspoon salt

Mix together milk, pumpkin, egg, oil and vinegar.

Combine the flour, brown sugar, baking powder, baking soda, all spice, cinnamon, ginger and salt in a separate bowl.

Stir the dry ingredients into the pumpkin mixture and mix just enough to combine.

Heat a lightly oiled griddle or frying pan over medium high heat.

Pour or scoop the batter onto the griddle, using about ¼ cup for each pancake.

Brown on both sides and serve hot.

Please share your delicious recipes with other MEUW readers. Contact Karen Whitmer at kwhitmer@meuw.org with questions or to submit a recipe.

REGULATORY News

PSC to consider eliminating credit card fees

Wisconsin Power and Light Co. recently filed a request with the Public Service Commission (PSC) to eliminate credit-card service fees charged to customers and instead include the aggregate cost of these fees as rate-recovered operations and maintenance expense.

This request has been filed as Docket 6680-TE-103, and the PSC has already requested comments from Wisconsin utilities on the issue. MEUW Executive Director Tim Heinrich, who has been collecting member feedback on this request, said the resounding opinion among MEUW utilities is to support this request.

In a letter to the PSC, MEUW underscored that many customers now prefer to pay their bills on-line with a credit card. MEUW's member utilities regularly receive negative feedback from customers who are charged a "convenience fee" when paying with a credit card. If approved, this change would successfully mitigate those customer complaints.

"The proposal correctly acknowledges that costs associated with all other forms of customer payments are recovered through utility rates, so aggregating the cost of credit-card fees enables customers who prefer to pay with a credit card to do so without incurring additional personal expense," the letter states.

Regulators in many other states already allow rate-recovery of aggregated credit- card fees. Utilities in those states experienced a corresponding increase in the number of customers paying by credit card.

Watch for updates on this issues as the proposed regulations evolve.

Twelve graduate from MEUW management program

On Oct. 24, MEUW held its Customer Service and Public Relations Training (Session F) in Wisconsin Dells.

Bob Pecor, an adjunct faculty member of the University of Wisconsin-Eau Claire Supervisory Management Program, led the day-long session for the 30 attendees. Participants learned about the many forces driving customer satisfaction.

After the session, 12 graduates were recognized for completing all six sessions (A-F) of the MEUW Management Training Program.

The MEUW Management Training Program has been a successful effort in providing education to create "home grown" management personnel. This program is designed for both existing management and future management prospects, offering relevant and engaging sessions. Participants may start at any point in the six-session program, which is scheduled over a two-year period.

For more information, visit MEUW's Management Training Program page at *www.meuw.org*. Beginning in 2019, the program will move to Hotel Marshfield. Session A, Communication, Time and Project Management, is set for Feb. 27.

Congratulations to the following graduates: *Top Row (from left to right)*: Eric Murphy, Kaukauna Utilities; Brian Willms, Kaukauna Utilities; Darrick Wendricks, Two Rivers Water and Light; Paul Fabian, Two Rivers Water and Light; Johanna Rahn, Oconomowoc Utilities; Corey Huntley, Kaukauna Utilities; Vanessa Mueller, Richland Center Light and Water.

Sitting (from left to right): Dennis Besaw, Kaukauna Utilities; Dan Goffard, Kaukauna Utilities; Collin Hass, Kaukauna Utilities; Zach Swensen, Richland Center Light and Water; Jackie Galasinski, Oconomowoc Utilities.

Wi-fi devices available from Focus on Energy

focus on energy℠
Partnering with Wisconsin utilities

There is still time for your utility customers to take advantage of a special offer from Focus on Energy to secure new Wi-Fi connected devices. Customers can choose from free or reduced cost Wi-Fi thermostats, smart thermostats, or a smart strip and Wi-Fi connected LED light bulbs.

Eligible customers must take service from either a participating natural gas or electric utility and live in an eligible rural zip code area. For program details, visit focusonenergy.com/access.

Focus on Energy can provide you with promotional program content for social media, newsletters, websites or bill inserts if you want to reach out to your customers before the program ends. Contact Frank Barth at frank.barth@focusonenergy.com with questions and/or program content requests.

Getting to Know Our Wisconsin Officials

Wisconsin State Senator Robert Cowles

Senator Robert L. Cowles (Representing Clintonville, Kaukauna, Gresham and Shawano)

Senator Robert Cowles serves the 2nd Senate District, which includes parts of Brown, Outagamie, Shawano and Waupaca counties.

Prior to serving in the State Legislature, Robert Cowles graduated from the University of Wisconsin-Green Bay. Rob then entered the private sector, where he gained experience as the director of an alternative energy division for a communications construction company out of Green Bay.

Rob serves as Chair of the Senate Committee on Natural Resources and Energy and Co-Chair of the Joint Legislative Audit Committee. He also serves on the Senate Committee on Transportation and Veterans Affairs and the Joint Committee on Information Policy and Technology.

Senator Cowles is recognized for his emphasis to balance environmental protection with business needs, and has guided sound policy balancing the environment and business for the State of Wisconsin. Rob also focuses on government accountability and transparency. As a fiscal hawk, he believes that our state government should be accountable for every dollar it spends.

Senator Cowles is heavily involved in his community, frequently attending events and meeting constituents throughout the 2nd District. In addition, throughout his tenure he serves or has served on the Wisconsin Taxpayers Alliance, Green Bay Stadium District Board, Brown County Taxpayers Association, Allouez Kiwanis, Executive Board of the National Caucus of Environmental Legislators, Trout Unlimited, and the Brown County Historical Society.

MEUW shares big milestone with the big cheese

MEUW isn't the only notable to reach its 90th birthday in 2018. The most lovable rodent on the planet — Mickey Mouse — will also turn 90 later this month.

Not surprisingly, Disney has big plans to celebrate Mickey's big milestone. Visitors to Disney resorts around the world are invited to special *Happy Birthday, Mickey* parties over the next few weeks. There will be parades, giveaways and special music to commemorate the occasion. A two-hour star-studded extravaganza, *Mickey's 90th Spectacular*, recently aired on ABC so viewers everywhere could celebrate with Mickey and his friends.

While MEUW's festivities can't compare to Disney's over-the-top fun, our organization's 90th birthday certainly did not go unnoticed. We published a special edition of *Live Lines*, introduced a short video that highlights MEUW's creation, purpose and plans for the future, and launched many social media postings.

We're also planning a big gathering. Our 90th Annual Conference —to be held May 15 -17, 2019, in Delavan — will be both a business meeting and a birthday party. There may not be parades or mouse ears, but there will be time to remember the past and to help mold the future. We encourage you to save the date and join us.

Classifieds

City of Stoughton - Utilities Director

The City of Stoughton is seeking a qualified candidate to serve as Utilities Director. The purpose of this position is to supervise and direct wastewater, water, and electric operations; prepare and monitor budgets, plans and goals; develop policies and procedures; implement operations study recommendations; maintain utility service quality standards; coordinate various construction and development programs; ensure compliance with Safe Drinking Water Act, Clean Water Act, and other local, State, and Federal mandates.

A Bachelor's degree in Civil Engineering is preferred, or a Bachelor's degree in Business, or related field. A minimum of ten years of utilities experience, including management and supervisory experience preferred. Must also have proven knowledge of principles of supervision and management. This is a full-time, exempt position. The salary range for this position is $103,064 - $136,115 annually, with an excellent benefits package.

Employment applications and position descriptions are available at *www.governmentjobs.com/careers/stoughtonwi*. All applicants must complete an application for employment along with a resume and cover letter and submit to the City of Stoughton Human Resources and Risk Management Depart. by 4 p.m. on Monday, Nov. 12, 2018.

New Lisbon Utilities - Journeyman Lineworkers

City of New Lisbon is accepting applications for two Journeyman Line workers. These are skilled positions in operating, maintaining, and constructing electric distribution, transmission and substation systems. Minimum qualifications are to include graduation from high school, graduation from lineman vocational training program and a valid journeyman card. You must be able to acquire and maintain a Wisconsin commercial driver's license.

Starting wage for this position is up $42 per hour depending on qualifications, with an excellent benefit package. Qualified applicants should submit resume, including work history to: City of New Lisbon attn: Nick Wyss at 232 W. Pleasant St., New Lisbon, WI 53950.

Menasha Utilities - Electric Distribution Technician

Menasha Utilities is accepting applications for the position of Electric Distribution Technician. This position is responsible technical work in the design and maintenance of the electric distribution systems.

Work involves preparing work orders, maintenance orders and project estimates that contain distribution site-plans, staking sheets, materials summaries, and design details. Position involves frequent contact with the public, contractors, and customers. For a complete job description and to apply please go to: *www.governmentjobs.com/careers/menashautilities.*

Menasha Utilities - Engineering Technician

Menasha Utilities is accepting applications for the position of Engineering Technician. The Engineering Technician shall be responsible for assisting the Technical Service Engineer, GIS Specialist, Distribution Technician, Metering Department and Engineering Manager.

This is a management position responsible for assisting in the design, implementation, and maintenance of technical projects of the water, electric and telecommunications utility.

General responsibilities include, but are not limited to engineering, electric and water metering, special projects as assigned by the Engineering Manager, organizing maintenance activities involved in the substations and electric distribution, supervising contractor activities, GIS/CAD mapping, construction standards.

For a complete job description and to apply please go to: www.governmentjobs.com/careers/menashautilities.

City of Lake Mills - Journeyman Electric Line Technician

$31-33/hour plus excellent benefit package including employer paid medical insurance.

Visit *www.ci.lake-mills.wi.us/employment* or email mquest@ci.lake-mills.wi.us for additional information.

ELECTRIC UTILITY JOINT SUPERINTENDENTS' CONFERENCE & EXPO 2019

Don't miss 2019 Joint Sups!

The 2019 MEUW/Wisconsin Rural Electric Cooperatives Joint Superintendents' Conference and Expo will be held Jan. 16-18at the Glacier Canyon Lodge in Wisconsin Dells.

This annual conference attracts nearly 200 municipal and cooperative utility leaders. Although the name is a bit misleading, please note that attendees do not have to be Superintendents in order to attend; all utility employees are welcome!

Sessions will include information on spill prevention, control and countermeasure; claims; electric vehicles; load securement; and more. Jack Jackson, a former semi-pro football star with an extensive background in workplace safety, will be the keynote speaker. Jack has an undeniable presence and emphasizes in all of his courses that "safety is always first."

The conference will also include the annual Wisconsin Utility Suppliers Association trade show, which brings together the industry's top manufacturers and suppliers and showcases the latest products and innovations.

Registration is now open. Visit www.meuw.org more information.

Registration *Now Open*

MEUW

Upcoming Events

November 13	District Dinner , Rice Lake
November 15	District Dinner , Cuba City
December 4-5	National Electrical Safety Code Seminar, Fennimore
January 16-18	MEUW/WECA 2019 Joint Superintendents' Conference and Expo, Wisconsin Dells

Mark Your Calendars!
Visit the MEUW
website for a full list.

Register now for Webinars

An internet connection and a computer are all you need to educate your staff. Individual webinars are $99 or sign up for a series at a discounted rate. Register today at www.PublicPower.org under Education & Events. Non-members can enter coupon code **MEUW** to receive the member rate.

- Reaching Tomorrow's Customers: Energy Education for the Next Generation **Nov. 13**
- Rallying the Troops: Internal Communications Best Practices **Nov. 27**

Recorded webinars are also available for purchase. Visit www.PublicPower.org under Shop

MEUW

WPPI energy

Things You Should KNOW

Michael W. Peters, President & CEO

Monthly Wrap-Up for October 2018
Issued November 8, 2018

Things You Should Know is my monthly wrap-up for members of all things related to WPPI Energy. As always, I welcome your feedback. Hearing directly from you is critical to our ability to serve our members. If you have any questions, comments or concerns, please contact me at 608-834-4557 or mpeters@wppienergy.org.

Opportunity to Serve: Advisory Groups. When it comes to directing the work we do on behalf of your utility, WPPI member leadership and participation is our greatest strength. If you are interested in opportunities to get involved, please consider serving on a member committee or advisory group. In 2019, we have opportunities for members to serve on the following.

- Distribution Services Advisory Group
- Member Services Advisory Group
- Rates Services Advisory Group
- Policy & Communications Leadership Council

Next week, Vicki Hewitt will forward nomination materials to all member utility managers, board members, and current advisory group members. I encourage you to consider participating and/or to pass along this information to your key employees or local officials who may be interested. For more information, please contact Vicki at vhewitt@wppienergy.org or 608-834-4573.

Electric Distribution Construction & Maintenance Service. At its October 25 meeting, the Executive Committee approved a new Electric Distribution Construction & Maintenance service for the WPPI member communities of Baraga and L'Anse. Through the service, WPPI will provide knowledgeable, experienced Journeyman/Apprentice Lineworkers and the equipment needed to perform everyday distribution facility construction and maintenance. The participants will pay WPPI's full costs to fund the program.

We have been aware for some time that Baraga and L'Anse had need for such a service. More than a decade ago, after the communities encountered significant challenges in hiring and retaining their own local crews, they began contracting for lineworker support from Ontonagon County REA, the neighboring electric cooperative. While that arrangement has been somewhat less than ideal in terms of comprehensive, proactive planning and management to support ongoing system strength and reliability, it mostly sufficed for meeting the villages' day-to-day needs. That changed a few months ago, when Ontonagon announced it would discontinue the service in January.

Among the solutions the two communities considered was whether they could work together to address these needs through WPPI. In August, the EC formed a sub-committee to address related questions such as what safety considerations and staffing levels would be necessary for such a crew, and how the program fees should be structured to appropriately recover all of WPPI's direct costs and administrative and general costs. With this group's guidance, we have structured a program that will help safeguard the continued success of these two member utilities by enabling them to share costs for this essential function in a manner that results in no added costs to other members.

The villages' governing bodies have indicated that working together through WPPI is the option that will best meet their needs, and we are now moving forward to implement the service. I will provide an update during the December Board of Directors meeting.

December 14 Board Meeting: Please Plan for Your Board Director or Alternate to Attend. Staff is wrapping up details of the draft 2019 budget. We anticipate the EC will take action during its November meeting on a recommendation for the full Board of Directors, and that the board will take up approval of the budget during its meeting on December 14. As in previous years, we will again offer the opportunity for participants to attend the December board meeting either in person at our office and operations facility, or via videoconference from Crystal Falls. I highly encourage all members to ensure that their director or alternate attends.

Budget Webinar on December 6. To provide all members an opportunity to review the proposed budget in detail before the board meets, we will host a webinar at 10 AM on December 6. Vicki Hewitt has forwarded a meeting invitation to board directors and alternates. If you have questions about how to participate, please contact her at vhewitt@wppienergy.org or 608-834-4573.

2019 Legislative Rally in Washington, DC. The American Public Power Association's annual Legislative Rally is an excellent opportunity to ensure that members of Congress hear the voices and concerns of WPPI members. The dates for this event in 2019 are February 25-27. We offer a travel grant for the chief elected official from each member community to cover all rally-related expenses (flight, hotel room for two nights, registration and stipend), and an airfare grant for all other WPPI member attendees. Please watch for more information later this month.

November 27 Orientation on the Go: "Public Power" Session in Menasha. In October, we welcomed more than 20 people from nine member communities for an orientation to WPPI, which we host twice each year. We are also more than happy to "take our show on the road" and deliver customized orientation presentations in your communities. On November 27, Menasha will host an Orientation On-the-Go highlighting the basics of public power and all the benefits that locally owned utilities deliver. All member staff and officials are welcome. Please see the current WPPI Weekly Digest email for details, or contact Kayla Pierce at kpierce@wppienergy.org or 608-834-4537.

Chief Executives Breakfast. On October 25, we hosted our 21st annual breakfast for Wisconsin member community "chief executives" and other elected community officials. The gathering coincides with the League of Wisconsin Municipalities' Annual Conference and is a great opportunity for our local leaders to network with each other while also hearing about WPPI and other industry-related issues. Staying engaged with member officials is critically important for our joint action agency, and I thank all who attended.

WPPI General Counsel Tom Hanrahan delivered updates on WPPI and insights into a variety of utility industry advocacy issues.

Puck Drops on Third Year of Badger Sports Campaign. Once again, WPPI is teaming up with Wisconsin Badger Sports to increase customer awareness of your utility. Through this campaign and the power of joint action, members can partner with a well-known, recognizable brand to deliver cost-effective ads promoting the local utility and its many benefits. At the direction of our Member Services Advisory Group (MSAG), we are now entering the third year of the campaign, which includes:

- 30-second radio ads during Badger men's hockey games across a statewide radio network.
- 15-second in-game live read highlighting our 41 Wisconsin members
- A twice-monthly full-page ad in the digital magazine, Varsity
- Targeted web ads throughout uwbadgers.com

The radio and digital ads are locally branded with member utility names and logos. And, to ensure equity for our Iowa and U.P. members, we will carry out proportional advertising in their local markets. WPPI staff will continue to work with MSAG on the future of this partnership, as well as review additional local advertising opportunities.

If you're interested in hearing the radio spots or viewing the digital ads, please contact Kelly Davis, Marketing Manager at 608-834-4587 or kdavis@wppienergy.org

Retail Billing & Tariff Compliance Service. It goes without saying that retail billing accuracy is an important part of serving customers well. We also know that the increasing complexity required in today's retail electric rates makes compliance more challenging. This is another area in which joint action can deliver valuable support to your utility.

Building on the efficiencies of our hosted customer information and billing system, NorthStar, WPPI's rates and billing staff has developed an additional support function to help interested

members ensure that customers are assigned to the appropriate rate class, and that their largest customer accounts are billed accurately. Nearly all members on NorthStar have opted in.

In addition, for those who are interested, we've recently expanded the offering to help members with some of their billing functions on a pay-for service basis. For more information, please see the attached program summary and/or contact Director of Billing Services Tammy Freeman at 608-834-4568 or tfreeman@wppienergy.org.

Coming Soon: Retail Rates Benchmarking Report. Regularly updating electric rates is one way public power utilities can help ensure their financial health. WPPI's rates staff works to help members put in place retail rates that accurately and fairly collect the revenue necessary to cover the utility's costs for doing business, send proper price signals, keep costs stable and competitive, plan for future system needs, and more. Recently, our staff reviewed with the member Rates Services Advisory Group (RSAG) and the EC a comprehensive list of the considerations they use when helping members with rates. Both groups encouraged the staff to share this list with all members.

We know every WPPI member has unique local system costs, cost allocation structures and other related needs, so we work with members to evaluate local retail rate opportunities on an individual basis. With this in mind, our staff is developing a customized version of this list, including benchmarking information to reflect the overall membership's progress on a number of key business priorities and some suggested options your utility may wish to consider.

What we hope you will take away from this report, which you can expect to receive before year-end, is that our staff is ready to support you with comprehensive expertise and an individualized focus on what matters most for your utility.

I am always open to suggestions and feedback from WPPI members. If you have any questions, comments or concerns about WPPI or the updates I have provided here, please don't hesitate to contact me at 608-834-4557 or mpeters@wppienergy.org.

WPPI energy

Retail Billing and Tariff Compliance Service

To best serve customers, utilities are implementing innovative rate structures and new technologies making the billing process increasingly complex. The Retail Billing and Tariff Compliance Service is designed to help participating member utilities ensure billing accuracy. The service offers a variety of levels to help validate meter data and perform retail billing functions such as performing critical billing best practices and preparing retail bills.

Purpose

The joint action approach to supporting important billing functions is intended to allow member utility staff to focus on other customer service interaction, reduce the overall cost of issuing bills, accommodate increasingly complex rate structures and improve the accuracy of those bills through the use of specialized billing staff.

There are five options available to member utilities under the Retail Billing and Tarrif Compliance Service:

Option 1: Tariff Compliance Review

On a monthly basis, members receive tariff compliance checks for general service (Gs) and commercial power (Cp) customers. These checks will help ensure Gs and Cp customers are being served on the correct retail rate and that the bills and billing determinants are accurate. Customers eligible or required to change rate classes will be determined and rate class comparisons are available as requested. This option also includes an annual rate class comparison for those customers who elected to be billed on an optional rate. Utilities should still perform normal billing checks and review the monthly report of tarrif compliance issues and apply appropriate changes.

Eligibility

» NorthStar Customer Information Software (CIS).

Cost

Available to all NorthStar member utilities as part of the standard NorthStar fees.

Option 2: Annual Optional Time-of-Day Rate Review

On an annual basis, members receive a summary of all customers where the optional time-of-day rate is the lower electric cost option. Member utilities not using NorthStar will also be provided reminders, tools and support to develop annual rate comparisons for those customers who elected to be billed on a optional rate.

For members using NorthStar, developing these rate class comparisons is a service under Option 1.

Eligibility

» Advanced metering infrastructure (AMI) for electric meters (residential, general service and small power).

» WPPI Energy Meter Data Management (MDM) system for both electric and water.

Cost

Available to all members as part of the standard Meter Data Collection and Management Service fees.

Option 3: Validate MDM Service Requests

Daily monitoring and completion of service requests generated by the MDM that require meter data validation is offered through this option. This ensures meter data is valid and accurate for all AMI-metered customers and in the proper format for use in NorthStar. All MDM service requests (electric and water) for all member utility customer data will be completed.

Eligibility

- AMI for electric meters and/or water meters.
- WPPI Energy MDM system for electric and water.

Cost

Number of Meters	Monthly Fee
<200	$90
200-400	$225
>400	$450

Option 4: Retail Billing for Large/ Industrial Customers

Retail bill preparation for large/industrial customers including any security lighting, water, sewer and other charges is provided with Option 4. Billing data will be sent to InfoSend on behalf of the member utility to print and mail the bills. Also included is a check to ensure up-to-date rate information, including Power Cost Adjustment Clause (PCAC) adjustments, for all customers based on properly authorized rates.

Eligibility

- NorthStar CIS.
- AMI for both electric and water (large/industrial).
- WPPI Energy MDM system for electric and water.
- CIS/MDM integration and InfoSend service.
- Participation in Options 1 and 3.
- Billing all large/industrial customers on the same day.

Cost

$135 per month.

Option 5: Retail Billing for All Retail Customers

Retail bill preparation for all customers, including any security lighting, water, sewer and other charges is provided with Option 5. Billing data will be sent to InfoSend on behalf of the member utility to print and mail the bills. Also included is the monthly calculation of PCAC and PCAC2 which is entered into NorthStar and the Public Service Commission of Wisconsin (PSC) website for Wisconsin member utilities as necessary. This service will also ensure up-to-date rate information is in NorthStar for all customers based on properly authorized rates.

Eligibility

- NorthStar CIS.
- AMI for both electric and water.
- WPPI Energy MDM system for electric and water.
- CIS/MDM integration and InfoSend service.
- Participation in Options 1 and 3.
- Billing all customers on the same day.

Cost

$225 per month.

Contact Information

Tammy Freeman
Director of Billing Services
608-834-4568 | tfreeman@wppienergy.org

All options adhere to the participating member's retail rate tariffs, procedure manuals and, in the case of Wisconsin members, to the PSC Administrative Code. Also, for all options, member utilities continue to be responsible for collections, accounting, customer changes, embedded cost credits and all direct communication with their customer base.

Yahara WINS

Progress through partnership

2017 Annual Report

Kaci Baillies of Dane County Land and Water Resources Department collects a water sample.

Project background

The Yahara Watershed Improvement Network, known as Yahara WINS, is a groundbreaking initiative to achieve clean water goals for the Yahara Watershed. In this effort, community partners led by Madison Metropolitan Sewerage District are collaborating on a strategy called watershed adaptive management in which all sources of phosphorus in a watershed work together to reduce phosphorus. The effort began in 2012 as a pilot project and in 2017 transitioned to a full scale effort.

The 20 year adaptive management project aims to achieve permit requirements and regional Clean Water Act goals identified through the Rock River Total Maximum Daily Load by 2036. To accomplish these goals, the group facilitates partnerships, conducts outreach, pools resources to fund phosphorus reducing practices in the watershed, analyzes stream samples and works with the Wisconsin Department of Natural Resources to address regulatory needs for the project.

As the project moves forward, progress for each year is expected to vary due to a changing combination of new practices and existing practices that continue to hold back phosphorus.

Changing precipitation patterns and runoff intensity also may affect water quality data compiled through monitoring and volunteer sampling activities. Over time, however, the Yahara WINS project is designed to produce real results.

More information about the activities and partners featured in this report is available on the Yahara WINS webpage, http://www.madsewer.org/Programs-Initiatives/Yahara-WINs.

About the district

Madison Metropolitan Sewerage District began work on adaptive management in 2012, when it collaborated with partners to initiate a successful four-year pilot project. The district is pursuing adaptive management to comply with phosphorus requirements in its Clean Water Act discharge permit. Compared with upgrades to the treatment plant, adaptive management offers the potential for a more comprehensive and less expensive route to clean water. The district is one of the first wastewater treatment plants to use adaptive management and is committed to the success of this approach as it works to cost-effectively meet clean water standards.

President's message

During its first full year of operation, the Yahara WINS partnership has demonstrated to all of us the incredible results we can achieve by working together, sharing our knowledge and pursuing opportunities for progress toward common goals.

The Yahara WINS partnership connects counties, cities, villages, towns, wastewater treatment plants, farmers and environmental groups. The diverse perspectives we bring strengthen our ability to solve complex challenges and identify innovative solutions.

While we may not be able to predict the full array of phosphorus reducing tools and practices that will be producing results at the conclusion of the 20 year project, we can estimate that our collaborative approach will save local residents $13.5 million per year while achieving better environmental results than any single entity could accomplish. Reducing phosphorus at the source is far more cost effective than spending on expensive infrastructure and energy to recover phosphorus from our waters.

To maintain the engagement of our partners and the momentum necessary to reach our goals over the 20 year lifespan of the project, part of our work involves highlighting the achievements of project participants. Given our strategy of facilitating on-the-ground practices that deliver long-term phosphorus reductions, we believe each year's achievements will compound for even greater benefits over time. As my predecessor Dave Taylor puts it, long-term practices are like "the gift that keeps on giving."

Ultimately, our collaborative effort is designed to keep some 96,000 pounds of phosphorus out of the region's waterways each year. We look forward to learning from each other and encouraging additional participation as we move ahead. We hope you find the following summary of our progress helpful. More information about the activities and partners featured in this report is available on the Yahara WINS webpage, www.madsewer.org/yaharawins.

Martye Griffin
Yahara WINS President
Director of Ecosystem Services, Madison Metropolitan Sewerage District

Martye Griffin

Contents

2017 Progress toward phosphorus reduction goals

Figure 1. Partners contribute to shared success

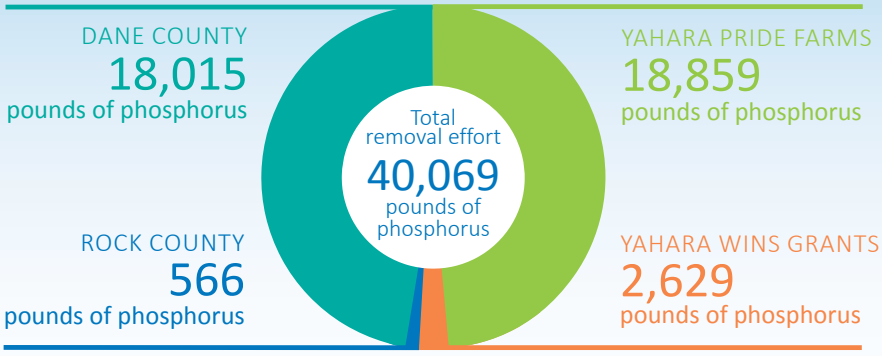
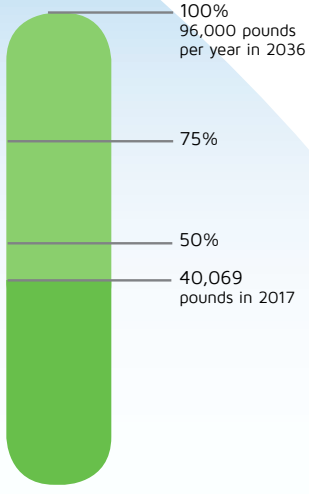


Figure 2. 2017 results



To achieve project goals, the reduction in pounds must be repeated each year with the goal of increasing reductions annually to 96,000 by 2036.

Year in review

During 2017, work by the Yahara Watershed Improvement Network and its partners kept more than 40,000 pounds of phosphorus from area surface waters, more than 40 percent of the total reduction of 96,000 pounds per year needed over the next 20 years to meet project goals.

The reduction, shown in Figures 1 and 2, came from a combination of efforts by farmers, Dane County, Rock County and area communities to implement practices aimed at capturing nutrients and reducing runoff.

Phosphorus reduction totals included 18,859 pounds held back by members of Yahara Pride Farms, 18,015 pounds reported by Dane County; 566 pounds reported by Rock County and 2,629 pounds as a result of grants funded by Yahara WINS (Figure 1). Practices implemented by farmers that contributed to the savings ranged from planting cover crops and harvestable buffers to stabilizing stream banks and using low-disturbance manure injection. Local municipalities and homeowners made further reductions through leaf management, erosion control and storm water management.

While the results from the partnership's first full year of operation in 2017 represent a significant reduction in phosphorus from the documented practices, annual variability in precipitation, the timing of storms and the severity of runoff from spring thaws also affect phosphorus loading in the Yahara Watershed. Meanwhile, the region's surface waters continue to be affected by legacy phosphorus in sediment and surrounding wetlands.

For these reasons, progress made through phosphorus reducing practices may not be evident in sampling reports during the early years of the project. Over the 20 year length of the project, however, implementation of new and continued practices is expected to achieve water quality goals.

Beyond the documented phosphorus reductions during 2017, Yahara WINS gained partners, encouraged innovation and increased communications capacity. These developments will help the project build momentum in the years to come.

Other highlights from 2017 include:

- New partnerships and agreements with Columbia County, Rock County, Town of Burke and Clean Lakes Alliance.
- Introduction of a new innovation grant program through Yahara WINS to encourage new practices to reduce phosphorus.
- Implementation of conservation practices by Yahara WINS partners, including Dane County and Yahara Pride Farms.
- Additional communications capacity, including the development of an informational video about the project.

Conservation buffers on either side of this stream control soil erosion from both wind and water. By trapping sediment, buffers reduce the amount of phosphorus entering the water.

Participation grows in 2017

The partnership at the core of the Yahara WINS project welcomed a new member in 2017 while retaining all original signatories. By signing the project's intergovernmental agreement, the Town of Burke joined 23 other governmental bodies that are contributing funds to the project. The agreement enables municipalities with requirements to reduce phosphorus or sediment to meet their requirements through Yahara WINS reductions.

In addition to the intergovernmental agreement participants, Yahara WINS continues to draw support from partners in the watershed that share a commitment to phosphorus reduction. Other partners contributing to the project include local county conservation departments, which facilitate the implementation of phosphorus-reducing conservation practices, and nonprofit organizations that donate money or time to various aspects of the project. Several new partnerships or agreements with partners were developed in 2017, as described below.

Rock County joins Yahara WINS

The Yahara Watershed includes 26,100 acres in Rock County. Joining Yahara WINS has allowed Rock County conservation staff members to direct efforts toward phosphorus reductions in their portion of the watershed. Yahara WINS and Rock County entered into a service agreement in mid-2017, and county staff hit the ground running.

In just six months, county conservation specialist Chris Murphy and county staff members achieved remarkable success. The first county project involved installation of 13.5 acres of harvestable buffers, which resulted in a combined reduction in phosphorus of 566 pounds per year at a cost of $12.96 per pound of phosphorus reduced.

Projects planned for 2018 include:

- 321 feet of streambank restoration on Badfish Creek;
- Three additional harvestable buffers totaling nearly 15 acres; and
- Conversion of 11 acres of annual cropland to a perennial forage mix of grasses and legumes that will reduce runoff to Badfish Creek.

Rock County continues to push the program forward and already has landowners committed to future participation in 2018.

Clean Lakes Alliance contributes to progress

Funding contributed by the Clean Lakes Alliance in 2017 will help target efforts to keep phosphorus out of Lake Mendota and waters downstream. Clean Lakes Alliance, a Yahara WINS partner, is focused on implementing the phosphorus reduction goals outlined in its 2012 Yahara CLEAN (Capital Lakes Environmental Assessment and Needs) Strategic Action Plan for Phosphorus Reduction, which overlaps with the goals of Yahara WINS.

To support these common goals, Clean Lakes Alliance contributed $100,000 toward phosphorus-reducing practices in the northern part of the Yahara Watershed. In 2017, Yahara WINS directed this additional funding to four specific projects:

- A grant to Yahara Pride Farms to purchase a low disturbance manure injection tanker. Dane County provided matching funds.
- A five-year contract extension for harvestable buffers.
- Incentives for landowner participation in a cover crop program that will use aerial seeding for three years.
- A grant to Yahara Pride Farms for a solid manure composting project.

In late 2017, Yahara WINS and Clean Lakes Alliance agreed to extend the memorandum of understanding and accompanying financial support into 2018.

Water bubbles to the surface from deep underground at the Frederick Springs, part of the Pheasant Branch Conservancy. The flow is an important source of quality water to Pheasant Branch Marsh on the north shore of Lake Mendota.

Columbia County service agreement

Some 17,700 acres or 5.2 percent of the Yahara Watershed land base lies in Columbia County. While the area represents a relatively small portion of the watershed, meeting phosphorus reduction goals will require efforts throughout the entire watershed, including Columbia County.

In late 2017, Yahara WINS and Columbia County worked on potential service agreement language. Similar to the agreements with Dane County and Rock County, the service agreement outlines the activities and expectations for Columbia County in exchange for Yahara WINS funding. The agreement, which will run from 2018 to 2020, provides a total of $105,000 to support implementation of phosphorus reducing practices in the Columbia County portion of the watershed.

Grants encourage innovation, adaptive practices

Yahara WINS has offered grants for urban and rural phosphorus reduction projects since 2013. For the first time in 2017, the partnership offered innovation grants to encourage new or unproven practices with applicability throughout the watershed.

One project was awarded funding in 2017 – the Friends of Lake Kegonsa's leaf management education and collection project. Leaf management is an important but sometimes overlooked component of managing urban phosphorus contributions and this project established leaf management in an area close to Lake Kegonsa where no program had existed.

During 2017, Yahara WINS also provided a total of $32,000 through two conventional grants to reduce 250 pounds per year of phosphorus, or more than 5,000 pounds over the projects' lifespans.

Dane County's "Suck the Muck" program aims to remove phosphorus-laden sludge from the bottom of area streams to prevent the legacy deposits of the nutrient from reaching Lake Mendota. Plans call for the $12 million project to assess 33 miles of streams. For more about the project, visit: https://lwrd.countyofdane.com/legacy-sediment-project.

Legacy phosphorus reduction key to future

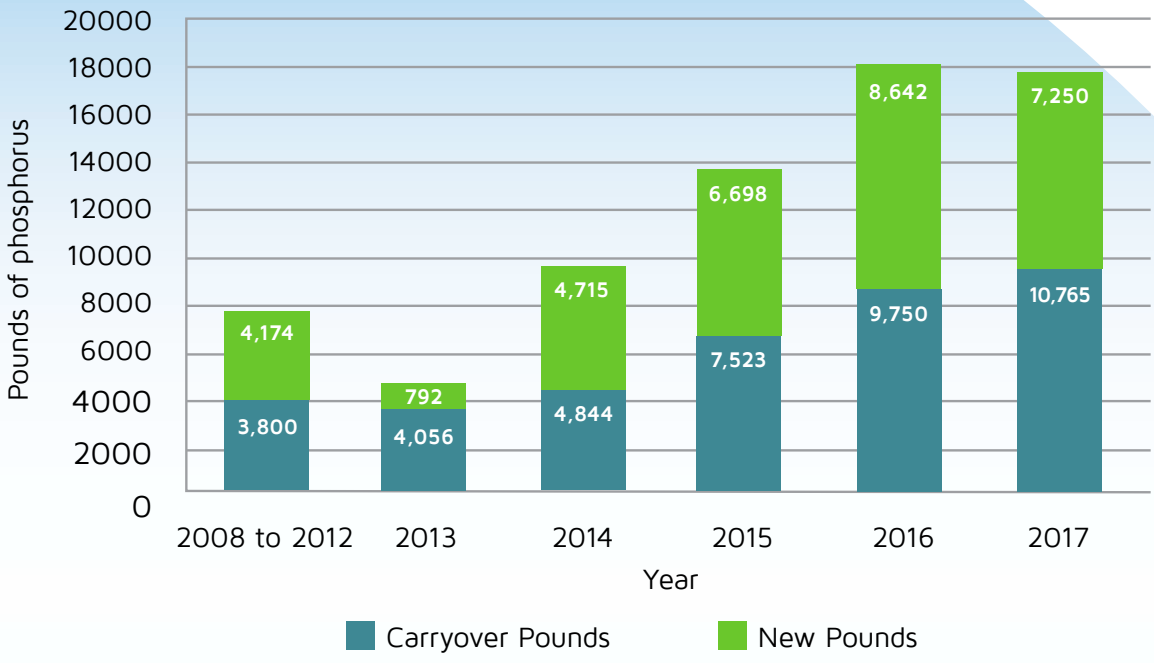
While Yahara WINS is funding projects that prevent additional contributions of phosphorus to local waterways, Dane County is taking action to mitigate phosphorus contributions of the past. The county is advancing a four year, $12 million initiative to remove phosphorus-containing sediment from streams in the Yahara Watershed. The initiative is expected to remove 870,000 pounds of phosphorus.

Legacy sediment containing high levels of phosphorus has long been recognized for its role in diminishing water quality in the Yahara River watershed. Yahara WINS funded a study by UW–Madison's water resources management practicum and, along with an evaluation of the impact of legacy sediment by county and Wisconsin Department of Natural Resources staff, the work confirmed that legacy sediment continues to impair local waterways as phosphorus leaches out of these historical deposits.

Water quality goals for the Yahara Watershed related to phosphorus will not be met without addressing legacy sediment that contains phosphorus. Dane County estimates that without removal of this accumulated sediment, it would take 99 years to achieve water quality goals.

The sediment removal initiative, called "Suck the Muck," is designed to accelerate progress toward clean water in the watershed. The first project is targeting Dorn Creek, in the upper part of the watershed. Preliminary site design and engineering work related to the Dorn Creek project was conducted in 2017, and sediment removal efforts began in spring of 2018. Additional information on this project can be obtained from John Reimer at Dane County.

Figure 3. Dane County Yahara Watershed phosphorus reductions



Cover crops, shown here taking root among cornstalks, hold soil in place after the grain is harvested.

Cover crops contribute to success

When corn is harvested for silage, very little plant residue is left on the soil, making the fields vulnerable to erosion and phosphorus loss. These fields also commonly receive manure applications.

Cover crops, which reduce erosion and phosphorus loss by stabilizing soil, offer a practical solution. Yet getting them planted while temperatures are warm enough for them to germinate and take root can be difficult because farmers are busy with harvest during the fall.

A major project during 2017 involved using grant funds awarded to Dane County by the Regional Conservation Partnership Program to evaluate aerial seeding of cover crops. Aerial seeding of cover crops allows for earlier and more efficient planting, frees up farmers' time and helps the crops become established before winter.

Yahara WINS provided a $500 bonus to farmers who agreed to use of aerial seeding for cover crops over a three-year period. While 16 farmers with 1,860 acres participated in the Regional Conservation Partnership Program cover crop program in 2017, nine of them also participated in the aerial seeding effort. These nine farmers accounted for 1,169 acres of cover crops planted, with an estimated phosphorus reduction of 1,169 pounds in 2017.

Dane County

Yahara WINS provides funding for Dane County's Land and Water Resources Department to assist landowners with the implementation of conservation practices that reduce phosphorus runoff. This is the sixth year that the Land and Water Resources Department has collaborated with Yahara WINS on phosphorus reduction efforts.

Key Dane County accomplishments in 2017 include:

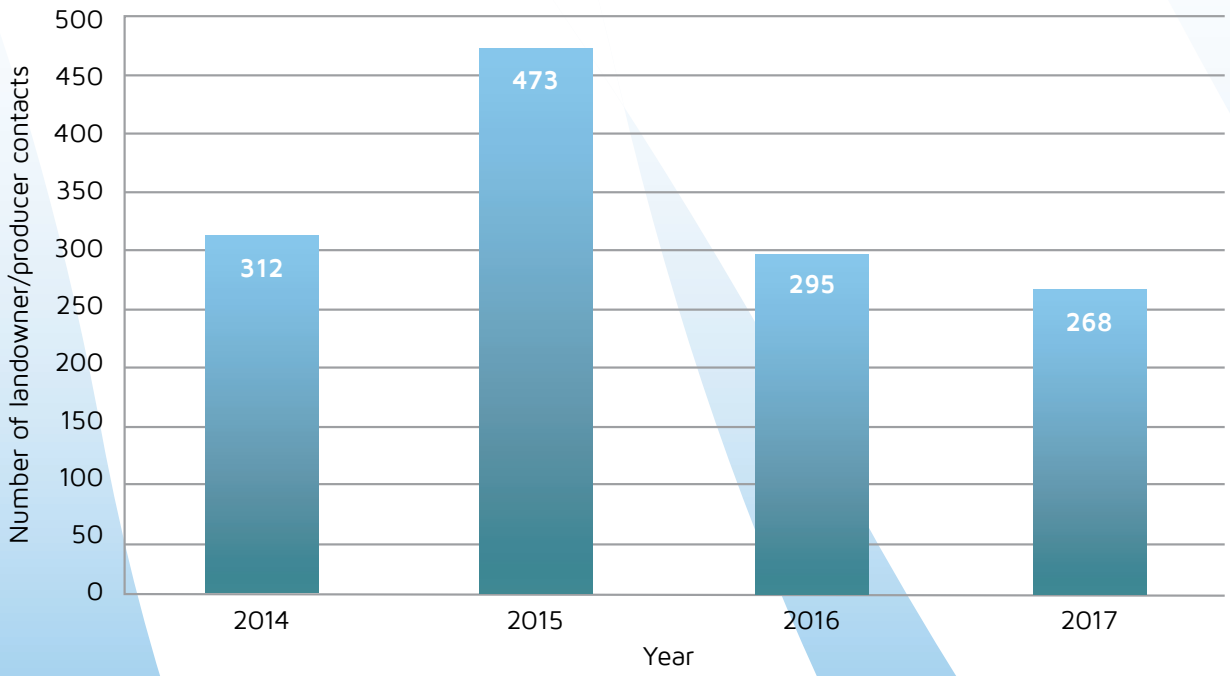
- A total reduction of 18,015 pounds of phosphorus from conservation practices implemented in past years that are still in place (carryover) and practices implemented in 2017 (new) (Figure 3).
- Assisting 268 landowners and others in the Yahara watershed with implementation of phosphorus-reducing practices and environmental compliance.
- Implementing and tracking more than 450 conservation practices and systems that reduce phosphorus delivery to nearby surface waters.

In 2017, a number of practices were focused in the northwestern portion of the watershed, while others were in the Door Creek area.

- Tracking more than 45,800 acres of fields with nutrient management plans in the Yahara watershed. The plans are field-specific strategies that outline the location, timing, and quantity of manure or fertilizer application to minimize runoff.
- Establishing the Dane County Grazer's Network to educate area producers and landowners about the benefits of managed grazing.
- Entering into 50 cost-share agreements for conservation practices and systems within the Yahara watershed.
- Allocating more than $800,000 in cost-share assistance within the Yahara watershed (Figure 5).

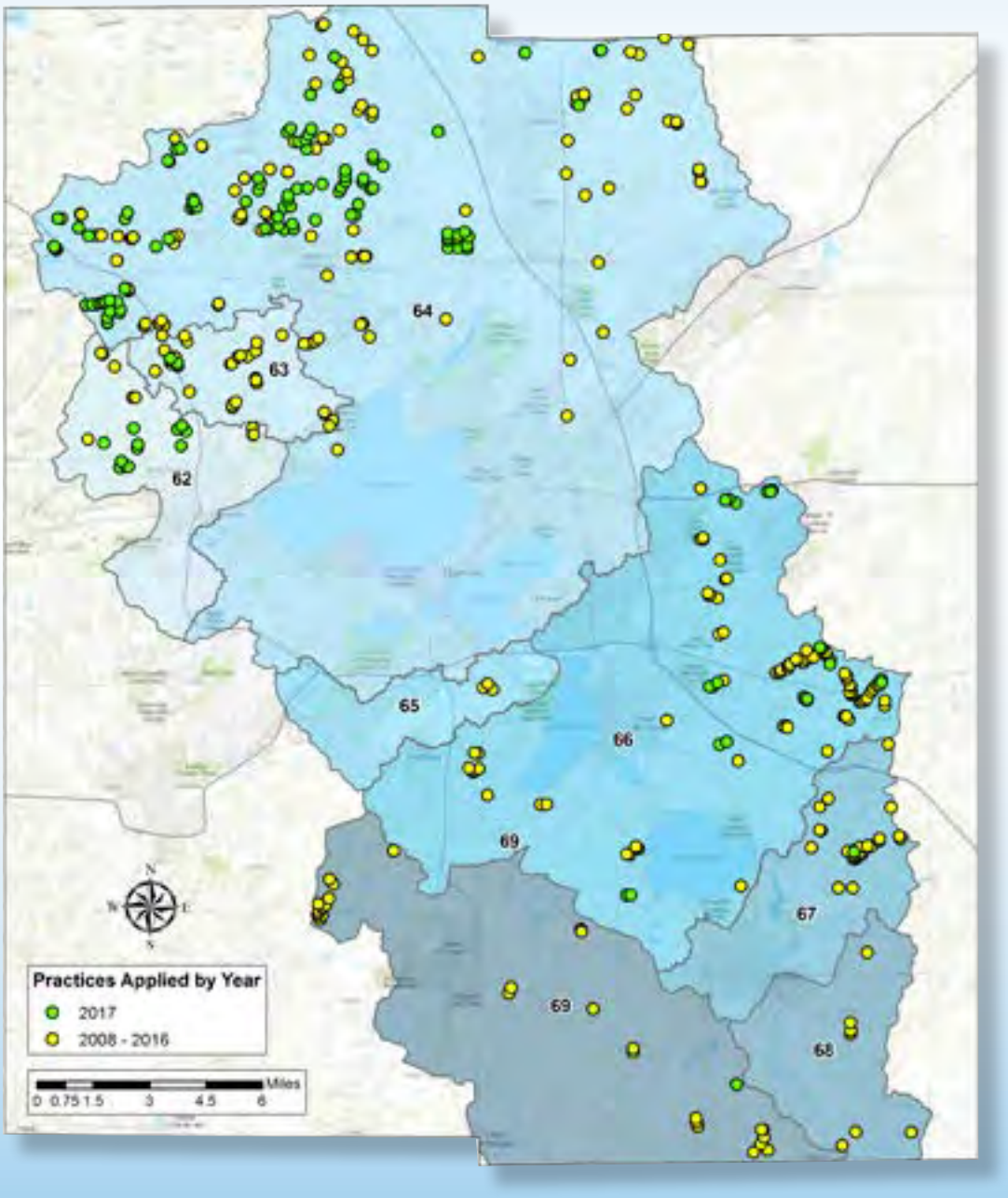
The full Dane County progress report for 2017, which is one of the county's requirements under the Yahara WINS service agreement, is available on the Yahara WINS website at www.madsewer.org, search "Yahara WINS."

Figure 4. Number of landowners/producers within the Yahara Watershed contacted by Dane County Land and Water Resource staff each year since 2014



Dane County practices applied by year

Dane County funded or facilitated practices in rural and urban settings designed to prevent phosphorus from reaching area surface waters. The map depicts practices put into place from 2008 to 2016 as well as projects implemented during 2017.



Proper compost spreading including use of buffer strips at the bottom of slopes helps keep nutrients in place.

Yahara Pride Farms success continues

Yahara WINS continued its successful partnership with Yahara Pride Farms, a local farmer-led group promoting agricultural conservation practices, for a fifth straight year. The 2017 agreement provided $110,000 to Yahara Pride Farms for cost-share funding on practices implemented by farmers including cover crop planting, strip tillage and headland manure stacking.

A maximum of $25,000 was available for supporting activities including data collection, farm evaluations, phosphorus reduction modeling activities, education and outreach activities and farmer engagement. As shown in Figure 6, Yahara Pride Farms used these funds to reduce predicted phosphorus runoff by more than 18,000 pounds in 2017 through a variety of conservation practices.

Figure 5. Amount of Dane County cost share funding allocated by year since 2014

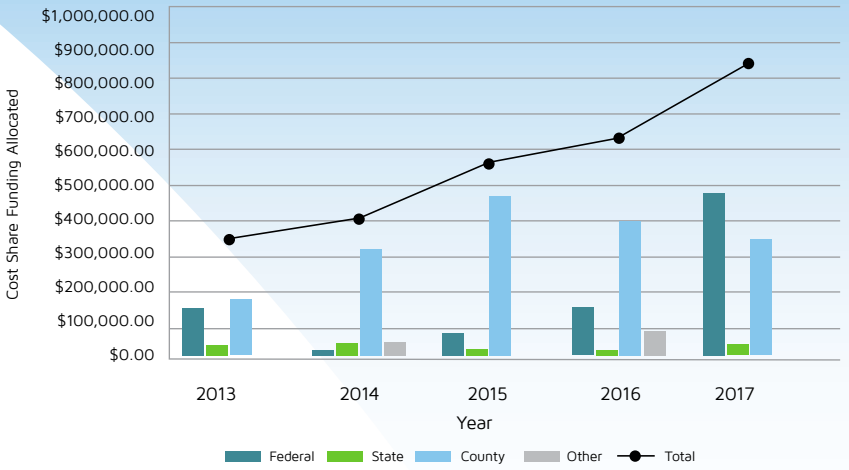
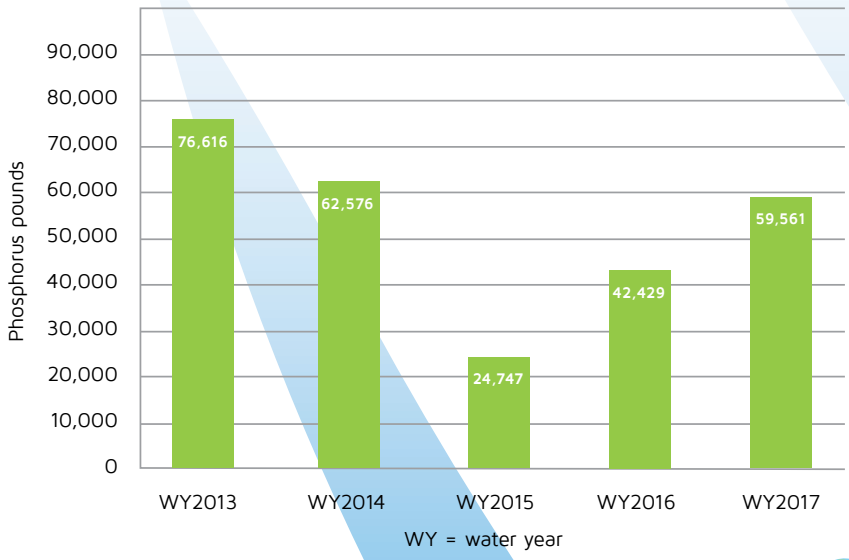


Figure 6. Summary of 2017 Yahara Pride Farms phosphorus reductions

Practice	Average phosphorus reduction (pounds per acre)	Total predicted phosphorus reduction (pounds in 2017)
Cover crops	1.8	7,300
Low-disturbance deep tillage plus cover crop	2.2	1,981
Low-disturbance manure injection	0.9	6,039
Strip tillage	0.8	1,458
Headland stacking of manure	2.1	665
Combined practices	0.9 (additional)	1,416
	Total	18,859

Figure 7. Annual tributary phosphorus loads to Lake Mendota



Multiple conservation practices at work

One informative takeaway from Yahara Pride Farms' work is the effectiveness of combining multiple conservation practices on one farm. In 2017, Yahara Pride offered a bonus payment for farms that implemented a combination of cover crops and either strip tillage or low-disturbance manure injection. In all, a total of 66 fields totaling 1,704 tillable acres implemented a combination of practices. After correcting for the individual practices, the combination of practices averaged an additional phosphorus reduction of 0.9 pounds per acre compared to individual practices. (Figure 6)

Over the past five years, Yahara Pride Farms has accomplished significant reductions in predicted phosphorus runoff, summarized in Figures 8, 9 and 10 by practice.

Figure 8. Cover crops

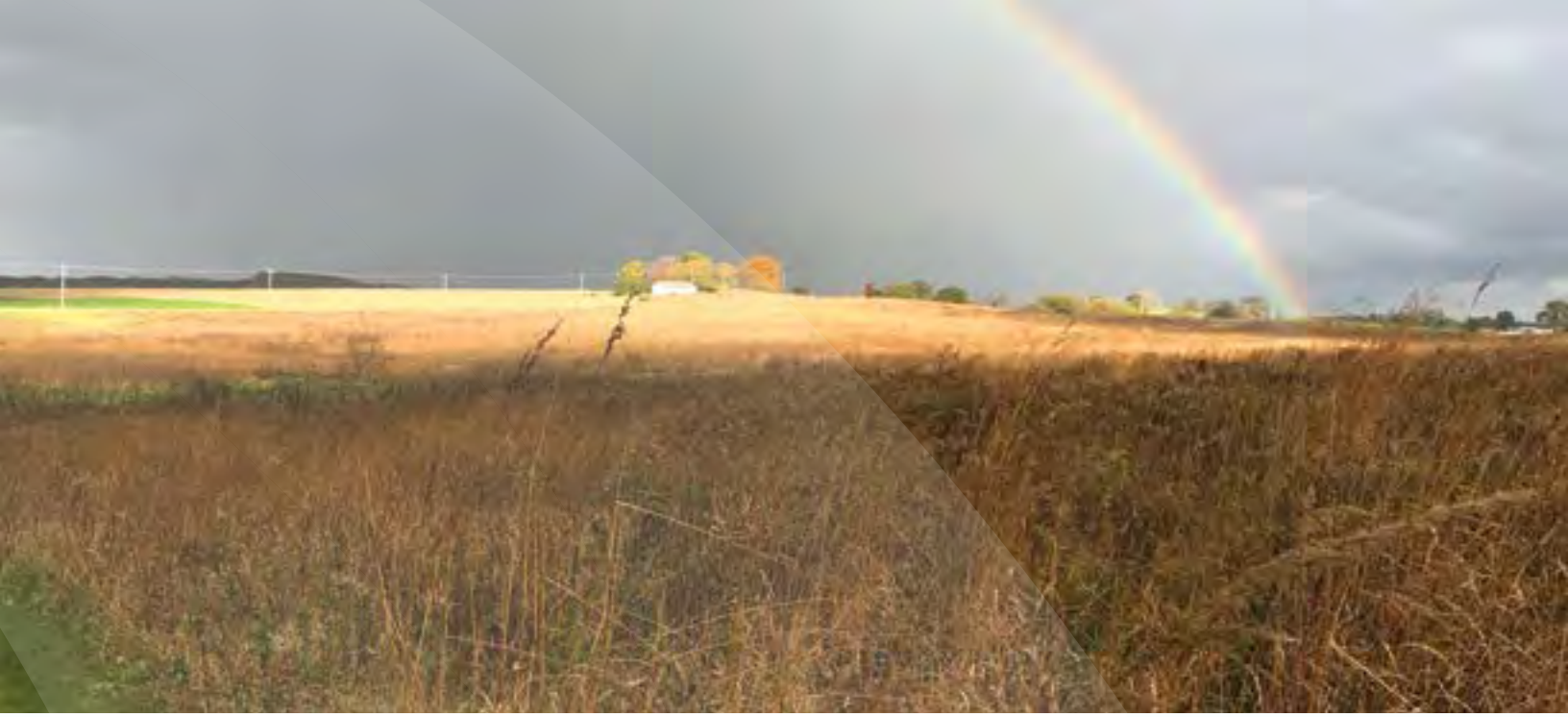
Year	2013	2014	2015	2016	2017
Farms	20	37	35	37	33
Fields	80	53	160	290	212
Acres	2,436	4,732	4,908	5,851	4,483
Acres (lbs./acre)	0.7	0.8	1.8	1.5	1.8
Total prediction (in pounds)	1,730	3,691	6,572	7,130	7,300

Figure 9. Low-disturbance manure injection

Low disturbance manure injection program	2013	2014	2015	2016	2017
Number of farms	11	14	4	7	15
Number of fields	20	20	32	76	223
Tillable acres in program	361	841	566	1,203	3,885
Average phosphorus reduction (lbs./acre)	1.0	0.6	1.9	0.9	1.4
Total phosphorus reduction (in pounds)	357	530	1,081	1,106	6,039

Figure 10. Strip tillage

Strip tillage program	2013	2014	2015	2016	2017
Number of farms	3	3	3	3	4
Number of fields	11	15	20	21	35
Tillable acres in program	156	253	1,489	917	1,829
Average phosphorus reduction (lbs./acre)	1.4	0.9	0.8	0.9	0.8
Total phosphorus reduction (in pounds)	225	220	1,221	703	1,458



Practices that conserve soil and prevent phosphorus from reaching surface waters promise improved water quality for the region. Here, a restored prairie in Pheasant Branch Conservancy separates farmland from wetlands and a marsh on the north shore of Lake Mendota.

Partnerships enable exploration

To encourage innovative conservation practices, Yahara WINS also awarded Yahara Pride Farms grants to explore promising manure management options: low-disturbance manure injection and solid manure composting.

Low disturbance manure injection

The practice of low disturbance manure injection involves subsurface application of manure, meaning that manure is injected into soil rather than applied to the top layer. This practice provides soil with nutrients while reducing the amount of manure (and associated phosphorus) that will be carried away by surface runoff. It isn't applicable on all farm fields, such as steep slopes, so it is unkown how well it will work for all farms.

As local farmers have experimented with injection and found ways to make it work for their farms, demand for the practice is growing. However, uncertainty about applicability and the cost of the equipment remain barriers to implementation. To address these barriers, Yahara WINS, with the assistance of the Clean Lakes Alliance, and Dane County, provided matching $56,260 grants in 2017 to Yahara Pride Farms for the purchase of a low disturbance manure injection tanker, which will be available for use by farmers in the Yahara Watershed. This grant allows multiple farmers to gain experience in using the equipment without having to make a large upfront capital individual investment. The goal is to lead to more widespread adoption of this liquid manure application practice, which is expected to result in less runoff of phosphorus from manure when compared to more traditional liquid manure management practices.

Solid manure composting

In December 2017, Yahara WINS, with assistance from the Clean Lakes Alliance, agreed to provide financial support for a two-year Yahara Pride Farms project that evaluates composting of "solid" manure or bedding pack. Dane County is also providing financial support. Solid manure typically accounts for 20 to 25 percent of the total manure generated by a dairy farm.

Composting solid manure reduces the volume of manure that needs to be applied, allowing farmers to target manure application to times when there is less runoff risk. In addition, preliminary data shows that the composting process causes dissolved phosphorus to "stick" to particulate matter, binding phosphorus in the composted product and reducing phosphorus in runoff.

The project has the potential to change the way solid manure is managed. Among other things, information generated as part of this project will help farmers better assess composting as a manure management alternative by providing information on the operational, economic and environmental aspects of manure composting.

Keeping gutters free of leaves during storms produces a significant reduction in the volume of nutrients reaching lakes, rivers and streams.

Water quality monitoring key

A robust water quality monitoring program is an important aspect of the Yahara WINS watershed adaptive management project. Progress toward phosphorus reduction goals is based on actual phosphorus reduction practices put in place and the resulting phosphorus reductions calculated using approved models.

Water quality monitoring, a required element of adaptive management projects, demonstrates the impact of on-land phosphorus reduction practices on in-stream water quality over time. Yahara WINS supports substantial water quality monitoring throughout the basin, including permanent installations and a citizen monitoring program.

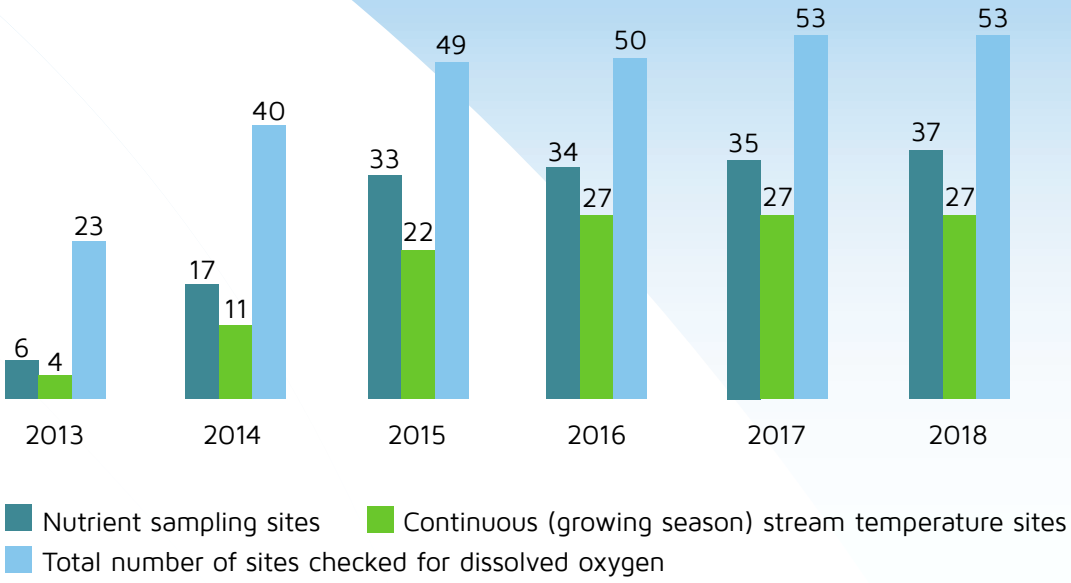
In 2017 alone, Yahara WINS analyzed more than 733 water quality samples for phosphorus. The monitoring data, along with data compiled during previous years of the project, will serve as baseline and trend data to gauge the project's success going forward.

Many Yahara WINS partners provide monitoring services to assess in-stream water quality and the health of fish and aquatic life in local waterways. The U.S. Geological Survey and the Rock River Coalition work with Yahara WINS to collect samples used to assess in-stream water quality and Wisconsin DNR is providing in-kind services to assess the biological health of streams in the Yahara River basin.

Figure 11. Median total phosphorus concentrations for U.S. Geological Survey sites reported in milligrams per liter during the growing season.

Year	2013	2014	2015	2016	2017
Dorn Creek at Hwy Q	0.10	0.13	0.11	0.15	0.17
Dorn Creek at Hwy M	0.22	0.26	0.25	0.28	0.24
Sixmile Creek at Hwy 19	0.22	0.34	0.13	0.31	0.19
Sixmile Creek at Hwy M	0.14	0.20	0.18	0.25	0.17
Yahara River at Fulton		0.14	0.19	0.11	0.11

Figure 12. Rock River Coalition volunteer stream monitoring stations



2017 stream data

From the beginning of the pilot project in 2012, the U.S. Geological Survey has been providing water quality sampling for the Yahara WINS project under a joint funding agreement. Currently, there are five USGS gauging stations in the Yahara River watershed used for adaptive managment. USGS collects water quality samples from these stations to help evaluate water quality trends.

Figure 11 summarizes the median phosphorus concentration for each monitoring site during the growing season (May through October), which is the basis for Wisconsin's phosphorus criteria. For Dorn and Sixmile, the criterion is 0.075 mg/l while for the Yahara River at Fulton, the criterion is 0.10 mg/L.

The addition of the Yahara WINS stations improved the overall monitoring of water bodies in the Yahara River Watershed and completed the picture of the phosphorus inputs to Lake Mendota. The measured phosphorus loads entering Lake Mendota from the four major tributaries is available and shown in Figure 7 on page 10, for the last five years.

The total phosphorus loading in a given year depends on a variety of factors, including the amount, intensity and timing of precipitation. If heavy precipitation occurs during a time of year when runoff is more likely, phosphorus loading may increase; during a drier year, or a year in which precipitation occurs during a time when runoff is less likely, phosphorus loading may decrease. Over the course of the 20 year Yahara WINS project, a downward trend is anticipated.

Rock River Coalition efforts expand

For the fifth consecutive year in 2017, Yahara WINS provided funding to the Rock River Coalition to support a citizen volunteer water quality monitoring program in the Yahara River Watershed. Samples collected by the volunteers help tell a more detailed story about the current conditions in the watershed and indicate changes over time. For the 2017 monitoring year:

- Volunteers monitored 53 stream stations on a monthly basis for dissolved oxygen concentrations, stream temperature, water clarity and stream flow (when possible). Volunteers also use a biotic index to assess stream health.
- Volunteers established 27 stream stations to monitor continuous water temperatures using automated data loggers.
- Volunteers collected and delivered samples from 35 stations that serve as active nutrient sampling sites. The district's lab analyzes the samples for total phosphorus, total suspended solids, total Kjeldahl nitrogen, ammonia, nitrate, nitrite and ortho-phosphorus.

More information about the Rock River Coalition's work can be found at www.rockrivercoalition.org.

DNR's Kim Kuber, Jim Amrhein and George Johll use stream shocking as one means to assess the health of the aquatic environment.

DNR works to assess fish, aquatic life

As a signatory of the intergovernmental agreement, Wisconsin DNR is required to make an annual contribution to the Yahara WINS project in lieu of a financial contribution. DNR has agreed to provide biological monitoring services that exceed those the agency normally would undertake in the watershed.

Yahara WINS has invested heavily in monitoring chemical indicators of stream health, such as phosphorus and dissolved oxygen levels. The biological monitoring complements this chemical monitoring and will increase Yahara WINS' understanding of and focus on water quality improvement.

DNR's work focuses on stream biology including fish, macroinvertebrates and habitat. Each year, the department provides Yahara WINS a report identifying key findings at the monitored sites.

Intergovernmental agreement supports expectations

To achieve water quality standards, the Total Maximum Daily Load phosphorus calculation developed for the Rock River by the Wisconsin Department of Natural Resources provides a phosphorus reduction budget for cities, towns, villages and other entities including Madison Metropolitan Sewerage District that lie in the Yahara Watershed. An intergovernmental agreement among these entities establishes the legal and administrative framework for participation. The agreement specifies the proportion of funding that each participant is responsible for, project governing bodies, the administrative structure of the project and "off ramps" for participants every five years. Participants contribute funds to the project in proportion to the amount of phosphorus they each must reduce to meet targets.

IGA participants include:

- **Towns** – Blooming Grove, Cottage Grove, Dunn, Middleton, Westport, Burke.
- **Villages** – Cottage Grove, DeForest, Maple Bluff, McFarland, Shorewood Hills, Waunakee, Windsor.
- **Cities** – Fitchburg, Madison, Middleton, Monona, Stoughton, Sun Prairie.
- **Others** – Madison Metropolitan Sewerage District, Village of Oregon Waste Water Treatment Plant, Stoughton Utilities, University of Wisconsin–Madison, Wisconsin DNR.

Communications capacity expands

Yahara WINS worked to become more visible and understandable to community members in 2017. One goal for Yahara WINS is to assist partners in communicating the group's activities to their boards, commissions and residents to cultivate support for the project.

A major step to enhance communications involved creation of an informational video in 2017. Yahara WINS contracted with Pigorsch Media to produce the video, which provides information about Yahara WINS and its benefits to community members and the watershed. The video is ideal for schools, civic organizations, stakeholders, community meetings, conservation groups, public access cable channels and more. The video is available on the Yahara WINS website.

Other Yahara WINS communications in 2017 included a newsletter and a press release. In 2018, Yahara WINS will be working with Madison Metropolitan Sewerage District communications professionals to develop a strategic communications plan to guide future communication.

Transitions

During 2017, two of the original guiding forces of the Yahara WINS project retired. First, on June 2, Dave Taylor retired from the Madison Metropolitan Sewerage District, officially ending his tenure as president of Yahara WINS.

After retiring, Taylor signed on as a consulting director to guide the initiative through its transition from pilot to full-scale project. Then, on July 21, Kevin Connors, Dane County's Land and Water Resources director also retired.

Taylor and Connors provided years of vision and guidance. Through their dedication and the solid foundation for the project, the momentum continues.

Laura Hicklin was promoted to lead the Land and Water Resources Department and joined the Yahara WINS executive committee as an advisory member. Kathy Lake, the district's pollution prevention manager, assumed the role of president of the executive committee until the end of 2017 when Martin Griffin was hired as the district's director of ecosystem services and assumed the role of executive committee president.

Other agreements

In addition to the intergovernmental agreement, the Yahara WINS project maintains service agreements with Dane, Rock and Columbia counties as well as other agreements with a variety of participating entities (Figure 13).

Figure 13.

Type of agreement	Description
MOU with Town of Dunn	Agreement for annual contributions to Yahara WINS by Town of Dunn, which has already met TMDL requirements.
MOU with Town of Burke	Agreement for annual contributions to Yahara WINS by Town of Burke.
MOU with Town of Westport	Agreement for annual contributions to Yahara WINS by Town of Westport for compliance with total suspended solids requirements and project support.
Legal services agreement	Contract with Stafford Rosenbaum for retention of general legal counsel.
Joint funding agreement with U.S. Geological Survey	Five year agreement between U.S. Geological Survey and Madison Metropolitan Sewerage District using Yahara WINS funding for water quality monitoring by the federal agency.
MGE Foundation pledge	Contribution from Madison Gas and Electric Foundation to provide funding to Yahara WINS over three years.
Columbia County service agreement	Two year service agreement with Columbia County for cost-share funds to cover phosphorus reducing practices and county staff time to support implementation.
Dane County service agreement	Five year service agreement with Dane County Land and Water Resources Department to fund county staff and provide bonus payments based on phosphorus reductions resulting from implementation of practices.
Rock County service agreement	Three year service agreement with Rock county for cost-share funds to cover phosphorus reducing practices and county staff time to support implementation.
Yahara Pride Farms grant agreement	Agreement for annual contribution to Yahara Pride Farms to support implementation of phosphorus reducing practices on farms.
Rock River Coalition contract	Contract with Rock River Coalition to support volunteer monitoring program, water quality sampling and data management services.
DNR service agreement	Agreement with DNR as an intergovernmental agreement member to provide in-kind water monitoring and habitat assessment services in lieu of DNR's allocated cost contribution.
Madison Metropolitan Sewerage District agreement	Agreement with the district for water quality testing on samples collected by Rock River Coalition and USGS as part of the adaptive management project.
Clean Lakes Alliance MOU	Agreement specifying an annual contribution from Clean Lakes Alliance to Yahara WINS to support farms adopting phosphorus reducing practices in the upper part of the Yahara river watershed.

Yahara WINS finances on track

Yahara WINS' annual budget for 2017 totaled nearly $1.5 million, reflecting the contributions of the intergovernmental agreement partners. Yahara WINS used the funds to support phosphorus-reducing practices, water quality monitoring, contract with a consulting director and expand communications activities.

Yahara WINS will collect an amount based on loadings identified in the Rock River TMDL from partners each year over the 20 year project period. Over time, the cost per pound of phosphorus reduced is expected to increase. To balance future expenditures with projected income, the Yahara WINS executive committee established a designated operating reserve policy. In 2017, Yahara WINS moved $480,000 of designated operating reserve funds into a segregated account.

Revenue from the partners totaled approximately $41,000 less than the amount budgeted for 2017. Two partners – the City of Middleton and Village of DeForest – submitted updated storm water modeling information in 2017 that resulted in a reduction of the costs allocated to these communities.

As a result of the recalculation, Middleton and DeForest also will receive credit for overpayments made in 2017. These credits were offset by the receipt of a $100,000 grant from the Clean Lakes Alliance through a memorandum of understanding and the addition of the Town of Burke as a new intergovernmental agreement member.

2017 Budget (numbers rounded to nearest $100)

Unencumbered carryover from 2016	$87,000
Revenue	
IGA participants	$1,467,000
Contributions from non-IGA participants	$17,300
Savings account interest	$1,200
Total Revenue	**$1,485,500**
Expenditures	
Legal services agreement	$20,000
Dane County phosphorus reduction services agreement	$450,000
Columbia County phosphorus reduction services agreement	$40,000
Rock County phosphorus reduction services agreement	$40,000
Yahara Pride Farms phosphorus reduction services agreement	$110,000
USGS joint funding agreement	$75,000
Water quality monitoring analytical services (MMSD)	$35,000
General P reduction practice funding	$120,000
Phosphorus reduction grant program	$100,000
WINS staffing	$43,500
Rock River Coalition water quality monitoring	$27,000
Financial audit	$7,000
Communications	$15,000
Miscellaneous	$10,000
Total Expenditures	**$1,092,500**
Contribution to designated operating reserve fund	$480,000

2018 budget supports continued progress

For 2018, the Yahara WINS budget totals just over $1.5 million, reflecting a slight increase in revenue from new signatories to the intergovernmental agreement.

Expenditures for phosphorus reduction through service agreements with Dane County, Columbia County are all set to increase, as are agreements with Yahara Pride Farms. Expenditures for legal services and miscellaneous supporting services are set to decrease.

For 2018, a transfer of $315,000 to a designated operating reserve was budgeted. By gradually building the reserve fund, the intergovernmental agreement participants seek to ensure that an adequate amount of money will be available in the latter years of the project when per pound phosphorus reductions are expected to grow more costly.

Executive committee guides Yahara WINS

For 2017, members of the Yahara WINS executive committee included:

Voting members

Kathy Lake, president, Madison Metropolitan Sewerage District

Gary Huth, vice president, City of Middleton

Jeff Rau, treasurer, Village of Oregon

Greg Fries, secretary, City of Madison

Tom Wilson, at-large, Town of Westport

Nonvoting members (named in IGA as advisory)

Jeff Endres, Yahara Pride Farms

Laura Hicklin, Dane County

James Tye, Clean Lakes Alliance

Nonvoting members

Paul Kent, attorney

Dave Taylor, consulting director

2018 Budget (numbers rounded to nearest $100)

Unencumbered carryover from 2017	$14,500.00
Revenue	
IGA participants	$1,438,400
Income from grants, other MOUs, etc.	$50,000
MGE Foundation	$5,000
Savings account interest	$1,200
Total Revenue plus unencumbered carryover	**$1,509,100**
Expenditures	
Phosphorus reduction	
Dane County phosphorus reduction services agreement	$540,000
Columbia County phosphorus reduction services agreement	$50,000
Rock County phosphorus reduction services agreement	$180,000
Yahara Pride Farms phosphorus services agreement	$130,000
Yahara Pride Manure Composting Grant	$21,400
General P reduction practice funding	$20,000
Phosphorus reduction grant program	$34,200
Subtotal	**$975,600**
Water Quality Monitoring or modeling	
Water quality monitoring analytical services (MMSD)	$40,000
USGS joint funding agreement	$75,000
Rock River Coalition water quality monitoring	$25,000
Subtotal	**$140,000**
Supporting Services	
WINS staffing	$46,000
Financial audit	$7,500
Communications	$12,000
Miscellaneous	$5,000
Legal services agreement	$8,000
Subtotal	$78,500
Transfer of funds to designated operating reserve	$315,000
Total Expenditures	**$1,509,100**
Revenue minus expenditures (potential unencumbered carryover to 2019)	$0

Yahara WINS
1610 Moorland Road
Madison, WI 53713

Compiled by Madison Metropolitan Sewerage District

Stoughton Utilities

600 South Fourth Street
P.O. Box 383
Stoughton, WI 53589-0383

Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Subject: Status of the Utilities Committee recommendation(s) to the Stoughton Common Council

The following items from prior Stoughton Utilities Committee Meeting(s) were presented to and/or acted upon by the Stoughton Common Council at their October 23, 2018 meeting:

Consent Agenda:

1. Stoughton Utilities Payments Due List Report
2. Stoughton Utilities Committee September 17, 2018 Meeting Minutes
3. Stoughton Utilities July 2018 Financial Summary
4. Stoughton Utilities August 2018 Financial Summary
5. Stoughton Utilities August 2018 Statistical Report

Business:

1. None

The following items from prior Stoughton Utilities Committee Meeting(s) were presented to and/or acted upon by the Stoughton Finance Committee at their October 23, 2018 meeting:

Business:

1. Real estate listing of the vacant land located at 3201 McComb Rd – **Tabled**

The following items from prior Stoughton Utilities Committee Meeting(s) were presented to and acted upon by the Stoughton Common Council at their November 13, 2018 meeting:

Business:

1. Proposed Stoughton Utilities 2019 budget and five year (2019-2023) Capital Improvement Plan (CIP)

Stoughton Utilities

600 South Fourth Street P.O. Box 383
Stoughton, WI 53589-0383

Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Subject: Update on the Utilities Director position recruitment and transition/interim management plan

An update on the Utilities Director transition, including the posting of the vacant position and recruitment efforts, scheduling of applicant reviews and interviews, and the transition plan, will be provided to the Utilities Committee at the meeting.

Stoughton Utilities

600 South Fourth Street P.O. Box 383
Stoughton, WI 53589-0383

Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Subject: Real estate purchase and sale agreement from Junction 138, LLC for the purchase of the vacant land located at 3201 McComb Rd

On November 14, 2018, staff received the enclosed real estate purchase and sale agreement for the purchase of the vacant land located at 3201 McComb Road, parcel #281/0510-121-8105-2. The proposed agreement was submitted by Junction 138, LLC, a Wisconsin limited liability company, and is for the purchase price of $480,000.

The Utilities Committee will review and discuss the proposed agreement at its November 13, 2018 meeting. *The Utilities Committee may convene in closed session per State Statute 19.85(1)(e) for the purposes of deliberating or negotiating the purchase of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons deem a closed session necessary. The Utilities Committee may reconvene in an open session to discuss and take action on the subject matter discussed in the closed session.*

Background and History:

On November 30, 2009, Stoughton Utilities closed on the purchase of a 17-acre farmette located at 3201 McComb Road. This property was acquired for the future construction of an electrical substation.

In 2013, the 17 acre parcel was split into two separate parcels; a 5.762 acre parcel at 3221 McComb Rd, to be used as the site of the new electrical substation, and a separate 10.683 acre parcel at 3201 McComb Rd., to be reserved for future utility use or sale. Both parcels were annexed into the City of Stoughton. The vacant parcel was zoned RH, Rural Holding District.

In July 2017, Stoughton Utilities conducted an appraisal report of the 10.68 acres of vacant land located at 3201 McComb Rd. Based on the current market value estimates as of June 30, 2017, the parcel was appraised at $45,000 per acre, or a total of $480,000.

In August 2018, Stoughton Utilities completed the construction of the new West Substation on the parcel at 3221 McComb Rd. The parcel at 3201 McComb Rd. remains vacant and unused, and Stoughton Utilities staff recommended that the vacant parcel be listed for sale.

At its October 15, 2018 meeting, the Stoughton Utilities Committee unanimously approved the listing of 10.683 acres of vacant land located at 3201 McComb Road, directed staff to solicit proposals from commercial real estate brokers, with such proposals to be reviewed and approved by the Stoughton Finance Committee and Stoughton Common Council at a future meeting, and to bring all offers to purchase the land to the Stoughton Utilities Committee for their review and approval.

REAL ESTATE PURCHASE AND SALE AGREEMENT

THIS REAL ESTATE PURCHASE AND SALE AGREEMENT (this "Agreement") is entered into by and between Junction 138, LLC, a Wisconsin limited liability company ("Buyer") and the City of Stoughton, a municipality in the State of Wisconsin ("Seller"), as of the date of the last of the parties' signatures hereto (the "Effective Date").

RECITALS:

A. Seller owns fee simple title to certain real estate located in the City of Stoughton, Dane County, Wisconsin, described herein.

B. Buyer desires to purchase from Seller and Seller desires to sell to Buyer such property in accordance with the terms and conditions set forth herein.

AGREEMENT:

1. Agreement to Purchase. Subject to the terms and conditions of this Agreement, Seller shall sell to Buyer, and Buyer shall purchase from Seller certain real property located in the City of Stoughton, Dane County, Wisconsin, as more fully described on Exhibit A attached hereto, consisting of approximately 10.683 acres, together with all other rights and interests appurtenant thereto (collectively, the "Property").

2. Purchase Price. The purchase price (the "Purchase Price") for the Property shall be Four Hundred Eighty Thousand and No/100 Dollars ($480,000.00). The Purchase Price shall be payable as follows:

(a) Deposit. Within Ten (10) business days of acceptance of the Agreement, Buyer shall deposit the sum of Five Thousand and No/100 Dollars ($5,000.00) ("Deposit") with the Madison, Wisconsin office of First American Title Insurance Company (the "Title Company"). The Deposit shall be held in an interest bearing escrow account, with all interest accruing to Buyer, pursuant to the escrow agreement attached hereto as Exhibit B. The Deposit shall be credited to the Purchase Price at the Closing (as hereinafter defined) and shall be nonrefundable except in the event: (i) Buyer terminates this Agreement before the expiration of the Investigation Period pursuant to Section 5 below or (ii) the Closing does not occur due to Seller's default.

(b) Balance. Buyer shall pay the balance of the Purchase Price, subject to the adjustments and prorations set forth in Section 7 below, on or before the Closing Date by depositing with Title Company the balance of the Purchase Price in cash, or by certified or cashier's check or federal wire transfer.

3. Property Documents. Within ten (10) business days following the Effective Date, Seller shall deliver to Buyer for Buyer's review, copies of all documents in Seller's possession or control which a reasonable person may deem material in evaluating whether to proceed to purchase the Property, including, without limitation: (i) all title reports, surveys, environmental

studies, geotechnical studies, and appraisals reports; (ii) all leases affecting the Property (iii) any notices received by the Seller from any applicable governmental authority concerning the Property; and (iv) any other information reasonably requested by Purchaser in connection with the acquisition of the Property (all of the above, collectively, the "Property Documents"). If Buyer fails to consummate the transaction contemplated by this Agreement, Buyer shall return all Property Documents to Seller upon Seller's request.

4. Buyer's Access to the Property. From and after Seller's acceptance of this Agreement, up to and including the date of Closing, Buyer shall have full and complete access to the Property at reasonable times and upon reasonable notice for the purpose of making such investigations, studies, assessments and the like that Buyer deems necessary or desirable, consistent with good commercial practice. Buyer agrees to indemnify, defend and hold Seller harmless from and against claims, loss, damage or expense resulting from damage to property or injury or death to persons directly caused by actions of Buyer or Buyer's agents at the Property, except as may arise from discovery of a preexisting condition at the Property and/or the negligence or wrongful act of Seller.

5. Buyer's Investigation Period. Buyer's obligations under the Agreement are contingent upon the satisfaction or waiver, in the exercise of Buyer's sole discretion, of the contingencies set forth in this Section 5 within Three Hundred Sixty-Five (365) days of the Effective Date (the "Investigation Period"). During the Investigation Period, Buyer shall be permitted to investigate the Property for Buyer's intended development ("Buyer's Intended Use"), including the rights to: (i) enter upon the Real Property to perform inspections and a geotechnical evaluation of the Property; (ii) make investigations with regard to zoning, road access and other legal requirements; (iii) perform environmental site assessments; (iv) make or obtain market studies and real estate development analyses; (v) analyze the financial feasibility of ownership of the Property; (vi) analyze the Property Information; (vii) negotiate a pre-annexation agreement with the municipality; (viii) confirm that the Property is within the Urban Service Area or seek an amendment to include the Property within the USA; (ix) explore any necessary amendment to the existing comprehensive land use plan concerning the Property; (x) completing a roadway design and obtaining preliminary and final plat approval for Buyer's Intended Use; (xi) completing a stormwater management plan and construction documents for any public and private infrastructure necessary to implement Buyer's Intended Use; (xii) entering into a municipal development agreement for the installation of such infrastructure, as reasonably determined by Buyer, in the exercise of Buyer's sole discretion; and (xiii) obtaining financing, the terms of which are acceptable to Buyer.

Buyer shall have the right to extend the Investigation Period for two (2) additional periods of Ninety (90) days, provided Buyer: (i) delivers written notice to Seller of Buyer's intent to exercise any such extension prior to the expiration of the Investigation Period, as may be extended, and (ii) deposits with the Title Company, simultaneous with Buyer's written notice to Seller, an additional deposit of Five Thousand Dollars ($5,000.00). The additional deposit for any extension shall be added to and become part of the Deposit and shall be credited to the Purchase Price at closing.

If any of the foregoing contingencies are not satisfied or waived by Buyer on or before the expiration of the Investigation Period, as determined by Buyer in the exercise of Buyer's sole discretion, Buyer shall have the option of terminating this Agreement by delivering written notice of termination to Seller on or before the expiration of the Investigation Period, in which event this Agreement shall be terminated and of no further force and effect and the Deposit shall be immediately returned to Buyer. In the event that Buyer does not elect to terminate this Agreement prior to the expiration of the Investigation Period, all items set forth in this Section 5 shall be deemed satisfied and/or waived and (ii) the Deposit shall become nonrefundable (except in the event of a Seller default) but shall be applied to the Purchase Price at Closing.

6. Title Insurance. Within fifteen (15) days following the Effective Date of this Agreement, Seller shall deliver to Buyer a commitment ("Commitment") prepared by the Title Company to issue a standard form ALTA owners' policy of title insurance, including gap coverage, for the Property in the amount of the Purchase Price naming Buyer as the insured, showing all liens, encumbrances and other matters of record. The Commitment shall be delivered to Buyer together with legible copies of all documents that appear as exceptions to title. Within thirty (30) days of Buyer's receipt of the last of: (i) the Title Commitment, (ii) copies of all underlying documents, and (iii) the Survey, Buyer shall notify Seller, in writing ("Buyer's Title Notice"), of any objections to the Title Commitment and Survey. Seller shall use diligent good faith efforts to remove any objections Buyer has with respect to the Title Commitment and for Survey. If one or more of such objections cannot be removed, Seller shall notify Buyer in writing ("Seller's Notice"), within fifteen (15) days after Seller's receipt of Buyer's Title Notice, of which objections cannot be removed. Buyer shall elect, in writing within ten (10) days thereafter, either to: (i) terminate and cancel the Agreement, in which case all Deposit shall be returned to Buyer and, except as set forth in this Agreement, neither party shall have further obligations hereunder; or (ii) waive the title and/or survey objections and proceed to Closing. If Seller fails to deliver Seller's Notice within such fifteen (15) day period, Seller shall be deemed to have agreed to cure all of Buyer's objections. Notwithstanding anything to the contrary contained herein, Seller shall be obligated to remove all monetary encumbrances from title at or before Closing. Exceptions to title approved by Buyer hereunder shall be deemed to be "Permitted Exceptions."

7. Closing.

(a) *Closing Date*. Except as otherwise set forth herein, the "Closing" shall occur at the offices of the Title Company within thirty (30) days following the satisfaction or waiver of Buyer's Investigation Period, on a date to be designated by Buyer (such date, the "Closing Date").

(b) *Closing Documents*. On or prior to the Closing Date, the parties shall execute the following documents: (i) Seller will execute and deliver to Buyer a general warranty deed (the "Deed") conveying the Property to Buyer subject only to the Permitted Exceptions; (ii) both parties will complete a Wisconsin Real Estate Transfer Return in the form that is required by state statute in order to record the Deed; (iii) both parties will execute and deliver a closing statement setting forth the Purchase Price and any adjustments thereto as provided for in this Agreement; (iv) Seller will execute and deliver to Buyer a Non-Foreign Person Affidavit

confirming that Seller is not a foreign person subject to certain federal withholding requirements; (v) both parties will execute and deliver any other documents that are necessary to consummate the transaction contemplated by this Agreement, including such documents as are necessary to cause title to be conveyed to Buyer in the form approved by Buyer pursuant to the terms of this Agreement.

(c) *Costs and Expenses*. Seller shall be responsible for paying the Wisconsin real estate transfer fee, the cost of providing title insurance to Buyer and any recording fees related to satisfying any existing mortgages against the Property. Buyer will pay any recording fees related to recording the Deed and to record any mortgages it grants on the Property. The parties shall evenly share any cost of the Title Company to act as the closing agent. Each party will be solely responsible for paying its respective attorney's fees.

(d) *Prorations and Adjustments*. The following items shall be prorated and adjusted between Buyer and Seller as of 12:01 a.m. on the date of Closing as follows:

(i) All rents and charges payable under any leases affecting the Property, if any.

(ii) All utility charges, including, but not limited to, electricity, gas, water, sewer, steam and telephone shall be determined by actual meter readings, if available; otherwise they shall be estimated on the basis of the last billing available from the respective utilities. Any utility deposits, standby charges or other prepayments, if assignable, shall be assigned to Buyer, who shall reimburse Seller therefor.

(iii) General real estate taxes levied against the land. The proration shall be based on the net general real estate taxes for the year of Closing, if known, otherwise on the net general real estate taxes for the year prior to Closing.

(iv) Assessments, either general or special, for improvements completed prior to Closing, whether matured or unmatured, shall be paid in full by Seller (including all principal and interest). All other assessments shall be paid by Buyer.

(v) As between Seller and Buyer, Seller shall be responsible for all operating expenses for the Property allocable to the period prior to the date of Closing, and shall pay all such expenses when due; and Buyer shall be responsible for all operating expenses for the Project allocable to the period on and after the date of Closing.

(vi) Such other items as are required to be prorated pursuant to the terms hereof, or as are customarily prorated upon the transfer of ownership and possession of commercial rental real estate in Dane County.

(vii) Any penalty for converting agricultural land to non-agricultural use (the "Use-Value Penalty"), as set forth in Wisconsin Statutes Section 74.485, imposed on the Property as a result of a change in use prior to Closing or which will be imposed on the Property after Closing due to Buyer's intended change in use of the Property, shall be paid in full by Seller at Closing or, in the event the Use-Value Penalty is not known or due and payable at Closing, an

amount equal to the Title Company's estimate of the Use-Value Penalty shall be escrowed from Seller's proceeds at Closing and Title Company shall pay the Use-Value Penalty using the escrowed funds when such penalty becomes due and payable. If the aforementioned escrowed funds exceed the actual Use-Value Penalty, the excess funds shall be refunded to Seller and if the escrowed funds are insufficient to pay the Use-Value Penalty, then upon written notice to Seller by Buyer or Title Company, Seller shall provide such additional funds, in a timely manner, as, together with the escrowed funds, are sufficient to pay the Use-Value Penalty.

The parties agree to make such post-closing adjustments and readjustments as may be required due to errors and omissions in the closing adjustments. If information is not available or if the parties agree that it is impracticable to make a particular adjustment on the date of Closing, that adjustment shall be made as soon as practicable after such information is available.

8. Seller's Representations and Warranties. In order to induce Buyer to submit this Agreement, Seller hereby makes the following representations and warranties to Buyer, each of which shall be deemed to be independently material and relied upon by Buyer, regardless of any investigation made by, or information known to, Buyer, and upon which Buyer has relied and without which Buyer would not have submitted this Agreement. Seller covenants and agrees that each of the representations are true and correct on the date hereof and, as a condition precedent to Buyer's obligation to close, Seller shall affirm that each of these representations continue to be true and correct on the date of Closing, and that such representations and warranties shall survive Closing:

(a) *Authority*. The sale of the Property pursuant to this Agreement is not in violation of any provision of any agreement to which Seller is bound. Seller has complete power and authority to enter into and perform the transaction contemplated by this Agreement according to its terms, and the execution and delivery of this Agreement and the consummation thereof have been duly authorized by all required action. The person or those persons signing below on behalf of Seller personally warrant that they have the authority to act as Seller's agent or agents in the sale, transfer and conveyance of the Property to Buyer.

(b) *Litigation, Court Orders*. There are no legal actions, condemnation proceedings, suits or other legal administrative proceedings, pending, or to the knowledge of Seller, threatened, against the Property, and there are no governmental agency or court orders requiring repairs, alterations or corrections of any existing conditions on the Property.

(c) *No Commitment to Governmental Authority*. Seller has made no commitment to any governmental authority, utility body, neighborhood association or other organization, group or individual relating to the Property which would impose an obligation upon Buyer to install or maintain any improvements of a public or private nature on or off the Property, or which would limit or adversely affect the permitted uses of the Property. Except as specifically identified on the title commitment to be furnished to Buyer, Seller has no knowledge or notice of any planned or commenced public improvements which may result in special assessments or which may otherwise directly and materially affect the Property.

(d) *Hazardous Wastes*. To the best of Seller's knowledge, no portion of the Property has been used for the generation, storage, transportation, disposal or treatment of hazardous or toxic wastes and there exists no groundwater or soil contamination upon the Property resulting from such wastes.

(e) *Environmental Compliance*. Seller and the Property have been and are in compliance with all Environmental Laws applicable to the Property. Seller has not received any communication (either written or oral) from any party that alleges that Seller or the Property is not in compliance with any applicable Environmental Laws. Seller has not received any notice of any past, present or future event, condition, circumstance, activity, practice, incident, action or plan which may interfere with or prevent continued compliance with all applicable Environmental Laws. Seller is not under investigation for the failure to comply with any Environmental Laws. Seller is not required to take any remedial action by any governmental authority or Environmental Laws. With regard to the Property, Seller has not made any statements, warranties, or representations in any documents containing any untrue statement of material fact or omitting any statement of material fact that would render the statements made misleading in connection with any Environmental Laws.

As used herein, "Environmental Laws" mean any legal requirement that relates to or otherwise imposes liability, obligations, responsibility, or standards with respect to zoning, land use, pollution, or the restoration, repair, remediation or protection of natural resources, human health or the environment (including ambient air, surface water, groundwater, land surface, subsurface soil strata), including without limitation, any legal requirement relating to the presence, use, manufacture, processing, distribution, production, generation, handling, transport, storage, disposal, labeling, discharge, release, threatened release, treatment, control or cleanup of any Environmental Materials. "Environmental Materials" means, collectively, any material, substance, chemical, waste, contaminant or pollutant which is regulated, listed, defined as or determined to be hazardous, extremely hazardous, toxic, dangerous, restricted or a nuisance, or otherwise harmful to human health or the environment, under any Environmental Laws.

9. Seller's Covenants.

(a) *Access*. Prior to the Closing Date, Seller shall give Buyer and its agents and representatives reasonable access to the Property during normal business hours. Seller agrees to furnish to Buyer such additional and further information concerning the ownership, management, operation and condition of the Property as Buyer may reasonably request.

(b) *Cooperation*. Upon the execution of this Agreement by both parties, Buyer may commence any proceedings that are necessary to obtain any government approvals necessary for Buyer to develop the Property for Buyer's Intended Use. Seller agrees to cooperate with Buyer in obtaining the governmental approvals sought by Buyer.

(c) *Continued Operation*. Following the Effective Date and up to and including date of Closing, Seller shall maintain the Property in good condition and repair, reasonable wear and tear excepted and shall continue to operate the Property in its ordinary and normal course of business, provided, however, Seller shall not, without Buyer's prior written

consent: (i) amend, extend, renew or enter into any new leases affecting the Property; (ii) permit any additional liens or encumbrances to be recorded against the Property, (iii) enter into or modify any service contracts or other agreement with respect to the Property, or (iv) initiate or consent to the change in any zoning and/or any other governmental law, permit, license, ordinance or regulation applicable to the use, occupation or operation of the Property.

(d) *Condemnation*. If, between the Effective Date and the Closing Date, any proceeding (judicial, administrative or otherwise) is instituted or commenced, which relates to the proposed taking of all or any portion of the Property by condemnation or eminent domain or otherwise, or the taking or closing of any right of access to the Property, Seller shall furnish Buyer with written notification of such proceeding within forty-eight (48) hours after the earlier of Seller's receipt of such notice or Seller's actual knowledge of such proceeding. In such event, Buyer shall have the option to terminate this Agreement by giving Seller written notice of termination within thirty (30) days after Buyer's receipt of such notice from Seller, in which case, this Agreement shall be null and void and all Deposit shall be returned to Buyer immediately. If Buyer does not terminate this Agreement, Seller shall give Buyer a credit and/or assign all of Seller's rights to any proceeds therefrom on the Closing Date, and Buyer shall have the right, prior to the Closing Date, to fully participate in such condemnation proceedings.

(e) *Casualty*. Seller assumes all risks and liability for damage to or injury occurring to the Property by fire, storm, accident, or any other casualty or cause until the Closing has been consummated. If, prior to Closing, the Property suffers any damage from fire or other casualty equal to or in excess of One Hundred Thousand and no/100 Dollars ($100,000.00), Buyer may either at or prior to Closing (a) terminate this Agreement, in which event the Deposit shall be refunded to Buyer, and neither party shall have any further right or obligation hereunder, or (b) consummate the Closing, in which latter event all of Seller's right, title and interest in and to the proceeds of any insurance covering such damage, and including any and all rent loss insurance proceeds relating to the period from and after the Closing Date, shall be assigned to Buyer at the Closing and Buyer shall receive a credit against the Purchase Price in an amount equal to the sum of (i) Seller's deductible under its insurance policy and (ii) the amount of any uninsured loss. If the Property suffers any damage less than the applicable aforesaid amount prior to the Closing, Buyer agrees that it will consummate the Closing and accept the assignment of the proceeds of any insurance covering such damage, including any and all rent loss insurance proceeds relating to the period from and after the Closing Date (plus receive a credit against the Purchase Price in an amount equal to the sum of (i) Seller's deductible under its insurance policy and (ii) the amount of any uninsured loss) and there shall be no other reduction in the Purchase Price.

10. Buyer's Representations and Warranties. Buyer covenants and agrees that the Buyer is a limited liability company duly organized, validly existing and in current status under the laws of the State of Wisconsin. The purchase of the Property pursuant to this Agreement is not in violation of any provision of Buyer's articles of organization, operating agreement or any other agreement to which Buyer is bound. Buyer has complete power and authority to enter into and perform the transaction contemplated by this Agreement according to its terms, and the execution and delivery of this Agreement and the consummation thereof have been duly authorized by all required company action. The person (or those persons) signing below on

behalf of Buyer personally warrant that they have the authority to act as Buyer's agent or agents in the sale, transfer and conveyance of the Property from Seller.

11. Notices. All notices or directions desired or required to be given under this Escrow Agreement shall be in writing and personally delivered, sent by commercial overnight courier, email or confirmed facsimile transmission and directed as follows:

If to Buyer:
Forward Development Group, LLC
161 Horizon Drive, Suite 101A
Verona, Wisconsin 53593
Attention: David M. Jenkins
Telephone: 608.848.9050
Facsimile: 608.848.9051
Email: dmj@forwarddevgroup.com

With a copy to:
Forward Development Group, LLC
161 Horizon Drive, Suite 101A
Verona, Wisconsin 53593
Attention: Dennis Steinkraus
Telephone: 608.848.9050
Facsimile: 608.848.9051
Email: dgs@forwarddevgroup.com

With a copy to:
Forward Development Group, LLC
161 Horizon Drive, Suite 101A
Verona, Wisconsin 53593
Attention: Reijo Wahlin
Telephone: 608.848.9050
Facsimile: 608.848.9051
Email: rhw@forwarddevgroup.com

If to Seller:
City of Stoughton
381 East Main Street
Stoughton, WI 53589
Attn: Tim Swadley
Telephone: 608.873.6677
Facsimile:
Email: tswadley@ci.stoughton.wi.us

With a copy to:
Stafford Rosenbaum, LLP
161 Horizon Drive, Suite 101A
Verona, Wisconsin 53593
Attention: Mathew Dregne
Telephone: 608.259.2618
Facsimile:
Email: mdregne@staffordlaw.com

Notices personally delivered shall be deemed received when given. Notices sent by email or confirmed facsimile transmission shall be deemed received when given, if prior to 5 PM, recipient's local time, on a business day, otherwise on the next occurring business day. Notices or demands sent by commercial overnight courier shall be deemed received on the next business day following deposit.

12. Default and Remedies. In the event the transaction contemplated herein shall not be consummated due to default by Seller, the Deposit and interest shall be returned to Buyer, and Buyer may pursue any remedy available to Buyer at law or in equity, including an action for specific performance of this Agreement. In the event the transaction contemplated herein shall not be consummated due to default by Buyer hereunder, then Seller, as its sole remedy, may keep the Deposit as liquidated damages.

13. Brokers. Seller acknowledges that an affiliate of Buyer, Forward Development Group, LLC, is a licensed real estate broker in the State of Wisconsin. Buyer and Seller represent and warrant that neither Buyer nor Seller have retained the services of any real estate broker or agent, with the exception of Forward Development Group, LLC, which shall be owed a commission of three percent (3%) of the purchase price, paid by Seller at Closing. The Parties agree to indemnify and hold the other harmless from and against any and all liability or damages, including costs and attorney's fees, resulting from any claim brought by any other real estate broker or agent for any real estate commission or finder's fee due, or alleged to be due, as the result of the actions of such person.

14. Adequacy of Consideration. Buyer and Seller acknowledge that Buyer will expend material sums of money in reliance on Seller's obligations under this Agreement, in connection with negotiating and executing this Agreement, conducting the investigation activities contemplated by this Agreement and preparing for Closing, and that Buyer would not have executed the Agreement without the availability of the contingencies for Investigation Period activities described herein. Buyer and Seller, therefore agree that adequate consideration exists to support each of the party's obligations under this Agreement, and Seller and Buyer each waive any and all rights to challenge the enforceability of this Agreement on the basis that any of the conditions or contingencies set forth herein are at Seller's or Buyer's sole discretion or that any of the agreements contained herein are illusory.

15. Miscellaneous.

(a) *Dates and Deadlines*. Unless otherwise specifically provided herein, in the computation of any period of time which shall be required or permitted hereunder or under any law for any notice or other communication or for the performance of any term, condition, covenant or obligation, the day from which such period runs shall be excluded and the last day of such period shall be included unless it is a Saturday, Sunday or legal holiday, in which case the period shall be deemed to run until the end of the next day which is not a Saturday, Sunday or legal holiday.

(b) *Assignment*. Buyer may assign its rights and obligation under this Agreement at any time to an entity that is related to, and/or controlled by, Buyer. This

Agreement shall inure to the benefit of and be binding upon the parties hereto and their permitted successors and assigns.

(c) *Modifications*. This Agreement may only be modified in writing signed by both Seller and Buyer.

(d) *Further Assurances*. The parties each agree to do, execute, acknowledge and deliver all such further acts, instruments and assurances and to take all such further action before or after the Closing as shall be necessary or desirable to fully carry out the terms of this Agreement and to fully consummate the transaction contemplated hereby.

(e) *Captions*. The captions at the beginning of the several paragraphs and subparagraphs, respectively, are for convenience in locating the context only, and are not part of the text.

(f) *Governing Law*. This Agreement shall be interpreted in accordance with the laws of the State of Wisconsin without giving effect to principles of conflicts of law thereof.

(g) *Severability*. In the event any term or provision of this Agreement shall be held illegal, invalid or unenforceable, or inoperative as a matter of law, the remaining terms and provisions of this Agreement shall not be affected thereby but each such term and provision shall be valid and shall remain in full force and effect.

(h) *Attorney's Fees*. If either party commences an action to enforce the terms of, or to resolve a dispute concerning, this Agreement, the substantially prevailing party in any such action shall be entitled to recover from the substantially non-prevailing party all costs and expenses incurred in connection with such action, including, but not limited to, reasonable attorney's fees and court costs.

(i) *Counterparts; Facsimile*. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all such counterparts together shall constitute one original instrument. Signatures transmitted by facsimile or PDF by electronic mail (i.e., email) shall be deemed to be original signatures for all purposes.

[Signature page follows.]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date.

BUYER:

JUNCTION 138, LLC

By:_____
David M. Jenkins, Manager

Date: _____

SELLER:

CITY OF STOUGHTON

By:_____
Name: _____
Title: _____

Date: _____

EXHIBIT A

PROPERTY DESCRIPTION

Part of Parcel Address: 3201 MCCOMB ROAD

City of Stoughton, Dane County, WI

Acreage: approximately 10.683 acres

Parcel No: 281/0510-121-8105-2

EXHIBIT B

EARNEST MONEY ESCROW AGREEMENT

THIS EARNEST MONEY ESCROW AGREEMENT (this "Escrow Agreement") is made by and among Junction 138, LLC ("Buyer"), the City of Stoughton ("Seller"); and First American Title Insurance Company ("Escrowee") as of the date of final signature to this Escrow Agreement.

RECITALS

A. Seller and Buyer are the parties in interest in and to a Real Estate Purchase and Sale Agreement dated _____ ("Contract") concerning the purchase and sale of approximately 10.683 acres located in the City of Stoughton, Dane County, Wisconsin ("Property"), as more fully described therein.

B. Escrowee desires to provide title insurance on this transaction and has offered to hold the earnest money in trust to be paid by Buyer against the purchase price for the Property upon the terms and conditions of this Escrow Agreement.

AGREEMENT

NOW, THEREFORE, Seller, Buyer and Escrowee agree as follows:

1. Deposit. On or about the date of execution of this Escrow Agreement, Buyer shall deposit with Escrowee the sum of Five Thousand and No/100 Dollars ($5,000.00) ("Deposit"), representing the earnest money contemplated under the Contract.

2. Receipt. Upon Escrowee's receipt of the Deposit, Escrowee agrees to be responsible for holding, investing and disbursing the Deposit, and Escrowee agrees to accept such appointment and hold the Deposit in trust, subject, however, to the terms and conditions of this Escrow Agreement.

3. Interest. Escrowee shall place the Deposit in an account with a federally insured bank at interest. All interest earned upon the Deposit shall be added to and included in the principal sum of the Deposit and be the property and income of the Buyer.

4. Disbursement. At closing on the sale of the Property from Seller to Buyer, Escrowee shall deliver the Deposit to become part of the proceeds due Seller, unless otherwise directed by joint written instruction, signed by both Buyer and Seller. If the transaction contemplated by the Contract fails to close, Escrowee shall disburse the funds as directed in a joint instruction signed by both Seller and Buyer. If, at any time prior to closing, Escrowee shall receive a demand for Deposit ("Demand") by either Seller or Buyer, Escrowee shall immediately transmit a copy of such Demand to the other party to this Escrow Agreement. If Escrowee does not receive an objection ("Objection") to the release of Deposit to the party making Demand from the other party within three (3) business days, commencing

on such other party's deemed receipt of a copy of such Demand, Escrowee shall remit the Deposit to the party making Demand and this Escrow Agreement shall terminate and no party shall have further obligations hereunder. If during the three (3) business day period, the other party objects to disbursement of Deposit to the party making Demand, Escrowee shall have an election to either: (i) continue to hold the Deposit at interest pending Escrowee's receipt of joint instructions from Seller and Buyer or Escrowee's receipt of an order of a court of competent jurisdiction directing disbursement or (ii) deliver the Deposit, including interest, to a clerk of court of competent jurisdiction.

5. Reliance. In performing its duties hereunder, Escrowee shall be entitled to rely, in good faith, on written notice or direction received from either or both of Buyer or Seller and without duty of inquiry as to authenticity of signature or authority of the person or persons acting or purporting to act on behalf of either Seller or Buyer. Escrowee shall not be liable for acts or omissions taken in good faith and in conformance with the terms of this Escrow Agreement. Prior to any disbursement of the Deposit or its application to the purchase price at closing, Escrowee shall be entitled to collect its reasonable out-of-pocket expenses incurred by Escrowee in accordance with this Escrow Agreement. Except for such out-of-pocket expenses, Escrowee acknowledges that it will not charge a fee for serving as the holder of the earnest money escrow under the Contract.

6. Notices. All notices or directions desired or required to be given under this Escrow Agreement shall be in writing and personally delivered, sent by commercial overnight courier or facsimile transmission and directed as follows:

If to Buyer:
Forward Development Group, LLC
161 Horizon Drive, Suite 101A
Verona, Wisconsin 53593
Attention: David M. Jenkins
Telephone: 608.848.9050
Facsimile: 608.848.9051
Email: dmj@forwarddevgroup.com

with a copy to:
Forward Development Group, LLC
161 Horizon Drive, Suite 101A
Verona, Wisconsin 53593
Attention: Dennis Steinkraus
Telephone: 608.848.9050
Facsimile: 608.848.9051
Email: dgs@forwarddevgroup.com

with a copy to: Forward Development Group, LLC
161 Horizon Drive, Suite 101A
Verona, Wisconsin 53593
Attention: Reijo Wahlin
Telephone: 608.848.9050
Facsimile: 608.848.9051
Email: rhw@forwarddevgroup.com

If to Seller: City of Stoughton
381 East Main Street
Stoughton, WI 53589
Attn: Tim Swadley
Telephone: 608.873.6677
Facsimile:
Email: tswadley@ci.stoughton.wi.us

With a copy to: Stafford Rosenbaum, LLP
161 Horizon Drive, Suite 101A
Verona, Wisconsin 53593
Attention: Mathew Dregne
Telephone: 608.259.2618
Facsimile:
Email: mdregne@staffordlaw.com

If to Escrowee: First American Title Insurance Company
Attn: Cathleen Heath
10 W. Mifflin St., Ste 302
Madison, WI 53703
Telephone: 608.204.7409
Facsimile: 608.204.7414

Notices or Demands personally delivered shall be deemed received when given. Notices or Demands sent by confirmed facsimile transmission shall be deemed received when given, if prior to 5 PM, recipient's local time, on a business day, otherwise on the next occurring business day. Notices or Demands sent by commercial overnight courier shall be deemed received on the next business day following deposit.

7. Counterparts. All parties agree that this Escrow Agreement may be signed in one or more counterparts, all of which when taken together, shall constitute one and the same instrument. The parties agree that signed facsimile transmissions of this Escrow Agreement shall be valid and binding.

[Signature page follows.]

This Escrow Agreement shall be deemed made as of the date of final signature hereto.

BUYER:
JUNCTION 138, LLC

By:_____ Date: _____
Name: David M. Jenkins
Title: Manager

SELLER:
CITY OF STOUGHTON

By:_____ Date: _____
Name: _____
Title: _____

ESCROWEE:
FIRST AMERICAN TITLE INSURANCE COMPANY

By:_____ Date: _____
Name: _____
Title: _____

Stoughton Utilities
600 South Fourth Street P.O. Box 383
Stoughton, WI 53589-0383
Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Subject: Stoughton Utilities Water & Wastewater Billing Credits Policy

At its October 15, 2018 meeting, the Utilities Committee received an inquiry from a customer regarding wastewater billing credits following the customer receiving a bill for service while watering their lawn. During the discussion that followed, reference was made to Stoughton Utilities' existing policy on issuing water and wastewater billing credits. It was requested by the committee that this policy be brought to a future meeting for discussion and possible action.

The Water & Wastewater Billing Credits policy was last updated in February 2002, and covers when billing credits are provided to customers for indoor and outdoor water leaks, and intentional outdoor usage for purposes such as filling pools and landscaping.

To summarize the existing policy, Stoughton Utilities does not issue wastewater billing credits unless there was a plumbing system failure that resulted in water leaking in a manner that did not result in the water being discharged into the sanitary sewer collection system. All intentional water usage is billed at our standard established water and wastewater rates unless metered separately.

The full policy is provided on the following page.

It is staff's recommendation that the Stoughton Utilities Committee reaffirm the existing Water & Wastewater Billing Credits Policy.

16. Water & Wastewater Billing Credits

16.1 There will be no credit issued to customers in the event of a metered water leak in which the water is discharged into the sanitary sewer collection system and processed through the Wastewater Treatment Facility. Customers will be charged using our established rates based on their actual metered usage.

16.2 The only instance in which a wastewater credit will be issued for a water leak is when SU management determines that a water leak did occur after the water meter, and the water did not discharge into our sanitary sewer collection system (outside hose leaks to the back yard, water leaks in basement and there is no floor drain, etc.).

In this event, we will use the customer's monthly historic data to determine what their normal use is, and an adjustment will be made to reduce the wastewater charges. However, no water use adjustment will be made.

16.3 No credits will be issued for customers who use their regular meter for filling swimming pools and hot tubs, or for lawn and plant watering. Instead, these customers have the option to pursue the installation of a sewer exempt meter at their expense. With a sewer-exempt meter, the customer is only charged for the water used. These meters are for situations for where used water does not discharge into our sanitary sewer collection system.

No other exceptions to this policy shall be made by Stoughton Utilities staff.

Stoughton Utilities

600 South Fourth Street
P.O. Box 383
Stoughton, WI 53589-0383

Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Brian G. Erickson
Stoughton Utilities Wastewater System Supervisor

Subject: Draft Wisconsin Department of Natural Resources (DNR) Wisconsin Pollutant Discharge Elimination System (WPDES) wastewater treatment facility permit

Our prior Wisconsin Pollutant Discharge Elimination System (WPDES) issued by the Wisconsin Department of Natural Resources (DNR) was revoked by the DNR in 2017, with the intention of reissuing it at the same time as the permits of several other permitees in our sub-watershed. The stated purpose of this action was to implement a coordinated adaptive management approach to complying with total phosphorus water quality based effluent limits (WQBELs).

We received the draft of our proposed reissued WPDES permit on October 22, 2018, along with the public notice of issuance of the proposed permit and related documents, and the DNR is requesting comments on factual inaccuracies in the permit and supporting documents. We have submitted this draft to our engineering consultants and our legal advisors at the Wastewater Division of the Municipal Environmental Group.

The next step in the permit reissuance is a 30-day public notice and comment period. The public hearing on the permit issuance is scheduled for December 7, 2018. The reissued permit will have an effective date of April 1, 2019, and will remain in effect for a period of five years, expiring on March 31, 2024.

Stoughton Utilities has not yet issued a public comment regarding the draft permit; comments will be issued yet in November prior to the public hearing. A public comment has been issued by the Capital Area Regional Planning Commission (CARPC) in support of the draft permit and proposed discharge limits.

Enclosed for your review and discussion are:

1. The DNR Public Notice of Informational Hearing & Intent to Reissue WPDES Permits
2. The Draft WPDES Permit,
3. Stoughton's Facility Specific Mercury Variance Data Sheet,
4. A Permit Fact Sheet
5. The public comment issued by CARPC.

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES
PUBLIC NOTICE OF INFORMATIONAL HEARING AND INTENT TO REISSUE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM (WPDES) PERMITS

WPDES permittees Madison Metropolitan Sewerage District, City of Stoughton, Village of Oregon and WI DNR Nevin Fish Hatchery located in the Rock River Basin have entered into a watershed adaptive management approach under Wis. Adm. Code s. NR 217.18 and Wis. Stat. s. 283.13(7), as a means for these facilities to achieve compliance with the phosphorus water quality standards in s. NR 102.06, Wis. Adm. Code. The phosphorus limitations and conditions in the following permits reflect the approved adaptive management plan WQT-2017-0003. Descriptions of the facilities along with changes made to each of the individual permits are listed below.

Hearing Date, Time, and Location: **December 7, 2018**, 8:00 AM to 12:00 PM, Department of Natural Resources, Fitchburg Service Center, Bluff/Drumlin Room, 3911 Fish Hatchery Road, Fitchburg, WI 53711

Hearing Officer: Tim Ryan, DNR, 3911 Fish Hatchery Road, Fitchburg, WI 53711 608-275-3277

The Department of Natural Resources, pursuant to Section 283.49, Wisconsin Statutes, has scheduled for the time and place listed above, a public hearing for the purpose of giving all interested persons an opportunity to make a statement with respect to the above announced permit actions for the following existing discharges:

Permittee Names and Permit Numbers
Madison Metropolitan Sewerage District (WI-0024597-09)
City of Stoughton (WI-0020338-09)
Village of Oregon (WI-0020681-09)
WI DNR Nevin Fish Hatchery (WI-0002585-10)

A hearing officer will conduct the hearing in an orderly and speedy way and will use procedures specified in Subchapter II of ch. NR 203, Wis. Adm. Code, necessary to ensure broad public participation in the hearing. The hearing officer will open the hearing and make a concise statement of the scope and purpose of the hearing and shall state what procedures will be used during the course of the hearing. The hearing officer shall explain the method of notification of the final decision to grant or deny the permit and the methods by which the decision may be reviewed in a public adjudicatory hearing. The hearing officer may put limits on individual oral statements to ensure an opportunity for all persons present to make statements in a reasonable period of time and to prevent undue repetition. The hearing officer may also limit the number of representatives making oral statements on behalf of any person or group. Informational and clarifying questions and oral statements shall be directed through the hearing officer. Cross examination shall not be allowed.

Persons wishing to comment on or object to the proposed permit actions are invited to do so by attending the public hearing or by submitting any comments or objections in writing to the Department of Natural Resources, at the permit drafter's address. All comments or suggestions received from members of the public no later than 7 days following the date of this public hearing will be used, along with other information on file and testimony presented at the hearing, in making a final determination. Where designated as a reviewable surface water discharge permit, the U.S. Environmental Protection Agency is allowed up to 90 days to submit comments or objections regarding this permit determination.

Information on file for these permit actions, including the draft permits, fact sheets and permit applications, may be inspected and copied at the permit drafter's or basin engineer's offices, Monday through Friday (except holidays), between 9:00 a.m. and 3:30 p.m. Please call the permit drafter or basin engineer for directions to their office location, if necessary. Information on this permit action may also be obtained by calling the permit drafter at (608) 273-5969 or by writing to the Department. Reasonable costs (15 cents per page for copies and 7 cents per page for scanning) will be charged for information in the file other than the public notice, permit and fact sheet. Permit information is also available on the internet at: http://dnr.wi.gov/topic/wastewater/PublicNotices.html. Pursuant to the Americans with Disabilities Act, reasonable accommodation, including the provision of informational material in an alternative format, will be made to qualified individuals upon request.

The Department has tentatively decided that the above specified WPDES permits should be reissued.

Limitations and conditions which the Department believes adequately protect the receiving water are included in the proposed permits. Land application of waste shall be done in accordance with permit conditions and applicable codes. All land application sites shall be approved prior to their use. To receive a list of approved sites, or to be notified of potential approvals, contact the basin engineers.

Proposed Phosphorus Adaptive Management Approach:
Adaptive Management Plan No. WQT-2017-0003 is a partnership between WPDES permittees and a diverse group of entities that are not WPDES permit holders. The WPDES permittees include three publicly owned treatment works (POTWs) – the Madison Metropolitan Sewerage District, City of Stoughton, Village of Oregon, and the WDNR Nevin Fish Hatchery and various Municipal Separate Storm Sewer Systems (MS4s) that have signed an intergovernmental agreement to guide implementation of the plan. The adaptive management plan is a means to achieve compliance with the phosphorus water quality standard in s. NR 102.06, Wis. Adm. Code and the Rock River TMDL. As the approved plan is written, Madison Metropolitan Sewerage District shall submit surface water samples as identified in AM Plan No. WQT-2017-0003 and shall submit the results as part of the annual reports on the implementation of AM Plan No. WQT-2017-0003.

The goal for phosphorus load reductions for this permit term within the Yahara River action area, as identified in WQT-2017-0003, shall be 40% of the contributing phosphorus load from the combination of all four point sources (Madison Metropolitan Sewerage District, City of Stoughton, Village of Oregon, and WI DNR Nevin Fish Hatchery). This contributing load is identified as 5,329 pounds of phosphorus per year from the contributing point sources in the adaptive management plan. If the load reduction goal is not met by March 31, 2024, the watershed adaptive management option may not be available to the participating permittees upon permit reissuance, or alternatively, the department may request appropriate modifications to the AM plan as a condition of permit reissuance.

Proposed Mercury Variances for Madison Metropolitan Sewerage District (MMSD) and the City of Stoughton: The Department has determined that a water quality-based effluent limitation (WQBEL) of 1.3 ng/L for mercury is needed to protect wildlife and human health in the below-named receiving waters. The permittees have submitted applications for alternative mercury effluent limitation (AMEL). The applications included pollutant minimization program (PMP) plans for mercury as required under s. NR 106.145(8), Wis. Adm. Code. The Department concludes that the permittees are eligible for a variance based on the information submitted, information on file and the findings provided in s. NR 106.145(1), Wis. Adm. Code. The Department and the permittees have mutually agreed upon AMELs of 3.4 ng/L for MMSD and 3.3 ng/L for Stoughton, expressed as daily maximums, continued influent and effluent monitoring, and permit language requiring implementation of the PMPs. The Department proposes to grant the AMELs, which represent variances to the water quality standard used to derive the WQBELs, as provided for under s. NR 106.145(6), Wis. Adm. Code. The designated uses of the receiving waters will not change as a result of the variances. These mercury variances must be approved by USEPA prior to inclusion in the final reissued permits.

Proposed Chloride Variance for Madison Metropolitan Sewerage District (MMSD): The Department has determined that a water quality-based effluent limitation (WQBEL) for chloride is needed in MMSD's permit to protect aquatic life. As allowed under s. NR 106.83(2), Wis. Adm. Code, the permittee has requested a variance to the chloride WQBEL. In support of this request, the permittee has submitted documentation intended to demonstrate that the treatment of chlorides by the permittee would cause more environmental damage than the continued discharge of effluent at levels currently achievable with current treatment at Madison Met and associated source reduction measures. The Department concurs with that assessment; however, this concurrence is subject to USEPA approval before the variance limit may be included in the final reissued permit. In an effort to achieve chloride effluent reductions that are practically and economically achievable within the term of the proposed permit, the Department and the permittee have mutually agreed upon specific permit terms that include an interim limitation, a target limit (or value, as the case may be), and certain source reduction activities. As allowed under s. NR 106.83(3), Wis. Adm. Code, these requirements are contained in the proposed permit.

Proposed Alternative Effluent Limit for Temperature: The Department has determined that water quality-based effluent limitations (WQBELs) for temperature are needed in MMSD's permit to assure attainment and maintenance of thermal water quality standards. The WQBELs for this permittee are: Oct–63° F; Nov–Jan 54° F. As allowed under NR 106 Subchapter VI, Wis. Adm. Code, the permittee has requested an alternative effluent limit (AEL) for temperature. In support of this request, the permittee has submitted a demonstration that the WQBELs for temperature are more stringent than necessary to assure protection and propagation of shellfish, fish and wildlife in and on the body of water into which the discharge is made. The Department concurs with the demonstration based on the information submitted and proposes to establish an AEL as follows: Oct - 69° F; and Nov – 65° F; Dec - 62° F; and Jan – 57° F. Effluent monitoring requirements are included at the frequency described in this permit. All data submitted by the permittee are available for public inspection at either the below-named permit drafter's office or the below-named basin engineer's office. Any interested person may comment upon the proposed AEL(s) for Temperature.

Permittee: Madison Metropolitan Sewerage District (MMSD)

Facility Where Discharge Occurs: Nine Springs Wastewater Treatment Facility, 1610 Moorland Road Madison, WI 53713

Receiving Waters: Outfall 001 - Badfish Creek (Lower Badfish Creek Watershed, LR07 - Lower Rock River Basin in Dane County in the SE ¼ of NE ¼ of Sec. 19, T6N, R10E, Town of Dunn at Lat: 42.97119° N / Lon: 89.35259°W

Outfall 005 - Badger Mill Creek (Upper Sugar River Watershed, SP15 - Sugar-Pecatonica Basin) in Dane County in the SW ¼ of NW ¼ of Sec. 13, T6N, R8E, Town of Verona at Lat: 42.99414°N / Lon: 89.50400)

Land Treatment Outfall 008 - Groundwater (Yahara River & Lake Monona Watershed - Lower Rock River Basin) in Dane County

Brief Facility Description: The Nine Springs Wastewater Treatment Plant handles the wastewater from five cities, seven villages and some or all of 10 towns representing 28 separate sanitary districts, all located in Dane County. MMSD has an annual average design flow for Outfall 001 of 50 million gallons per day (MGD) and 3.6 MGD for Outfall 005. Actual flows averaged 40 MGD and 3.3 MGD, respectively. The wastewater receives preliminary, primary and advanced secondary treatment. The advanced secondary treatment system is composed of aeration tanks with selectors and clarifiers. Phosphorus removal is accomplished biologically in this process. Following final clarification, the treated water is disinfected using ultraviolet disinfection on a seasonal basis. Treated effluent is discharged to two receiving streams - Badfish Creek and Badger Mill Creek. Thickened sludges are fed to an acid-phase anaerobic digester process. Following this process the sludge is further anaerobically digested at mesophilic temperatures. A portion of the digested biosolids are then thickened by gravity belt thickeners and temporarily stored before being recycled through land application on agricultural land. A smaller portion of the mesophilicly digested biosolids is further digested at thermophilic temperatures to meet EPA time/temperature requirements for Class A Biosolids.

Summary of Proposed Changes: Outfall 001 – Badfish Creek Added influent $CBOD_5$ daily monitoring. The Department has approved substituting $CBOD_5$ limits in the reissued permit in place of the BOD_5 limits in the current permit. A 1.0 mg/L monthly average Total Phosphorus (TP) limit will apply on the permit effective date and an adaptive management TP interim limit of 0.6 mg/L as a 6-month average will apply beginning May 1, 2019. The reissued permit will have a new fecal coliform limit of 780 #/100 ml as a weekly geometric mean. MMSD has applied for a continuation of a variance from the chronic water quality standard for chloride of 395 mg/L. MMSD has also applied for a continuation of a variance from the water quality standard for mercury based on the wildlife criterion of 1.3 ng/L as a monthly average. The reissued permit will require quarterly monitoring of total nitrogen parameters (total kjeldahl nitrogen, nitrite + nitrate nitrogen and total nitrogen). MMSD's final limits for total phosphorus for Outfall 005 to Badger Mill Creek shall be 0.075 mg/L (2.25 lbs/day) as a 6-month average and 0.225 mg/L as a monthly average and go into effect at the end of an extended phosphorus compliance schedule.

Permittee: City of Stoughton

Facility Where Discharge Occurs: Stoughton Wastewater Treatment Facility, 700 Mandt Parkway, Stoughton, WI 53589

Receiving Water and Location: Yahara River (Yahara River & Lake Kegonsa Watershed, LR06 - Lower Rock River Basin) in Dane County in the NE ¼ of SE ¼ of Sec. 8, T5N, R11E, Township of Dunkirk at Lat: 42.91025 ° N / Lon: 89.21357 º W

Brief Facility Description: The City of Stoughton Wastewater Treatment Facility has an annual average design flow of 1.65 million gallons per day (MGD) with actual flows averaging 0.937 MGD annually. The facility serves a population of approximately 13,000 people as well as several significant industries. This facility is a conventional activated sludge plant consisting of fine screening, grit removal, primary settling, and biological treatment including biological phosphorus removal, final clarification and UV disinfection. Waste sludge is thickened in a dissolved air flotation thickener before being combined with primary sludge and anaerobically digested. The digested sludge is dewatered on a gravity belt thickener before storage. Land spreading on Department approved farmland is the final disposal option for the stored bio-solids. Back up chemical is available to treat side streams (or the forward flow if necessary) for Phosphorus.

Summary of Proposed Changes: Stoughton's reissued permit will now contain seasonal weekly average ammonia nitrogen limits. Monthly average limits will also apply. The reissued permit will have a new fecal coliform limit of 780 #/100 ml as a weekly geometric mean. Total phosphorus (TP) mass limits calculated for the Rock River total

maximum daily load (TMDL) are recommended, however, those mass limits will not go into effect at this time because of Stoughton's participation in an adaptive management approach to phosphorus compliance. A 1.0 mg/L monthly average TP limit applies on the permit effective date. An adaptive management TP interim limit of 0.6 mg/L will apply beginning November 1, 2021 per a compliance schedule. Stoughton has applied for a continuation of a variance from the water quality standard for mercury based on the wildlife criterion of 1.3 ng/L as a monthly average. The reissued permit will require quarterly monitoring of total nitrogen parameters (total Kjeldahl nitrogen, nitrite + nitrate nitrogen and total nitrogen).

Permittee: Village of Oregon

Facility Where Discharge Occurs: Oregon Wastewater Treatment Facility, 117 Spring Street, Oregon WI 53575

Receiving Water and Location: Oregon Branch (Badfish Creek Watershed, LR07 - Lower Rock River Basin) in Dane County in the SW ¼ of NE ¼ of Sec. 12, T5N, R9E at Lat: 42.92469° N / Lon: 89.37554° W

Brief Facility Description: The Village of Oregon operates a wastewater treatment facility that treats approximately 1.32 MGD of wastewater per day with an annual averge design flow of 1.8 MGD. Treatment consists of an activated sludge treatment system with grit removal and automated fine screens as preliminary treatment. The activated sludge process is designed to remove phosphorus biologically. Wastewater passes through four final clarifiers for final settling. Chemical phosphorus treatment backup is available primarily to treat side streams from sludge processing. Sludge is aerobically digested, thickened with a gravity belt thickener, and stored in a sludge storage tank during months when land spreading is not allowed by law or is impractical due to weather conditions or land availability. Biosolids are ultimately landspread on DNR approved agricultural fields.

Summary of Proposed Changes: Seasonal daily maximum, weekly average and monthly average ammonia nitrogen limits have been recalculated. Total phosphorus (TP) mass limits calculated for the Rock River TMDL along with TP concentration limits of 0.075 mg/L as a 6-month average and 0.225 mg/L as a monthly average calculated under s. NR 217.13, Wis. Adm. Code, are recommended; however, Oregon is participating in plan to implement a watershed adaptive management approach as a means for Oregon to achieve compliance with the phosphorus water quality standards. A 1.0 mg/L monthly average TP limit will apply on the permit effective date and an adaptive management TP interim limit of 0.6 mg/L as a 6-month average will apply beginning November 1, 2021.

Permittee: WI DNR Nevin Fish Hatchery

Facility Where Discharge Occurs: WI DNR Nevin Fish Hatchery, 3911 Fish Hatchery Rd, Madison, WI 53711

Receiving Water and Location: Nine Springs Creek located in the Yahara River and Lake Mendota Watershed (LR-08), Lower Rock River Basin in the NW ¼ of NE ¼ of Sec. 10, T6N, R9E in Dane County at Lat: 43.01591 / Lon: 89.41642 °W

Brief Facility Description and The WI DNR Nevin Fish Hatchery (Nevin) in Fitchburg operates a trout hatchery that raises cold water fish species (brook, brown and rainbow trout) from eggs. Annual production is approximately 30,000 pounds.

Summary of Proposed Changes: Daily Max and Monthly average BOD_5 limits were added. Total phosphorus (TP) mass limits calculated for the Rock River total maximum daily load (TMDL) are recommended and were to go into effect per a phosphorus compliance schedule contained in the current permit; however, Nevin is participating in a plan to implement a watershed adaptive management approach as a means for Nevin to achieve compliance with the phosphorus water quality standards. A 1.0 mg/L monthly average TP limit and an adaptive management TP interim limit of 0.076 mg/L as a 6-month average will apply on the permit effective date.

Department of Natural Resources Permit Contacts:
Permit Drafter: Phillip Spranger, DNR, SCR Headquarters, 3911 Fish Hatchery Rd, Fitchburg, WI 53711, (608) 273-5969, phillip.spranger@wisconsin.gov

Madison Met, Stoughton, and Oregon's Basin Engineer: Amy Garbe, DNR, 141 NW Barstow St, Room 180, Waukesha, WI 53188, (262) 574-21358) 275-3230, amy.garbe @wisconsin.gov

WDNR Nevin Fish Hatchery's Basin Engineer: Nathan Wells, DNR, 3911 Fish Hatchery Road, Fitchburg, WI 53711, (608) 275-3230, nathan.wells@wisconsin.gov

PUBLISHING NEWSPAPER: WI State Journal, PO Box 8056, Madison, WI 53708-8056
Date Notice Issued: October 22, 2018

WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

CITY OF STOUGHTON

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at
700 MANDT PARKWAY, STOUGHTON, WISCONSIN

NE ¼ of SE ¼ of Section 8, T5N, R11E
to
YAHARA RIVER
(YAHARA RIVER & LAKE KEGONSA WATERSHED, LR06 – LOWER ROCK RIVER BASIN)
IN DANE COUNTY

Outfall – Lat: 42.91035° N, Lon: 89.21348° W

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By _____
Tim Ryan
Wastewater Field Supervisor

_____
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - April 01, 2019 **EXPIRATION DATE - March 31, 2024**

TABLE OF CONTENTS

1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
701	Influent: 24-hour flow proportional composite sampler located prior to the mechanical bar screen.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
$CBOD_5$		mg/L	3/Week	24-Hr Flow Prop Comp	
BOD_5, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	See subsection 1.2.1.1 for mercury monitoring requirements.

1.2.1.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
101	In-plant Mercury: Collect a mercury field blank every day that mercury samples are collected at influent and effluent using the clean hands/dirty hands sample collection procedure from EPA method 1669.

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point 101 - FIELD BLANK for Hg MONITORING

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Blank	See subsection 2.2.1.1 for mercury monitoring requirements.

2.2.1.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3 Surface Water Requirements

3.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
001	Effluent: 24-hour flow proportional composite sampler intake located in the disinfection channel prior to UV disinfection. Grab samples after disinfection prior to discharge to Yahara River.

3.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 001 - EFFLUENT to YAHARA RIVER

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
$CBOD_5$	Weekly Avg	33 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect May through October annually.
$CBOD_5$	Weekly Avg	40 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect November through April annually.
$CBOD_5$	Monthly Avg	25 mg/L	3/Week	24-Hr Flow Prop Comp	
$CBOD_5$	Weekly Avg	454 lbs/day	3/Week	Calculated	Limit in effect May through October annually.
Suspended Solids, Total	Weekly Avg	40 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	567 lbs/day	3/Week	Calculated	Limit in effect January, March, May, July, August, October and December annually.
Suspended Solids, Total	Weekly Avg	625 lbs/day	3/Week	Calculated	Limit in effect February annually.
Suspended Solids, Total	Weekly Avg	590 lbs/day	3/Week	Calculated	Limit in effect April, June, September and November annually.
Suspended Solids, Total	Monthly Avg	402 lbs/day	3/Week	Calculated	Limit in effect January, March, May, July, August, October and December annually.
Suspended Solids, Total	Monthly Avg	444 lbs/day	3/Week	Calculated	Limit in effect February annually.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Suspended Solids, Total	Monthly Avg	419 lbs/day	3/Week	Calculated	Limit in effect April, June, September and November annually.
pH Field	Daily Min	6.0 su	3/Week	Grab	
pH Field	Daily Max	9.0 su	3/Week	Grab	
Dissolved Oxygen	Daily Min	6.0 mg/L	3/Week	Grab	Limit in effect May through October annually.
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	2/Week	Grab	Limit in effect May through September annually.
Fecal Coliform	Geometric Mean - Wkly	780 #/100 ml	2/Week	Grab	Limit in effect May through September annually.
Nitrogen, Ammonia Variable Limit		mg/L	3/Week	24-Hr Flow Prop Comp	Using the daily effluent pH result, look up the daily maximum variable ammonia limit from the pH dependent table at subsection 3.2.1.2. Report the variable limit in the Nitrogen, Ammonia Variable Limit column of the eDMR.
Nitrogen, Ammonia (NH_3-N) Total	Daily Max - Variable	mg/L	3/Week	24-Hr Flow Prop Comp	Report the daily maximum Ammonia result in the Nitrogen, Ammonia (NH_3-N) Total column of the eDMR. Compare to daily maximum variable ammonia limit to determine compliance.
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	18 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect October through March annually.
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	11 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect April and May annually.
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	28 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect June through September annually.
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	28 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect June through March annually.
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	20 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect April and May annually.
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Total	6-Month Avg	0.6 mg/L	3/Week	24-Hr Flow Prop Comp	This is an Adaptive Management (AM) interim limit that goes into effect beginning November 1, 2021. See subsection 5.1 for the AM interim limit compliance schedule and subsection 3.2.1.3 for averaging periods and compliance determination.
Phosphorus, Total		lbs/day	3/Week	Calculated	Calculate the daily mass discharge of phosphorus in lbs/day on the same days phosphorus sampling occurs.
Mercury, Total Recoverable	Daily Max	3.2 ng/L	Quarterly	Grab	This is an Alternative Mercury Effluent Limit. See subsections 3.2.1.8 for Mercury Variance information, 3.2.1.9 for Mercury Monitoring requirements and 5.2 for the mercury variance compliance schedule.
Acute WET	Daily Max	1.0 TU_a	See Listed Qtr(s)	24-Hr Flow Prop Comp	See subsection 3.2.1.11 for whole effluent toxicity (WET) testing monitoring dates and WET requirements.
Chronic WET	Monthly Avg	3.0 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See subsection 3.2.1.11 for whole effluent toxicity (WET) testing monitoring dates and WET requirements.
Chloride		mg/L	4/Month	24-Hr Flow Prop Comp	Monitoring Only - January 1, 2022 through December 31, 2022. Samples shall be collected on four consecutive days one week per month. See subsection 3.2.1.10 for chloride monitoring requirements.
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	Monitoring Only
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	Monitoring Only
Nitrogen, Total		mg/L	Quarterly	Calculated	Monitoring Only

3.2.1.1 Average Annual Design Flow

The average annual design flow of the permittee's wastewater treatment facility is 1.65 MGD.

3.2.1.2 pH Dependent Variable Ammonia Limitations

The following table provides daily maximum limits throughout the pH Range:

Effluent pH s.u.	NH_3-N Limit mg/L	Effluent pH s.u.	NH_3-N Limit mg/L	Effluent pH s.u.	NH_3-N Limit mg/L
6.0 < pH ≤ 6.1	110	7.0 < pH ≤ 7.1	72	8.0 < pH ≤ 8.1	17
6.1 < pH ≤ 6.2	108	7.1 < pH ≤ 7.2	66	8.1 < pH ≤ 8.2	14
6.2 < pH ≤ 6.3	106	7.2 < pH ≤ 7.3	59	8.2 < pH ≤ 8.3	11
6.3 < pH ≤ 6.4	104	7.3 < pH ≤ 7.4	52	8.3 < pH ≤ 8.4	9.4
6.4 < pH ≤ 6.5	101	7.4 < pH ≤ 7.5	46	8.4 < pH ≤ 8.5	7.8
6.5 < pH ≤ 6.6	98	7.5 < pH ≤ 7.6	40	8.5 < pH ≤ 8.6	6.4
6.6 < pH ≤ 6.7	94	7.6 < pH ≤ 7.7	34	8.6 < pH ≤ 8.7	5.3
6.7 < pH ≤ 6.8	89	7.7 < pH ≤ 7.8	29	8.7 < pH ≤ 8.8	4.4
6.8 < pH ≤ 6.9	84	7.8 < pH ≤ 7.9	24	8.8 < pH ≤ 8.9	3.7
6.9 < pH ≤ 7.0	78	7.9 < pH ≤ 8.0	20	8.9 < pH ≤ 9.0	3.1

3.2.1.3 Total Phosphorus Interim Limit, Averaging Periods and Compliance Determination

The adaptive management total phosphorus interim limit of 0.6 mg/L goes into effect beginning the period from November 1, 2021 through April 30, 2022. The averaging periods are May through October and November through April. Compliance with the 6-month average limit is evaluated at the end of each 6-month period on April 30th and October 31st annually.

3.2.1.4 Phosphorus Limitation(s)

The City of Stoughton has requested and the Department has approved a plan to implement a watershed adaptive management approach under Wis. Adm. Code s. NR 217.18 and Wis. Stat. s. 283.13(7), as a means for Stoughton to achieve compliance with the phosphorus water quality standard in s. NR 102.06, Wis. Adm. Code. The phosphorus limitations and conditions in this permit reflect the approved adaptive management plan WQT-2017-0003. Failure to implement terms and conditions of this section is a violation of this permit. In cooperation with the other signatories of the Intergovernmental Agreement for an Adaptive Management Plan in the Yahara Watershed, the permittee shall design and implement the actions identified in section 3 of the AM Plan No. WQT-2017-0003 in accordance with the goals and measures identified in the approved plan.

The goal for phosphorus load reductions for Stoughton for this permit term is equal to 40% of the contributing phosphorus load from Stoughton to the watershed, according to the approved adaptive management plan. This contributing load is identified as 10 pounds of phosphorus per year for Stoughton. Achievement of this load reduction may be determined by modeling the phosphorus reduction efforts as described in the adaptive management plan. If Stoughton does not achieve its load reduction goal by March 31, 2024, the watershed adaptive management option may not be available to the permittee upon permit reissuance, or alternatively, the department may request appropriate modifications to the AM plan as a condition of permit reissuance.

Pursuant to s. NR 217.18(3)(e)2, Wis. Adm. Code, the adaptive management interim limitation is 0.6 mg/L, expressed as a six-month average. Additionally, a 1.0 mg/L limitation expressed as a monthly average is required. The final calculated water quality based effluent limitations for phosphorus are based on the Rock

River TMDL and are listed in the table below. These limits will become effective at the end of four permit terms unless the adaptive management project is terminated per s. NR 217.18(3)(g), Wis. Adm. Code, or the phosphorus reductions specified in the adaptive management plan have been achieved.

Total Phosphorus Effluent Limitations

Month	Monthly Ave Total P Effluent Limit (lbs/day)
Jan	4.3
Feb	5.6
March	4.9
April	5.3
May	5.2
June	5.3
July	5.1
Aug	4.6
Sept	4.9
Oct	4.1
Nov	4.0
Dec	3.9

3.2.1.5 Additional Watershed Adaptive Management Project Requirements

Adaptive Management Plan No. WQT-2017-0003 is a partnership between WPDES permittees and a diverse group of entities that are not WPDES permit holders. The WPDES permittees include three publicly owned treatment works (POTWs) – the Stoughton Utilities, Village of Oregon, and the Madison Metropolitan Sewerage District and WDNR Nevin Fish Hatchery and various Municipal Separate Storm Sewer Systems (MS4s) that have signed an intergovernmental agreement to guide implementation of the plan. The adaptive management plan is a means to achieve compliance with the phosphorus water quality standard in s. NR 102.06, Wis. Adm. Code and the Rock River TMDL. As the approved plan is written, Madison Metropolitan Sewerage District shall submit surface water samples as identified in AM Plan No. WQT-2017-0003 and shall submit the results as part of the annual reports on the implementation of AM Plan No. WQT-2017-0003.

The goal for phosphorus load reductions for this permit term within the Yahara River action area, as identified in WQT-2017-0003, shall be 40% of the contributing phosphorus load from the combination of all four point sources (Stoughton Utilities, Village of Oregon, Madison Metropolitan Sewerage District and WDNR Nevin Fish Hatchery). This contributing load is identified as 5,329 pounds of phosphorus per year from the contributing point sources in the adaptive management plan. If the load reduction goal is not met by March 31, 2024, the watershed adaptive management option may not be available to the participating permittees upon permit reissuance, or alternatively, the department may request appropriate modifications to the AM plan as a condition of permit reissuance.

3.2.1.6 Adaptive Management Reopener Clause

Per NR 217.18(3)(g), Wis. Adm. Code, the Department may terminate the adaptive management option for a permittee through permit modification or at permit reissuance and require compliance with a phosphorus effluent limitation calculated under s. NR 217.13, Wis. Adm. Code, or a US EPA approved TMDL based on any of the following reasons:

1. Failure to implement the adaptive management actions in accordance with the approved adaptive management plan and compliance schedule established in the permit.

2. New information becomes available that changes the Department's determinations made under s. NR 217.18(2), Wis. Adm. Code.
3. Circumstances beyond the permittee's control have made compliance with the applicable phosphorus criterion in s. NR 102.06, Wis. Adm. Code, pursuant to the plan's goals and measures infeasible.
4. A determination by the Department that sufficient reductions have not been achieved to timely reduce the amount of total phosphorus to meet the criteria in s. NR 102.06, Wis. Adm. Code.

3.2.1.7 Adaptive Management Requirements – Optimization

The permittee shall continue to optimize performance to control phosphorus discharges in accordance with s. NR 217.18(3)(c), Wis Adm. Code.

3.2.1.8 Mercury Variance – Implement Pollutant Minimization Plan

This permit contains a variance to the water quality-based effluent limit (WQBEL) for mercury granted in accordance with s. 283.15, Stats. As conditions of this variance the permittee shall (a) maintain effluent quality at or below the interim effluent limitation specified in the table above, (b) implement the mercury pollutant minimization measures specified in the "Stoughton Mercury Pollutant Minimization Program PMP Plan" dated June 7, 2017, (c) follow the approved Pollutant Minimization Plan and (d) perform the actions listed in the compliance schedule. (See the Schedules section herein.)

- Monitor Influent and Effluent Mercury Concentrations in Wastewater;
- Identify Sources of Mercury;
- Contact medical facilities regarding best management practices BMPs for disposal of mercury waste and schedule site visits or an inspection yearly.;
- All dental offices have amalgam separators installed, for this permit term will document separator maintenance;
- Contact and inspect schools to assure that BMPs are in place;
- Mail best management practices forms to all industries (4). Schedule site visits every other year;
- Identify potential additional mercury contributors through a distributed survey to all commercial facilities in the wastewater service area;
- Begin outreach to two largest senior citizen centers regarding mercury BMPs;
- Expand survey of heating, ventilation, and air conditioning wholesalers, automotive repair shops, and metal scrap yards with follow-up on implementation of BMPs annually;
- Sample three main sewer interceptors, follow up with sampling of tributary areas of interceptor is found to have higher mercury levels to help identify if mercury contributors can be identified. May also identify sources of legacy mercury and plan for cure in place pipe lining prior to permit expiration; and
- Continue outreach programs to facilitate awareness and inform customers about the clean sweep disposal and recycling program.

3.2.1.9 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3.2.1.10 Chloride Monitoring Requirements

A sample frequency of 4/month requires that samples be collected on four consecutive days one week each month. Any four consecutive days of sampling shall be exclusive to one week of a month; where Week 1 is days 1-7, Week 2 is days 8-14, Week 3 is days 15-21, and Week 4 is days 22-28.

3.2.1.11 Whole Effluent Toxicity (WET) Testing

Primary Control Water: A grab sample from the Yahara River, upstream/out of the influence of the mixing zone and any other discharge

Instream Waste Concentration (IWC): 33%

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Acute tests shall be conducted once each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Acute:** *July 1–September 30, 2019; October 1–December 31, 2020; January 1–March 31, 2021; April 1–June 30, 2022; and July 1–September 30, 2023*

  Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in July 1–September 30, 2024.

Chronic tests shall be conducted once each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Chronic:** *July 1–September 30, 2019; October 1–December 31, 2020; January 1–March 31, 2021; April 1–June 30, 2022; and July 1–September 30, 2023*

  Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in July 1–September 30, 2024.

Testing: WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than 3.0 for either species. The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90 day reporting period shall begin the day after the test which showed a positive result. The

retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

4 Land Application Requirements

4.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
002	Class B, liquid, anaerobically digested, dissolved air flotation and gravity belt thickened, liquid biosolids. Representative samples are taken from the sludge storage tank.

4.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

4.2.1 Sampling Point (Outfall) 002 - SLUDGE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Jan 1, 2020 - Dec 31, 2020
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Jan 1, 2020 - Dec 31, 2020
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH_4-N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	

Other Sludge Requirements	
Sludge Requirements	**Sample Frequency**
List 3 Requirements – Pathogen Control: The requirements in List 3 shall be met prior to land application of sludge.	**Annual**
List 4 Requirements – Vector Attraction Reduction: The vector attraction reduction shall be satisfied prior to, or at the time of land application as specified in List 4.	**Annual**

4.2.1.1 List 2 Analysis

If the monitoring frequency for List 2 parameters is more frequent than "Annual" then the sludge may be analyzed for the List 2 parameters just prior to each land application season rather than at the more frequent interval specified.

4.2.1.2 Changes in Feed Sludge Characteristics

If a change in feed sludge characteristics, treatment process, or operational procedures occurs which may result in a significant shift in sludge characteristics, the permittee shall reanalyze the sludge for List 1, 2, 3 and 4 parameters each time such change occurs.

4.2.1.3 Sludge Which Exceeds the High Quality Limit

Cumulative pollutant loading records shall be kept for all bulk land application of sludge which does not meet the high quality limit for any parameter. This requirement applies for the entire calendar year in which any exceedance of Table 3 of s. NR 204.07(5)(c), is experienced. Such loading records shall be kept for all List 1 parameters for each site land applied in that calendar year. The formula to be used for calculating cumulative loading is as follows:

[(Pollutant concentration (mg/kg) x dry tons applied/ac) ÷ 500] + previous loading (lbs/acre) = cumulative lbs pollutant per acre

When a site reaches 90% of the allowable cumulative loading for any metal established in Table 2 of s. NR 204.07(5)(b), the Department shall be so notified through letter or in the comment section of the annual land application report (3400-55).

4.2.1.4 Sludge Analysis for PCBs

The permittee shall analyze the sludge for Total PCBs one time during **2020**. The results shall be reported as "PCB Total Dry Wt". Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with Table EM in s. NR 219.04, Wis. Adm. Code and the conditions specified in Standard Requirements of this permit. PCB results shall be submitted by January 31, following the specified year of analysis.

4.2.1.5 Lists 1, 2, 3, and 4

List 1 **TOTAL SOLIDS AND METALS** See the Monitoring Requirements and Limitations table above for monitoring frequency and limitations for the List 1 parameters
Solids, Total (percent)
Arsenic, mg/kg (dry weight)
Cadmium, mg/kg (dry weight)
Copper, mg/kg (dry weight)
Lead, mg/kg (dry weight)
Mercury, mg/kg (dry weight)
Molybdenum, mg/kg (dry weight)
Nickel, mg/kg (dry weight)
Selenium, mg/kg (dry weight)
Zinc, mg/kg (dry weight)

List 2 **NUTRIENTS** See the Monitoring Requirements and Limitations table above for monitoring frequency for the List 2 parameters
Solids, Total (percent)
Nitrogen Total Kjeldahl (percent)
Nitrogen Ammonium (NH4-N) Total (percent)
Phosphorus Total as P (percent)
Phosphorus, Water Extractable (as percent of Total P)
Potassium Total Recoverable (percent)

List 3
PATHOGEN CONTROL FOR CLASS B SLUDGE

The permittee shall implement pathogen control as listed in List 3. The Department shall be notified of the pathogen control utilized and shall be notified when the permittee decides to utilize alternative pathogen control.

The following requirements shall be met prior to land application of sludge.

Parameter	**Unit**	**Limit**
Fecal Coliform*	MPN/gTS or CFU/gTS	2,000,000
OR, ONE OF THE FOLLOWING PROCESS OPTIONS		
Aerobic Digestion	Air Drying	
Anaerobic Digestion	Composting	
Alkaline Stabilization	PSRP Equivalent Process	
* The Fecal Coliform limit shall be reported as the geometric mean of 7 discrete samples on a dry weight basis.		

List 4
VECTOR ATTRACTION REDUCTION

The permittee shall implement any one of the vector attraction reduction options specified in List 4. The Department shall be notified of the option utilized and shall be notified when the permittee decides to utilize an alternative option.

One of the following shall be satisfied prior to, or at the time of land application as specified in List 4.

Option	Limit	Where/When it Shall be Met
Volatile Solids Reduction	≥38%	Across the process
Specific Oxygen Uptake Rate	≤1.5 mg O_2/hr/g TS	On aerobic stabilized sludge
Anaerobic bench-scale test	<17 % VS reduction	On anaerobic digested sludge
Aerobic bench-scale test	<15 % VS reduction	On aerobic digested sludge
Aerobic Process	>14 days, Temp >40°C and Avg. Temp > 45°C	On composted sludge
pH adjustment	>12 S.U. (for 2 hours) and >11.5 (for an additional 22 hours)	During the process
Drying without primary solids	>75 % TS	When applied or bagged
Drying with primary solids	>90 % TS	When applied or bagged
Equivalent Process	Approved by the Department	Varies with process
Injection	-	When applied
Incorporation	-	Within 6 hours of application

4.2.1.6 Daily Land Application Log

Daily Land Application Log

Discharge Monitoring Requirements and Limitations

The permittee shall maintain a daily land application log for biosolids land applied each day when land application occurs. The following minimum records must be kept, in addition to all analytical results for the biosolids land applied. The log book records shall form the basis for the annual land application report requirements.

Parameters	Units	Sample Frequency
DNR Site Number(s)	Number	Daily as used
Outfall number applied	Number	Daily as used
Acres applied	Acres	Daily as used
Amount applied	As appropriate * /day	Daily as used
Application rate per acre	unit */acre	Daily as used
Nitrogen applied per acre	lb/acre	Daily as used
Method of Application	Injection, Incorporation, or surface applied	Daily as used

*gallons, cubic yards, dry US Tons or dry Metric Tons

5 Schedules

5.1 Adaptive Management Interim Limit Compliance Update

Required Action	Due Date
Progress Report #1: Submit a progress report on the ability of the wastewater treatment facility to consistently meet the Adaptive Management interim effluent limit of 0.6 mg/L as a 6-month seasonal average with averaging periods of May through October and November through April.	11/01/2019
Progress Report #2: Submit a progress report on the ability of the wastewater treatment facility to consistently meet the Adaptive Management interim effluent limit of 0.6 mg/L as a 6-month seasonal average with averaging periods of May through October and November through April.	11/01/2020
Comply with Adaptive Management Interim Limit: The Adaptive Management interim effluent limit of 0.6 mg/L as a six-month average goes into effect. The averaging periods are May through October and November through April. Compliance with the 6-month average limit is evaluated at the end of each 6-month period on April 30 and October 31 annually.	11/01/2021

5.2 Mercury Pollutant Minimization Program

As a condition of the variance to the water quality based effluent limitation(s) for mercury granted in accordance with s. NR 106.145(6), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Mercury Progress Reports: Submit an annual mercury progress report. The annual mercury progress report shall: Indicate which mercury pollutant minimization activities or activities outlined in the approved Pollutant Minimization Plan have been implemented; Include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling; and Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. The first annual mercury progress report is to be submitted by the Due Date.	01/31/2020
Annual Mercury Progress Report #2: Submit a mercury progress report as defined above.	01/31/2021
Annual Mercury Progress Report #3: Submit a mercury progress report as defined above.	01/31/2022
Annual Mercury Progress Report #4: Submit a mercury progress report as defined above.	01/31/2023
Final Mercury Report: Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities from the approved pollutant minimization plan were not pursued and why. The report shall include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling during the current permit term. The report shall also include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system.	09/30/2023

If the permittee intends to re-apply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed pollutant minimization plan outlining the pollutant minimization activities proposed for the upcoming permit term should be submitted along with the final report.	
Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual mercury reports each year covering pollutant minimization activities implemented and mercury concentration trends.	

6 Standard Requirements

NR 205, Wisconsin Administrative Code: The conditions in ss. NR 205.07(1) and NR 205.07(2), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(2).

6.1 Reporting and Monitoring Requirements

6.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

6.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

6.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

6.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.

- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.

- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD_5 and Total Suspended Solids shall be considered to be limits of quantitation

- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

6.1.5 Compliance Maintenance Annual Reports

Compliance Maintenance Annual Reports (CMAR) shall be completed using information obtained over each calendar year regarding the wastewater conveyance and treatment system. The CMAR shall be submitted and certified by the permittee in accordance with ch. NR 208, Wis. Adm. Code, by June 30, each year on an electronic report form provided by the Department.

In the case of a publicly owned treatment works, a resolution shall be passed by the governing body and submitted as part of the CMAR, verifying its review of the report and providing responses as required. Private owners of wastewater treatment works are not required to pass a resolution; but they must provide an Owner Statement and responses as required, as part of the CMAR submittal.

The CMAR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The certification verifies that the electronic report is true, accurate and complete.

6.1.6 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application. All pertinent sludge information, including permit application information and other documents specified in this permit or s. NR 204.06(9), Wis. Adm. Code shall be retained for a minimum of 5 years.

6.1.7 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

6.1.8 Reporting Requirements – Alterations or Additions

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

6.2 System Operating Requirements

6.2.1 Noncompliance Reporting

Sanitary sewer overflows and sewage treatment facility overflows shall be reported according to the 'Sanitary Sewer Overflows and Sewage Treatment Facility Overflows' section of this permit.

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department's regional office within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill**. **To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.**

6.2.2 Flow Meters

Flow meters shall be calibrated annually, as per s. NR 218.06, Wis. Adm. Code.

6.2.3 Raw Grit and Screenings

All raw grit and screenings shall be disposed of at a properly licensed solid waste facility or picked up by a licensed waste hauler. If the facility or hauler are located in Wisconsin, then they shall be licensed under chs. NR 500-555, Wis. Adm. Code.

6.2.4 Sludge Management

All sludge management activities shall be conducted in compliance with ch. NR 204 "Domestic Sewage Sludge Management", Wis. Adm. Code.

6.2.5 Prohibited Wastes

Under no circumstances may the introduction of wastes prohibited by s. NR 211.10, Wis. Adm. Code, be allowed into the waste treatment system. Prohibited wastes include those:

- which create a fire or explosion hazard in the treatment work;
- which will cause corrosive structural damage to the treatment work;
- solid or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment work;
- wastewaters at a flow rate or pollutant loading which are excessive over relatively short time periods so as to cause a loss of treatment efficiency; and
- changes in discharge volume or composition from contributing industries which overload the treatment works or cause a loss of treatment efficiency.

6.2.6 Bypass

This condition applies only to bypassing at a sewage treatment facility that is not a scheduled bypass, approved blending as a specific condition of this permit, a sewage treatment facility overflow or a controlled diversion as provided in the sections titled 'Scheduled Bypass', 'Blending' (if approved), 'SSO's and Sewage Treatment Facility Overflows' and 'Controlled Diversions' of this permit. Any other bypass at the sewage treatment facility is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the Noncompliance Reporting section of this permit.

6.2.7 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for bypassing specified in the above section titled 'Bypass' are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is

determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

6.2.8 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation. Sewage treatment facilities that have multiple treatment units to treat variable or seasonal loading conditions may shut down redundant treatment units when necessary for efficient operation. The following requirements shall be met during controlled diversions:

- Effluent from the sewage treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion does not include blending as defined in s. NR 210.03(2e), Wis. Adm. Code, and as may only be approved under s. NR 210.12. A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in sewage treatment facility records and such records shall be available to the department on request.

6.2.9 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

6.2.10 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

6.3 Sewage Collection Systems

6.3.1 Sanitary Sewage Overflows and Sewage Treatment Facility Overflows

6.3.1.1 Overflows Prohibited

Any overflow or discharge of wastewater from the sewage collection system or at the sewage treatment facility, other than from permitted outfalls, is prohibited. The permittee shall provide information on whether any of the following conditions existed when an overflow occurred:

- The sanitary sewer overflow or sewage treatment facility overflow was unavoidable to prevent loss of life, personal injury or severe property damage;

- There were no feasible alternatives to the sanitary sewer overflow or sewage treatment facility overflow such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or preventative maintenance activities;
- The sanitary sewer overflow or the sewage treatment facility overflow was caused by unusual or severe weather related conditions such as large or successive precipitation events, snowmelt, saturated soil conditions, or severe weather occurring in the area served by the sewage collection system or sewage treatment facility; and
- The sanitary sewer overflow or the sewage treatment facility overflow was unintentional, temporary, and caused by an accident or other factors beyond the reasonable control of the permittee.

6.3.1.2 Permittee Response to Overflows

Whenever a sanitary sewer overflow or sewage treatment facility overflow occurs, the permittee shall take all feasible steps to control or limit the volume of untreated or partially treated wastewater discharged, and terminate the discharge as soon as practicable. Remedial actions, including those in NR 210.21 (3), Wis. Adm. Code, shall be implemented consistent with an emergency response plan developed under the CMOM program.

6.3.1.3 Permittee Reporting

Permittees shall report all sanitary sewer overflows and sewage treatment overflows as follows:

- The permittee shall notify the department by telephone, fax or email as soon as practicable, but no later than 24 hours from the time the permittee becomes aware of the overflow;
- The permittee shall, no later than five days from the time the permittee becomes aware of the overflow, provide to the department the information identified in this paragraph using department form number 3400-184. If an overflow lasts for more than five days, an initial report shall be submitted within 5 days as required in this paragraph and an updated report submitted following cessation of the overflow. At a minimum, the following information shall be included in the report:

  ◦The date and location of the overflow;
  ◦The surface water to which the discharge occurred, if any;
  ◦The duration of the overflow and an estimate of the volume of the overflow;
  ◦A description of the sewer system or treatment facility component from which the discharge occurred such as manhole, lift station, constructed overflow pipe, or crack or other opening in a pipe;
  ◦The estimated date and time when the overflow began and stopped or will be stopped;
  ◦The cause or suspected cause of the overflow including, if appropriate, precipitation, runoff conditions, areas of flooding, soil moisture and other relevant information;
  ◦Steps taken or planned to reduce, eliminate and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
  ◦A description of the actual or potential for human exposure and contact with the wastewater from the overflow;
  ◦Steps taken or planned to mitigate the impacts of the overflow and a schedule of major milestones for those steps;
  ◦To the extent known at the time of reporting, the number and location of building backups caused by excessive flow or other hydraulic constraints in the sewage collection system that occurred concurrently with the sanitary sewer overflow and that were within the same area of the sewage collection system as the sanitary sewer overflow; and
  ◦The reason the overflow occurred or explanation of other contributing circumstances that resulted in the overflow event. This includes any information available including whether the overflow was unavoidable to prevent loss of life, personal injury, or severe property damage and whether there were feasible alternatives to the overflow.

NOTE: A copy of form 3400-184 for reporting sanitary sewer overflows and sewage treatment facility overflows may be obtained from the department or accessed on the department's web site at http://dnr.wi.gov/topic/wastewater/SSOreport.html. As indicated on the form, additional information may be submitted to supplement the information required by the form.

- The permittee shall identify each specific location and each day on which a sanitary sewer overflow or sewage treatment facility overflow occurs as a discrete sanitary sewer overflow or sewage treatment facility overflow occurrence. An occurrence may be more than one day if the circumstances causing the sanitary sewer overflow or sewage treatment facility overflow results in a discharge duration of greater than 24 hours. If there is a stop and restart of the overflow at the same location within 24 hours and the overflow is caused by the same circumstance, it may be reported as one occurrence. Sanitary sewer overflow occurrences at a specific location that are separated by more than 24 hours shall be reported as separate occurrences; and
- A permittee that is required to submit wastewater discharge monitoring reports under NR 205.07 (1) (r) shall also report all sanitary sewer overflows and sewage treatment facility overflows on that report.

6.3.1.4 Public Notification

The permittee shall notify the public of any sanitary sewer and sewage treatment facility overflows consistent with its emergency response plan required under the CMOM (Capacity, Management, Operation and Maintenance) section of this permit and s. NR 210.23 (4) (f), Wis. Adm. Code. Such public notification shall occur promptly following any overflow event using the most effective and efficient communications available in the community. At minimum, a daily newspaper of general circulation in the county(s) and municipality whose waters may be affected by the overflow shall be notified by written or electronic communication.

6.3.2 Capacity, Management, Operation and Maintenance (CMOM) Program

- The permittee shall have written documentation of the Capacity, Management, Operation and Maintenance (CMOM) program components in accordance with s. NR 210.23(4), Wis. Adm. Code. Such documentation shall be available for Department review upon request. The Department may request that the permittee provide this documentation or prepare a summary of the permittee's CMOM program at the time of application for reissuance of the WPDES permit.
- The permittee shall implement a CMOM program in accordance with s. NR 210.23, Wis. Adm. Code.
- The permittee shall at least annually conduct a self-audit of activities conducted under the permittee's CMOM program to ensure CMOM components are being implemented as necessary to meet the general standards of s. NR 210.23(3), Wis. Adm. Code.

6.3.3 Sewer Cleaning Debris and Materials

All debris and material removed from cleaning sanitary sewers shall be managed to prevent nuisances, run-off, ground infiltration or prohibited discharges.

- Debris and solid waste shall be dewatered, dried and then disposed of at a licensed solid waste facility.
- Liquid waste from the cleaning and dewatering operations shall be collected and disposed of at a permitted wastewater treatment facility.
- Combination waste including liquid waste along with debris and solid waste may be disposed of at a licensed solid waste facility or wastewater treatment facility willing to accept the waste.

6.4 Surface Water Requirements

6.4.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

6.4.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

6.4.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. 'Cold Shock' means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

6.4.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

6.4.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

6.4.6 Percent Removal

During any 30 consecutive days, the average effluent concentrations of BOD_5 and of total suspended solids shall not exceed 15% of the average influent concentrations, respectively. This requirement does not apply to removal of total suspended solids if the permittee operates a lagoon system and has received a variance for suspended solids granted under NR 210.07(2), Wis. Adm. Code.

6.4.7 Fecal Coliforms

The weekly and monthly limit(s) for fecal coliforms shall be expressed as a geometric mean.

6.4.8 Seasonal Disinfection

Disinfection shall be provided from May 1 through September 30 of each year. Monitoring requirements and the limitation for fecal coliforms apply only during the period in which disinfection is required. Whenever chlorine is used for disinfection or other uses, the limitations and monitoring requirements for residual chlorine shall apply. A dechlorination process shall be in operation whenever chlorine is used.

6.4.9 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition" (PUB-WT-797*, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

6.4.10 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;

- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:

  (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
  (b) Identify the compound(s) causing toxicity
  (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
  (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)

- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;

- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

6.4.11 Reopener Clause

Pursuant to s. 283.15(11), Wis. Stat. and 40 CFR 131.20, the Department may modify or revoke and reissue this permit if, through the triennial standard review process, the Department determines that the terms and conditions of this permit need to be updated to reflect the highest attainable condition of the receiving water.

6.5 Land Application Requirements

6.5.1 Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations

In the event that new federal sludge standards or regulations are promulgated, the permittee shall comply with the new sludge requirements by the dates established in the regulations, if required by federal law, even if the permit has not yet been modified to incorporate the new federal regulations.

6.5.2 General Sludge Management Information

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

6.5.3 Sludge Samples

All sludge samples shall be collected at a point and in a manner which will yield sample results which are representative of the sludge being tested, and collected at the time which is appropriate for the specific test.

6.5.4 Land Application Characteristic Report

Each report shall consist of a Characteristic Form 3400-49 and Lab Report. The Characteristic Report Form 3400-49 shall be submitted electronically by January 31 following each year of analysis.

Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report is true, accurate and complete. The Lab Report must be sent directly to the facility's DNR sludge representative or basin engineer unless approval for not submitting the lab reports has been given.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All results shall be reported on a dry weight basis.

6.5.5 Calculation of Water Extractable Phosphorus

When sludge analysis for Water Extractable Phosphorus is required by this permit, the permittee shall use the following formula to calculate and report Water Extractable Phosphorus:
Water Extractable Phosphorus (% of Total P) =
[Water Extractable Phosphorus (mg/kg, dry wt) ÷ Total Phosphorus (mg/kg, dry wt)] x 100

6.5.6 Monitoring and Calculating PCB Concentrations in Sludge

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined as follows.

Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code.

- EPA Method 1668 may be used to test for all PCB congeners. If this method is employed, all PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported. **Note**: It is recognized that a number of the congeners will co-elute with others, so there will not be 209 results to sum.
- EPA Method 8082A shall be used for PCB-Aroclor analysis and may be used for congener specific analysis as well. If congener specific analysis is performed using Method 8082A, the list of congeners tested shall include at least congener numbers 5, 18, 31, 44, 52, 66, 87, 101, 110, 138, 141, 151, 153, 170, 180, 183, 187, and 206 plus any other additional congeners which might be reasonably expected to occur in the particular sample. For either type of analysis, the sample shall be extracted using the Soxhlet extraction (EPA Method 3540C) (or the Soxhlet Dean-Stark modification) or the pressurized fluid extraction (EPA Method 3545A). If Aroclor analysis is performed using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.11 mg/kg as possible. Reporting protocol, consistent with s. NR 106.07(6)(e), should be as follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If congener specific analysis is done using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.003

mg/kg as possible for each congener. If the aforementioned limits of detection cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference. The lab conducting the analysis shall perform as many of the following methods as necessary to remove interference:

3620C – Florisil	3611B - Alumina
3640A - Gel Permeation	3660B - Sulfur Clean Up (using copper shot instead of powder)
3630C - Silica Gel	3665A - Sulfuric Acid Clean Up

6.5.7 Annual Land Application Report

Land Application Report Form 3400-55 shall be submitted electronically by January 31, each year whether or not non-exceptional quality sludge is land applied. Non-exceptional quality sludge is defined in s. NR 204.07(4), Wis. Adm. Code. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

6.5.8 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

6.5.9 Approval to Land Apply

Bulk non-exceptional quality sludge as defined in s. NR 204.07(4), Wis. Adm. Code, may not be applied to land without a written approval letter or Form 3400-122 from the Department unless the Permittee has obtained permission from the Department to self approve sites in accordance with s. NR 204.06 (6), Wis. Adm. Code. Analysis of sludge characteristics is required prior to land application. Application on frozen or snow covered ground is restricted to the extent specified in s. NR 204.07(3) (l), Wis. Adm. Code.

6.5.10 Soil Analysis Requirements

Each site requested for approval for land application must have the soil tested prior to use. Each approved site used for land application must subsequently be soil tested such that there is at least one valid soil test in the four years prior to land application. All soil sampling and submittal of information to the testing laboratory shall be done in accordance with UW Extension Bulletin A-2100. The testing shall be done by the UW Soils Lab in Madison or Marshfield, WI or at a lab approved by UW. The test results including the crop recommendations shall be submitted to the DNR contact listed for this permit, as they are available. Application rates shall be determined based on the crop nitrogen recommendations and with consideration for other sources of nitrogen applied to the site.

6.5.11 Land Application Site Evaluation

For non-exceptional quality sludge, as defined in s. NR 204.07(4), Wis. Adm. Code, a Land Application Site Request Form 3400-053 shall be submitted to the Department for the proposed land application site. The Department will

evaluate the proposed site for acceptability and will either approve or deny use of the proposed site. The permittee may obtain permission to approve their own sites in accordance with s. NR 204.06(6), Wis. Adm. Code.

6.5.12 Class B Sludge: Fecal Coliform Limitation

Compliance with the fecal coliform limitation for Class B sludge shall be demonstrated by calculating the geometric mean of at least 7 separate samples. (Note that a Total Solids analysis must be done on each sample). The geometric mean shall be less than 2,000,000 MPN or CFU/g TS. Calculation of the geometric mean can be done using one of the following 2 methods.

Method 1:

Geometric Mean = $(X_1 \times X_2 \times X_3 \ldots \times X_n)^{1/n}$

Where X = Coliform Density value of the sludge sample, and where n = number of samples (at least 7)

Method 2:

Geometric Mean = antilog$[(X_1 + X_2 + X_3 \ldots + X_n) \div n]$

Where X = $\log_{10}$ of Coliform Density value of the sludge sample, and where n = number of samples (at least 7)

Example for Method 2

Sample Number	Coliform Density of Sludge Sample	$\log_{10}$
1	6.0×10^5	5.78
2	4.2×10^6	6.62
3	1.6×10^6	6.20
4	9.0×10^5	5.95
5	4.0×10^5	5.60
6	1.0×10^6	6.00
7	5.1×10^5	5.71

The geometric mean for the seven samples is determined by averaging the $\log_{10}$ values of the coliform density and taking the antilog of that value.

$(5.78 + 6.62 + 6.20 + 5.95 + 5.60 + 6.00 + 5.71) \div 7 = 5.98$

The antilog of $5.98 = 9.5 \times 10^5$

6.5.13 Class B Sludge: Anaerobic Digestion

Treat the sludge in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35° C to 55° C and 60 days at 20° C. Straight-line interpolation to calculate mean cell residence time is allowable when the temperature falls between 35° C and 20° C.

6.5.14 Class B Sludge - Vector Control: Injection

No significant amount of the sewage sludge shall be present on the land surface within one hour after the sludge is injected.

7 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Adaptive Management Interim Limit Compliance Update -Progress Report #1	November 1, 2019	15
Adaptive Management Interim Limit Compliance Update -Progress Report #2	November 1, 2020	15
Adaptive Management Interim Limit Compliance Update -Comply with Adaptive Management Interim Limit	November 1, 2021	15
Mercury Pollutant Minimization Program -Annual Mercury Progress Reports	January 31, 2020	15
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #2	January 31, 2021	15
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #3	January 31, 2022	15
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #4	January 31, 2023	15
Mercury Pollutant Minimization Program -Final Mercury Report	September 30, 2023	15
Mercury Pollutant Minimization Program -Annual Mercury Reports After Permit Expiration	See Permit	16
Compliance Maintenance Annual Reports (CMAR)	by June 30, each year	18
General Sludge Management Form 3400-48	prior to any significant sludge management changes	26
Characteristic Form 3400-49 and Lab Report	by January 31 following each year of analysis	27
Land Application Report Form 3400-55	by January 31, each year whether or not non-exceptional quality sludge is land applied	28
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied	28
Wastewater Discharge Monitoring Report	no later than the date	17

	indicated on the form	

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:
Southeast Region - Waukesha, 141 NW Barstow St., Room 180, Waukesha, WI 53188

Facility Specific Mercury Variance Data Sheet

Directions: Please complete this form electronically. Record information in the space provided. Select checkboxes by double clicking on them. Do not delete or alter any fields. For citations, include page number and section if applicable. Please ensure that all data requested are included and as complete as possible. Attach additional sheets if needed.

Section I: General Information

A. Name of Permittee: CITY OF STOUGHTON

B. Facility Name: STOUGHTON WASTEWATER TREATMENT FACILITY

C. Submitted by: Wisconsin Department of Natural Resources

D. State: Wisconsin **Substance:** Mercury **Date completed:** October 22, 2018

E. Permit #: WI-0020338-09-0 **WQSTS #:** (EPA USE ONLY)

F. Duration of Variance **Start Date:** April 1, 2019 **End Date:** March 31, 2024

G. Date of Variance Application: October 31, 2016

H. Is this permit a:
☐ **First time submittal for variance**
☒ **Renewal of a previous submittal for variance** *(Complete Section X)*

I. Description of proposed variance:
Variance for Mercury from the wildlife water quality based criteria limit of 1.3 ηg/L to an interim limit of 3.2 ηg/L. The permittee has submitted an application for an alternative mercury effluent limitation (AMEL). The application included a pollutant minimization program (PMP) plan for mercury as required under s. NR 106.145(8), Wis. Adm. Code. This is a request for a renewal of a variance EPA approved for the current permit term that had an AMEL of 3.3 ng/L.

Citation: An alternative mercury effluent limitation under s. NR 106.145, Wis. Adm. Code represents a variance to water quality standards authorized by s. 283.15, Wis. Stats.

J. List of all who assisted in the compilation of data for this form

Name	Email	Phone	Contribution
Phillip Spranger	phillip.spranger@wisconsin.gov	608-273-5969	
Amy Garbe	amy.garbe@wisconsin.gov	262-574-2135	
Jacob Zimmerman	Jacob.zimmerman@wisconsin.gov	608-275-3230	Parts II D-H and J

Section II: Criteria and Variance Information

A. Water Quality Standard from which variance is sought: 1.3 ng/L Wildlife Criterion

B. List other criteria likely to be affected by variance: 1.5 ng/L Human Threshold Criterion

C. Source of Substance: Dental offices, accidental releases/spills, industries, commercial businesses and hospital and/or medical facilities.

D. Ambient Substance Concentration: Assumed background concentration is above the wildlife criterion.
☐ **Measured** ☒ **Estimated**
☐ **Default** ☒ **Unknown**

E. If measured or estimated, what was the basis? Include citation.
Department Guidance: *Determining Mercury Limits in Wisconsin Surface Waters (04/12/2006)*

F. Average effluent discharge rate:
Design = 1.65 MGD
Actual (2017) = 1.1 MGD

Maximum effluent discharge rate:
06/26/2013 = 2.54 MGD

G. Effluent Substance Concentration:
Average = 1.49 ng/L
Minimum = 0.76 ng/L
Maximum = 2.6 ng/L
1-day P99 = 3.22 ng/L
30-day P99 = 1.74 ng/L
☒ **Measured** ☐ **Estimated**
☐ **Default** ☐ **Unknown**

H. If measured or estimated, what was the basis? Include Citation. 16 samples collected between September 30, 2014 and June 4, 2018.

I. Type of HAC: ☐ **Type 1: HAC reflects waterbody/receiving water conditions**

☐ **Type 2: HAC reflects achievable effluent conditions**
☒ **Type 3: HAC reflects current effluent conditions**

J. Statement of HAC: The Department has determined the highest attainable condition of the receiving water is achieved through the application of the variance limit in the permit, combined with a permit requirement that the permittee implement its Mercury PMP. Thus, the HAC at commencement of this variance is 3.2 ng/L, which reflects the greatest mercury reduction achievable with the current treatment processes, in conjunction with the implementation of the permittee's Mercury PMP. The current effluent condition is reflective of on-site optimization measure that have already occurred. This HAC determination is based on the economic feasibility of available compliance options for Stoughton Wastewater Treatment Facility at this time (see Economic Section below). The permittee may seek to renew this variance in the subsequent reissuance of this permit; the Department will reevaluate the HAC in its review of such a request. A subsequent HAC cannot be defined as less stringent than this HAC.

K. Variance Limit : 3.2 ng/L 1-day P99

L. Level currently achievable (LCA):
3.22 ng/L (1-day P_{99})
2.25 ng/L (4-day P_{99})
1.74 ng/L (30-day P_{99})

M. What data were used to calculate the LCA, and how was the LCA derived? (*Immediate compliance with LCA is required.)*
Analysis of effluent mercury data from September 30, 2014 through June 4, 2018 indicated that the 1-day P99 of data is 3.2 ng/L (3.22 ng/L, rounded). See "P99s" worksheet in "Stoughton Trends of Data Hg 2014-2018.xls" spreadsheet submitted to EPA electronically. Note that this value is based on an updated data set from that used in the May 22, 2017 WQBEL Memo.

Citation: s. NR 106.145(5), Wis. Adm. Code.

N. Explain the basis used to determine the variance limit (which must be ≤ LCA). Include citation.
The variance limit = 1 Day P99. The limit is established in accordance with s. NR 106.145(5), Wis. Adm. Code.

O. Select all factors applicable as the basis for the variance provided under 40 CFR 131.10(g). Summarize justification below: ☐ **1** ☐ **2** ☐ **3** ☐ **4** ☐ **5** ☒ **6**
Section NR 106.145(1), Wis. Adm. Code, outlines several findings that justify variances for mercury. The Department intended that this provision be generally applicable to all dischargers of mercury, which produce large volumes of effluent with already extremely low mercury concentrations. The Department considers treating to produce effluent at concentrations to meet the limit to be technically and economically infeasible.

Citation: Assessing the Economic Impacts of the Proposed Ohio EPA Water Rules on the Ohio Economy, April 24, 1997, Ohio Environmental Protection Agency, Division of Surface Water and Foster Wheeler Environmental Corporation and DRI/McGraw-Hill in support of Amended and New Rules in OAC Chapters 3745-1, -2, and -33.

Section III: Location Information

A. Counties in which water quality is potentially impacted: Dane & Rock

B. Receiving waterbody at discharge point: Yahara River

C. Flows into which stream/river? Rock River **How many miles downstream?** 15

D. Coordinates of discharge point (UTM or Lat/Long): Lat: 42.91035° N / Lon: 89.21348° W

E. What are the designated uses associated with this waterbody?
Default Fish and Aquatic Life

F. What is the distance from the point of discharge to the point downstream where the concentration of the substance falls to less than or equal to the chronic criterion of the substance for aquatic life protection?
Ambient mercury concentrations in surface water resulting from the variance will be substantially less than levels that result in direct toxicity to aquatic organisms. EPA's current chronic aquatic life criterion for mercury

is 0.9081 µg/L, which is approximately three orders of magnitude greater than the wildlife criteria (0.0013 µg/L). Wisconsin's criteria are 0.44 µg/L and 0.83 µg/L for chronic and acute toxicity, respectively.

G. **Provide the equation used to calculate that distance** See above.

H. **Identify all other variance permittees for the same substance which discharge to the same stream, river, or waterbody in a location where the effects of the combined variances would have an additive effect on the waterbody:**

Permit Number	Facility Name	Facility Location	Variance Limit [µg/L]
N/A	N/A	N/A	N/A

Please attach a map, photographs, or a simple schematic showing the location of the discharge point as well as all variances for the substance currently draining to this waterbody on a separate sheet Drafter

I. Is the receiving waterbody on the CWA 303(d) list? If yes, please list the impairments below. ☒ **Yes** ☐ **No** ☐ **Unknown**

River Mile	Pollutant	Impairment
0-22.6	Total Suspended Solids	Degraded Habitat
0-22.6	Total Phosphorus	Low DO

Section IV: Pretreatment (complete this section only for POTWs with DNR-Approved Pretreatment Programs. See w:\Variances\Templates and Guidance\Pretreatment Programs.docx)

A. Are there any industrial users contributing mercury to the POTW? If so, please list.
N/A

B. Are all industrial users in compliance with local pretreatment limits for mercury? If not, please include a list of industrial users that are not complying with local limits and include any relevant correspondence between the POTW and the industry (NOVs, industrial SRM updates and timeframe, etc)
Stoughton does not have local pretreatment limits and so therefore all industries are considered in compliance.

C. When were local pretreatment limits for mercury last calculated?
N/A

D. Please provide information on specific SRM activities that will be implemented during the permit term to reduce the industry's discharge of the variance pollutant to the POTW
Over the years the levels of mercury at the treatment has varied between 1 and 3 ng/L. There have been 3 sectors of potential sources that have been instructed to implement BMPs in the past. These sectors are dental, medical and industrial. Specific PMPs have been identified on page 4 of the PMP.

Section V: Public Notice

A. Has a public notice been given for this proposed variance? ☒ **Yes** ☐ **No**

B. If yes, was a public hearing held as well? ☐ **Yes** ☐ **No** ☐ **N/A**

C. What type of notice was given?
☒ **Notice of variance included in notice for permit** ☐ **Separate notice of variance**

D. Date of public notice: October 22, 2018 **Date of hearing:** December 7, 2018

E. Were comments received from the public in regards to this notice or hearing? *(If yes, please attach on a separate sheet)* ☐ **Yes** ☐ **No**

Section VI: Human Health

A. Is the receiving water designated as a Public Water Supply? ☐ **Yes** ☒ **No**

B. Applicable criteria affected by variance: 1.5 ng/L Human Threshold Criterion

C. Identify any expected impacts that the variance may have upon human health, and include any citations:

- The proposed variance will not adversely affect human health directly through the drinking water.
- Wisconsin's fish consumption advisory program is designed to mitigate the effect of any ambient mercury concentration above the 1.5 ng/L water quality criterion for the protection of the fish-consuming human population by providing advice to the public to guide them on the amount of fish that may be consumed safely.

- Given the lack of wastewater treatment technologies capable of reducing mercury concentrations to achieve a 1.3 ng/L effluent limit, granting a variance in this situation is consistent with protecting the public health, safety and welfare because of the substantial public health and safety benefits of providing wastewater treatment, the continued commitment towards further mercury pollutant minimization, the Wisconsin fish advisory program, and the limited impact of the elevated effluent concentrations given the background mercury concentrations.
- DNR's findings suggest that Hg in walleye from Wisconsin lakes changed in the range of 0.5 to 0.8% per year depending on geographical position in the state during the period of 1982–2005. These trends may reflect geographically differing temporal trends in the amount of Hg deposited to Wisconsin lakes. However, long-term changes in other factors, such as water chemistry, fish growth rates, and lake levels, known to impact Hg bioavailability and accumulation may also be important. (Temporal trends of mercury concentrations in Wisconsin walleye (Sander vitreus), 1982–2005, Paul W. Rasmussen, Candy S. Schrank, Patrick A. Campfield. Ecotoxicology (2007) 16:541–550)

Section VII: Aquatic Life and Environmental Impact

A. Aquatic life use designation of receiving water: Warm Water Sport Fish

B. Applicable criteria affected by variance: 1.3 ng/L Wildlife Criterion

C. Identify any environmental impacts to aquatic life expected to occur with this variance, and include any citations:

Not Likely to Adversely Affect

- Ambient mercury concentrations resulting from the variance will be substantially less than levels that result in direct toxicity to aquatic organisms. EPA's current chronic aquatic life criterion for mercury is 0.9081 µg/L, which is approximately three orders of magnitude greater than the wildlife criteria (0.0013 µg/L). Wisconsin's criteria are 0.44 µg/L and 0.83 µg/L for chronic and acute toxicity, respectively.
    - Hine's emerald dragonfly (Somatochlora hineana, endangered)
    - Higgins' Eye mussel (Lampsilis higgnsii, endangered)
    - Winged Mapleleaf mussel (Quadrula fragosa, endangered)
    - Spectaclecase (Cumberlandia monodonta, candidate)
    - Sheepnose (Plethobasus cyphyus, candidate)

- Low trophic level prey where mercury in prey is unlikely to accumulate to toxic levels in the organism.
    - Piping plover (Charadrius melodus, endangered)
    - Eastern massasauga rattlesnake (Sistrurus catenatus catenatus, candidate)

May Affect, Not Likely to Adversely Affect

- Bald eagle (Haliaeetus leucocephalus, Delisted due to Recovery)

Bald eagles consume fish and waterfowl from surface waters, which puts them at risk of exposure to toxic levels of mercury due to bioaccumulation of mercury in their prey organisms. However, despite the potential for exposure, ambient surface water data show that in recent decades, mercury levels have not increased and bald eagle populations have continued to grow. This indicates that current ambient concentrations of mercury and mercury concentrations in prey organisms do not appear to be limiting recovery of bald eagle populations in Wisconsin. Although this variance will allow permitted dischargers additional time to identify and control sources of mercury in their discharges, the pollutant minimization component of the variances should result in a net reduction in the amount of mercury discharged to Wisconsin surface waters from permitted point sources, further reducing any risk to bald eagles. In addition, the pollutant minimization programs encourage other pollution prevention efforts, which has a beneficial indirect effect of reducing the use and production of products and processes that use or contribute mercury to the environment. These efforts will also benefit bald eagles.

D. List any Endangered or Threatened species known or likely to occur within the affected area, and include any citations:

Because mercury is pervasive, persistent and bio accumulating in the environment we considered all species listed for the entire state of Wisconsin. The following is Federally Endangered, Threatened, Proposed, and Candidate Species in Wisconsin From U.S. Fish and Wildlife Service, Region 3, April 2015

MAMMALS

Canada lynx (T)

Gray wolf (E)

Northern long-eared bat (T)
BIRDS
Kirtland's warbler (E)
Piping plover (E and CH)
Red Knot (T)
Whooping crane - (NEP)
REPTILE
Eastern massasauga rattlesnake (C)
INSECTS
Hine's emerald dragonfly (E)
Karner blue butterfly (E)
Poweshiek skipperling (E and PCH)
CLAMS (Freshwater mussels, Unionids)
Higgins' eye pearlymussel (E)
Sheepnose mussel (E)
Snuffbox (E)
Spectaclecase mussel (E)
Winged mapleleaf mussel (E)

Citation: U.S. Fish & Wildlife Service – Environmental Conservation Online System (http://www.fws.gov/endangered/) and National Heritage Index (http://dnr.wi.gov/topic/nhi/)

Section VIII: Economic Impact and Feasibility

A. Describe the permittee's current pollutant control technologies in the treatment process: The City of Stoughton serves a population of approximately 13,000 people as well as several significant industries (see list above). This facility is a conventional activated sludge plant consisting of fine screening, grit removal, primary settling, and biological treatment including Bio-P removal, final clarification and UV disinfection. Waste sludge is thickened in a dissolved air flotation thickener before being combined with primary sludge and anaerobically digested. The digested sludge is dewatered on a gravity belt thickener before storage. Land spreading on Department approved farmland is the final disposal option for the stored bio-solids. Back up chemical is available to treat side streams (or the forward flow if necessary) for Phosphorus. The collection system for the City of Stoughton is a separate sewer system with no constructed overflow points. The City is also covered under a "no exposure certification" for storm water. The Department has found the City to be in substantial compliance with its current permit.

B. What modifications would be necessary to comply with the current limits? Include any citations.
The Department did not evaluate what actions or modifications or other changes would be needed to meet limits based on the water quality standard. As discussed below, the Department considers treating to produce effluent at concentrations to meet the limit to be technically and economically infeasible.
Citation: Assessing the Economic Impacts of the Proposed Ohio EPA Water Rules on the Ohio Economy, April 24, 1997, Ohio Environmental Protection Agency, Division of Surface Water and Foster Wheeler Environmental Corporation and DRI/McGraw-Hill in support of Amended and New Rules in OAC Chapters 3745-1, -2, and -33.

C. Identify any expected environmental impacts that would result from further treatment, and include any citations:
See above.

D. Is it technically and economically feasible for this permittee to modify the treatment process to reduce the level of the substance in the discharge? ☐ **Yes** ☒ **No** ☐ **Unknown**
The Department considers treating to produce effluent at concentrations to meet the limit to be technically and economically infeasible.
Citation: Assessing the Economic Impacts of the Proposed Ohio EPA Water Rules on the Ohio Economy, April 24, 1997, Ohio Environmental Protection Agency, Division of Surface Water and Foster Wheeler Environmental Corporation and DRI/McGraw-Hill in support of Amended and New Rules in OAC Chapters 3745-1, -2, and -33.

E. If treatment is possible, is it possible to comply with the limits on the substance? ☐ **Yes** ☒ **No** ☐ **Unknown**

F. If yes, what prevents this from being done? Include any citations.

See above.

G. List any alternatives to current practices that have been considered, and why they have been rejected as a course of action, including any citations:
See above.

Section IX: Compliance with Water Quality Standards

A. Describe all activities that have been, and are being, conducted to reduce the discharge of the substance into the receiving stream. This may include existing treatments and controls, consumer education, promising centralized or remote treatment technologies, planned research, etc. Include any citations.
The permittee has a Pollution Management Prevention (PMP) plan in place to reduce mercury discharge into the water way. The PMP plan is to identify and target source (i.e. dentist offices, hospitals, schools and industries) of mercury from discharging into sanitary sewer or water ways. In continuing efforts to reduce mercury, the permittee holds Clean Sweep programs annually and basil or fever thermometers have been prohibited within the city since 2006. See the PMP report for more details.

B. Describe all actions that the permit requires the permittee to complete during the variance period to ensure reasonable progress towards attainment of the water quality standard. Include any citations.
From Stoughton's proposed permit:

3.2.1.8 Mercury Variance – Implement Pollutant Minimization Plan
This permit contains a variance to the water quality-based effluent limit (WQBEL) for mercury granted in accordance with s. 283.15, Stats. As conditions of this variance the permittee shall (a) maintain effluent quality at or below the interim effluent limitation specified in the table above, (b) implement the mercury pollutant minimization measures specified in the "Stoughton Mercury Pollutant Minimization Program PMP Plan" dated June 7, 2017 (see below for PMP action items), (c) follow the approved Pollutant Minimization Plan and (d) perform the actions listed in the compliance schedule. (See the Schedules section herein.)

- Monitor Influent and Effluent Mercury Concentrations in Wastewater;
- Identify Sources of Mercury;
- Contact medical facilities regarding best management practices BMPs for disposal of mercury waste and schedule site visits or an inspection yearly.;
- All dental offices have amalgam separators installed, for this permit term will document separator maintenance;
- Contact and inspect schools to assure that BMPs are in place;
- Mail best management practices forms to all industries (4). Schedule site visits every other year;
- Identify potential additional mercury contributors through a distributed survey to all commercial facilities in the wastewater service area;
- Begin outreach to two largest senior citizen centers regarding mercury BMPs;
- Expand survey of heating, ventilation, and air conditioning wholesalers, automotive repair shops, and metal scrap yards with follow-up on implementation of BMPs annually;
- Sample three main sewer interceptors, follow up with sampling of tributary areas of interceptor is found to have higher mercury levels to help identify if mercury contributors can be identified. May also identify sources of legacy mercury and plan for cure in place pipe lining prior to permit expiration; and
- Continue outreach programs to facilitate awareness and inform customers about the clean sweep disposal and recycling program.

Submit annual mercury reduction progress reports (a total of four) indicating which mercury pollutant minimization practices have been implemented and a calculated annual mass discharge of mercury. Also, submit a Final Mercury Report documenting the success in meeting the final mercury limit of 1.3 ng/L.

Section X: Compliance with Previous Permit *(Variance Reissuances Only)*

A. Date of previous submittal: May 9, 2014 **Date of EPA Approval:** July 17, 2014

B. Previous Permit #: WI-0020338-08-0 **Previous WQSTS #:** (EPA USE ONLY)

C. Effluent substance concentration: 1.57 ng/L (mean) **Variance Limit:** 3.3 ng/L

D. Target Value(s): 1.3 ng/L **Achieved?** ☐ **Yes** ☒ **No** ☐ **Partial**

E. For renewals, list previous steps that were to be completed. Show whether these steps have been

completed in compliance with the terms of the previous variance permit. Attach additional sheets if necessary.	
Condition of Previous Variance	**Compliance**
Meet interim limits of 3.3 ng/L as a daily maximum.	☒ **Yes** ☐ **No**
Submit annual reports.	☒ **Yes** ☐ **No**

Permit Fact Sheet

General Information

Permit Number:	WI-0020338-09-0
Permittee Name:	CITY OF STOUGHTON
Address: City/State/Zip:	700 Mandt Parkway PO Box 383 Stoughton WI 53589
Discharge Location:	NEQ, SEQ, Section 8, T5N, R11E , Township of Dunkirk at 700 Mandt Parkway in the City of Stoughton Lat: 42º 54' 37" Long: 89º 12' 48"
Receiving Water:	Yahara River (Yahara River & Lake Kegonsa Watershed, LR06 – Lower Rock River Basin) in Dane County

StreamFlow ($Q_{7,10}$) (cfs):

Ann	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
21	97	79	76	46	54	27	24	33	32	36	100	120

Stream Classification:	Warmwater Sport Fishery Community (WWSF)	
Design Flow(s)	Daily Maximum	4 MGD
	Weekly Maximum	3.14 MGD
	Annual Average	1.65 MGD
Significant Industrial Loading?	B&G Foods, Inc., Color-Con and Uniroyal Global Engineered Products, LLC	
Operator at Proper Grade?	Advanced facility with required subclasses: A1–Suspended Growth Processes; B–Solids Separation; C–Biological Solids/Sludges; P–Total Phosphorus; D–Disinfection; and L–Laboratory. Multiple operators fully certified.	

Facility Description

The City of Stoughton serves a population of approximately 13,000 people as well as several significant industries (see list above). This facility is a conventional activated sludge plant consisting of fine screening, grit removal, primary settling, and biological treatment including Bio-P removal, final clarification and UV disinfection. Waste sludge is thickened in a dissolved air flotation thickener before being combined with primary sludge and anaerobically digested. The digested sludge is dewatered on a gravity belt thickener before storage. Land spreading on Department approved farmland is the final disposal option for the stored bio-solids. Back up chemical is available to treat side streams (or the forward flow if necessary) for Phosphorus. The collection system for the City of Stoughton is a separate sewer system with no constructed overflow points. The City is also covered under a "no exposure certification" for storm water. The Department has found the City to be in substantial compliance with its current permit.

In order to comply with the total phosphorus effluent limitations set forth in the Rock River TMDL, Stoughton will implement a Department-approved Adaptive Management Plan (Plan No. WQT-2017-0003) to pursue final phosphorus limit compliance. This effort will involve close partnerships with the Madison Metropolitan Sewerage District, Village of Oregon, City of Stoughton, WDNR Nevin Fish Hatchery, various Municipal Separate Storm Sewer Systems (MS4s) within the Yahara River watershed, County Land & Water Conservation Departments, NGOs, Lake Management Groups, and the agricultural community in an effort to reduce in-stream phosphorus concentration in the Yahara River watershed. Stoughtons's current permit expiring on June 30, 2019 was revoked and will be reissued to include the provisions outlined in the adaptive management plan.

The attached water quality based effluent limitation (WQBEL) recommendations by the Water Quality Bureau for this permit reissuance dated May 22, 2017 contains additional information regarding the discharge to the Yahara River. The WQBEL memo also include an outfall location map depicting the location of the Stoughton Wastewater Treatment Plant outfall.

Proposed Permit Reissuance

The Department anticipates an effective date of April 1, 2019 for the proposed permit. Therefore, to allow a full permit term of five years, the proposed permit's expiration date is March 31, 2024. If the permit reissuance process takes more or less time than anticipated, the permit's dates of effectiveness and expiration may be changed accordingly.

Sample Point Designation

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)**
701	1.066 MGD (Average 7/1/14 to 6/30/17)	Influent: 24-hour flow proportional composite sampler located prior to the mechanical bar screen.
001	0.937 MGD (Average 7/1/14 to 6/30/17)	Effluent: 24-hour flow proportional composite sampler intake located in the disinfection channel prior to UV disinfection. Grab samples after disinfection prior to discharge to Yahara River.
002	140 dry U.S. Tons (Average 2014 – 2016)	Class B, liquid, anaerobically digested, dissolved air flotation and gravity belt thickened, liquid biosolids. Representative samples are taken from the sludge storage tank.
101	N/A	In-plant Mercury: Collet a mercury field blank every day that mercury samples are collected at influent and effluent using the clean hands/dirty hands sample collection procedure from EPA method 1669.

1 Influent - Proposed Monitoring

Sample Point Number: 701- INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
$CBOD_5$		Mg/L	3/Week	24-Hr Flow Prop Comp	
BOD_5, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Mercury, Total		ng/L	Quarterly	24-Hr Flow	See subsection 1.2.1.1 in the permit for mercury

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Recoverable				Prop Comp	monitoring requirements.

Changes from Previous Permit and Explanation of Monitoring Requirements

No Changes. Standard influent monitoring parameters and frequencies for a Major municipal treatment facility of this size. Quarterly influent mercury monitoring is required per NR 106.145(3)(a)2, Wis. Adm. Code, for municipal major WWTF's with actual flows greater than 1.0 MGD.

2 Inplant - Proposed Monitoring and Limitations

Sample Point Number: 101- FIELD BLANK for Hg MONITORING

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Blank	See subsection 2.2.1.1 in the permit for mercury monitoring requirements.

Changes from Previous Permit & Explanation Monitoring Requirements

No changes from previous permit. A mercury field blank shall be collected using the Clean Hands/Dirty Hands sample collection procedure excerpted from EPA Method 1669 for every day that mercury influent and effluent samples are collected.

3 Surface Water - Proposed Monitoring and Limitations

Sample Point Number: 001- EFFLUENT to YAHARA RIVER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
CBOD5	Weekly Avg	33 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect May through October annually.
CBOD5	Weekly Avg	40 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect November through April annually.
CBOD5	Monthly Avg	25 mg/L	3/Week	24-Hr Flow Prop Comp	
CBOD5	Weekly Avg	454 lbs/day	3/Week	Calculated	Limit in effect May through October annually.
Suspended Solids, Total	Weekly Avg	40 mg/L	3/Week	24-Hr Flow Prop Comp	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Suspended Solids, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	567 lbs/day	3/Week	Calculated	Limit in effect January, March, May, July, August, October and December annually.
Suspended Solids, Total	Weekly Avg	625 lbs/day	3/Week	Calculated	Limit in effect February annually.
Suspended Solids, Total	Weekly Avg	590 lbs/day	3/Week	Calculated	Limit in effect April, June, September and November annually.
Suspended Solids, Total	Monthly Avg	402 lbs/day	3/Week	Calculated	Limit in effect January, March, May, July, August, October and December annually.
Suspended Solids, Total	Monthly Avg	444 lbs/day	3/Week	Calculated	Limit in effect February annually.
Suspended Solids, Total	Monthly Avg	419 lbs/day	3/Week	Calculated	Limit in effect April, June, September and November annually.
pH Field	Daily Min	6.0 su	3/Week	Grab	
pH Field	Daily Max	9.0 su	3/Week	Grab	
Dissolved Oxygen	Daily Min	6.0 mg/L	3/Week	Grab	Limit in effect May through October annually.
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	2/Week	Grab	Limit in effect May through October annually.
Fecal Coliform	Geometric Mean - Wkly	780 #/100 ml	2/Week	Grab	Limit in effect May through October annually.
Nitrogen, Ammonia Variable Limit		mg/L	3/Week	24-Hr Flow Prop Comp	Using the daily effluent pH result, look up the daily maximum variable ammonia limit from the pH dependent table at subsection 3.2.1.2 in the permit. Report the variable limit in the Nitrogen, Ammonia Variable Limit column of the eDMR.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Ammonia (NH3-N) Total	Daily Max - Variable	mg/L	3/Week	24-Hr Flow Prop Comp	Report the daily maximum Ammonia result in the Nitrogen, Ammonia (NH3-N) Total column of the eDMR. Compare to daily maximum variable ammonia limit to determine compliance.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	18 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect October through March annually.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	11 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect April and May annually.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	28 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect June through September annually.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	28 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect June through March annually.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	20 mg/L	3/Week	24-Hr Flow Prop Comp	Limit in effect April and May annually.
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	
Phosphorus, Total	6-Month Avg	0.6 mg/L	3/Week	24-Hr Flow Prop Comp	This is an Adaptive Management (AM) interim limit that goes into effect beginning November 1, 2020. See subsection 5.1 for the AM interim limit compliance schedule and subsection 3.2.1.3 in the permit for averaging periods and compliance determination.
Phosphorus, Total		lbs/day	3/Week	Calculated	Calculate the daily mass discharge of phosphorus in lbs/day on the same days phosphorus sampling occurs.
Mercury, Total Recoverable	Daily Max	3.2 ng/L	Quarterly	Grab	This is an Alternative Mercury Effluent Limit. See subsections 3.2.1.8 in the permit for Mercury Variance information, 3.2.1.9 for Mercury

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					Monitoring Requirements and 5.2 for the mercury variance compliance schedule.
Acute WET	Daily Max	1.0 TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See subsection 3.2.1.11 in the permit for whole effluent toxicity (WET) testing monitoring dates and WET requirements.
Chronic WET	Monthly Avg	3.0 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See subsection 3.2.1.11 in the permit for whole effluent toxicity (WET) testing monitoring dates and WET requirements.
Chloride		mg/L	4/Month	24-Hr Flow Prop Comp	Monitoring Only - January 1, 2022 through December 31, 2022. Samples shall be collected on four consecutive days one week per month. See subsection 3.2.1.10 in the permit for chloride monitoring requirements.
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	Monitoring Only
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	Monitoring Only
Nitrogen, Total		mg/L	Quarterly	Calculated	Monitoring Only

Changes from Previous Permit

Stoughton's reissued permit will now contain weekly average ammonia nitrogen limits of 20 mg/L for April through May and 28 mg/L for June through March. Monthly average limits of 11 mg/L for April through May, 28 mg/L for June through September and 18 mg/L for October through March will also apply. The current permit contains only daily maximum ammonia nitrogen limits that vary based on effluent pH. The reissued permit will have a new fecal coliform limit of 780 #/100 ml as a weekly geometric mean, effective May 1 through September 30 annually that is in addition to the current fecal coliform limit of 400 #/100 ml as a monthly geometric mean. Total phosphorus (TP) mass limits calculated for the Rock River total maximum daily load (TMDL) are recommended and were to go into effect per a phosphorus compliance schedule contained in the current permit; however, Stoughton has requested and the Department has approved a plan to implement a watershed adaptive management approach under s. NR 217.18, Wis. Adm. Code, as a means for Stoughton to achieve compliance with the phosphorus water quality standards in s. NR 102.06, Wis. Adm. Code. This adaptive management plan is a partnership between the City of Stoughton, City of Madison, Village of Oregon and the Wisconsin DNR Nevin Fish Hatchery plus various municipal separate storm sewer system (MS4s) within the Yahara River action area as defined in the adaptive management plan. An adaptive management TP interim limit of 0.6

mg/L will apply beginning November 1, 2020 per a compliance schedule, while a 1.0 mg/L monthly average TP limit applies on the permit effective date. Stoughton's current permit has an alternative phosphorus limit of 1.3 mg/L as a monthly average. Stoughton has applied for a continuation of a variance from the water quality standard for mercury based on the wildlife criterion of 1.3 ng/L as a monthly average. If approved by EPA a daily maximum Alternative Mercury Effluent Limit (variance limit) of 3.2 ng/L will apply on the permit effective date, Stoughton will be required to implement an approved mercury pollutant minimization program (PMP) plan and submit annual mercury progress reports per a Mercury PMP compliance schedule. The reissued permit will require quarterly monitoring of total nitrogen parameters (total kjeldahl nitrogen, nitrite + nitrate nitrogen and total nitrogen).

Explanation of Limits and Monitoring Requirements

Water Quality Based Limits and WET Requirements and Disinfection

$CBOD_5$, Total Suspended Solids (TSS) Dissolved Oxygen (DO) and pH

No changes are recommended in the permit limitations for $CBOD_5$, Total Suspended Solids (concentration and TMDL mass), Dissolved Oxygen (DO) and pH. Because the reference effluent flow rates and receiving water characteristics have not changed, limitations for these water quality characteristics do not need to be re-evaluated at this time.

Disinfection – Seasonal disinfection is required May through October and is accomplished using ultra-violet (UV) light.

Fecal Coliform – The current permit has a fecal coliforms limit of 400 #/100 ml as a monthly geometric mean that is being retained in the reissued permit. Due to recent revisions to ch. NR 106 (effective September 1, 2016), whenever a monthly average limitation is determined necessary to protect water quality, a weekly average limit shall be calculated using procedures specified in s. NR 106.07(3)(e)4. Based on these calculations a fecal coliforms limit of 780 #/100 ml as a weekly geometric mean shall be included in the proposed permit.

Ammonia Nitrogen – Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Tables 2C and 4B of ch. NR 105, Wis. Adm. Code (effective March 1, 2004). Subchapter IV of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for ammonia (effective March 1, 2004). Acute (daily maximum) ammonia limits are a function of receiving stream classification and effluent pH at the time of discharge. The maximum reasonably expected pH of Stoughton's effluent is 7.7 s.u. (standard pH units), which yields a computed daily maximum limit of 27.91 mg/L (28 mg/L, rounded). However, Stoughton's reissued permit will once again contain variable ammonia limits that vary with effluent pH. Weekly and monthly average ammonia limits were calculated in the May 22, 2017 WQBEL memo for Spring (April through May), Summer (June through September) and Winter (October through March). The calculated limits were compared to the 4-day (weekly) and 30-day (monthly) Upper 99th Percentiles (P99s) of ammonia data collected during the current permit term. The only period of months that showed a reasonable potential to exceed the calculated limits were the weekly and monthly average limits for April through May (spring). The 4-day P99 of 20.64 mg/L exceeded the calculated limit of 19.78 mg/L and therefore a weekly average limit of 20 mg/L (rounded) shall be included in the reissued permit for spring. The 30-day P99 was 14.53 mg/L, which exceeded the calculated limitation of 11.22 mg/L so a monthly average limit of 11 mg/L (rounded) will also apply.

Expression of Limits

Revisions to ch. NR 106, require weekly average and monthly average limits 1) whenever a daily maximum limitation is determined necessary to protect water quality or 2) the calculated weekly average and monthly average limit (regardless of reasonable potential), whichever is more restrictive. Since a daily maximum limit of 28 mg/L was determined to be necessary for all of the periods of months analyzed (spring, summer and winter) weekly average and monthly average limits for summer (June through September) were both set equal to the daily maximum limit of 28 mg/L. For winter (October through March) since a daily maximum limit of 28 mg/L was determined to be necessary the weekly average ammonia limit for winter was set equal to 28 mg/L. The calculated monthly average ammonia limit for winter was 18 mg/L, which is more stringent than the daily maximum limit so the monthly average limit was set equal to 18 mg/L.

Phosphorus – Phosphorus requirements are based on the Phosphorus Rules that became effective December 1, 2010 as detailed in chs. NR 102 Water Quality Standards and NR 217 Effluent Standards and Limitations for Phosphorus. See

http://dnr.wi.gov/topic/surfacewater/phosphorus.html for details regarding the administrative rules for phosphorus discharges.

As noted below, total phosphorus mass limits based on the Rock River Total Maximum Daily Load (TMDL) Waste Load Allocation (WLA) have been determined necessary for the Stoughton WWTF. However, Stoughton has requested and the Department has approved a plan to implement a watershed adaptive management approach under s. NR 217.18, as a means for Stoughton to achieve compliance with the phosphorus water quality standards in s. NR 102.06, and the Rock River TMDL. The phosphorus limitations and conditions in the proposed permit reflect the approved adaptive management (AM) plan No. WQT-2017-0003. AM Plan No. WQT-2017-0003 is a partnership between the City of Stoughton, Village of Oregon, WDNR Nevin Fish Hatchery, Madison Metropolitan Sewage District and various Municipal Separate Storm Sewer Systems (MS4s) located in the Yahara River watershed. The AM Plan identifies the Yahara River action area, which encompasses the entire Yahara River watershed, where watershed projects shall be implemented to reduce phosphorus and total suspended solids loadings from point and non-point sources of these pollutants.

At the end of the first permit, the total minimum phosphorus reduction required is 5,329 lbs/yr. Stoughton's portion of the total reduction is 10 lbs/yr.

The Adaptive Management Plan was written such that Madison Met is solely responsible for coordinating in-stream monitoring and submittal of all required data and annual reports for all entities that are participating in the Yahara River Basin AM Plan; this includes the City of Stoughton, Village of Oregon, WDNR Nevin Fish Hatchery, and various MS4 partners. Each entity has a signed an Intergovernmental Agreement (IGA) indicating more details on roles and responsibilities. This IGA as well as the Memorandum of Understanding (MOU) that the Department signed with Madison Met can be found in the appendix of the Adaptive Management Plan.

Total phosphorus mass limits were calculated to comply with the Rock River TMDL, and were derived consistent with the assumptions and requirements of the EPA-approved waste load allocation for the Rock River. Limits were determined using the code changes and the provision of the TMDL. For informational purposes, the final TMDL mass limits are presented in the following table:

Total Phosphorus Effluent Limitations

Month	Monthly Ave Total P Effluent Limit (lbs/day)
Jan	4.3
Feb	5.6
March	4.9
April	5.3
May	5.2
June	5.3
July	5.1
Aug	4.6
Sept	4.9
Oct	4.1
Nov	4.0
Dec	3.9

Mercury – Actual flow is greater than 1.0 MGD so the quarterly mercury influent, effluent and field blank monitoring requirements for Major WWTFs in Subchapter III, NR 106.145, apply. Mercury effluent and field blank data generated during the current permit term were evaluated for sampling and analysis requirements in accordance with ss. NR 106.145 (9) and (10). The 30-day P99 of effluent results calculated using the procedures in s. NR 106.05(5), was 1.74 ng/L, which

is greater than the water quality standard for the protection of wildlife of 1.3 ng/L (the most stringent criterion for this substance), so a limit is necessary (WQBEL). However, s. NR 106.145(4), provides for a variance from water quality standards for this substance in light of its presence in the environment and Stoughton has requested this variance. An Alternative Mercury Effluent Limit (AMEL) is established at the calculated 1-day P99 of 3.2 ng/L (rounded). The permit requires Stoughton to continue quarterly influent, field blank and effluent monitoring, maintain mercury discharge concentrations at or below 3.2 ng/L as a daily maximum and implement a Pollutant Minimization Program designed to minimize mercury influent to the plant with the ultimate goal of meeting the unvaried mercury limit.

WET – Whole effluent toxicity (WET) testing requirements and limits (if applicable) are determined in accordance with ss. NR 106.08 and NR 106.09, as revised August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at http://dnr.wi.gov/topic/wastewater/wet.html). Based on a reasonable potential analysis in the May 22, 2017 WQBEL memo an acute WET limit of 1.0 TUa (daily maximum) and a chronic WET limit of 3.0 TUc (monthly average) are required in Stoughton's reissued permit. A minimum of annual acute and chronic monitoring is required because acute and chronic WET limits are required. See subsection 3.2.1.10 in the permit for WET testing dates and WET requirements.

Toxics/Metals – Subsection NR 200.06(1)(a), Table 1, establishes minimum application monitoring requirements for discharges to surface waters. For a major municipal discharger that monitoring includes a Priority Pollutant scan (PPS) for toxic parameters, including metals. These data were reviewed in the WQBEL memo dated May 22, 2017. Chromium 6+ and Bis(2-ethylhexyl)phthalate were detected at levels greater than 1/5 of the calculated daily maximum limits and permit limitations were recommended for both substances. However, Stoughton submitted two additional samples for both parameters and the average effluent concentration for Chromium 6+ dropped to below 1/5 of the daily maximum limit and therefore no limit is necessary. For Bis(2-ethylhexyl)phthalate, the two sample results were both non-detects leading to the conclusion that the original result that triggered the need for a limit is unrepresentative of the discharge and limits are no longer recommended for the parameter. Many of the other substances in the PPS were below levels of detection. No additional limitations are proposed in the reissued permit.

Chloride – Acute and chronic chloride toxicity criteria for the protection of aquatic life are included in Tables 1 and 5 of ch. NR 105. Subchapter VII of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for chloride. The calculated 1-day Upper 99th Percentile (566.58 mg/L) of Stoughton's reported chloride effluent concentrations is less than the acute (daily maximum) chloride limit (1,514 mg/L) and the 4-day Upper 99th Percentile (483.99 mg/L) is less than the chronic (weekly average) chloride limit (1,207.28 mg/L), so chloride limits are not needed in the permit (WQBEL). Four samples per month (on consecutive days) chloride monitoring is required in calendar year 2022 to collect data for the next permit reissuance process.

Thermal – Requirements for Temperature are included in NR 102 Subchapter II Water Quality Standards for Temperature and NR 106 Subchapter V Effluent Limitations for Temperature. Thermal discharges must meet the Public Health criterion of 120° F and the Fish & Aquatic Life criteria which are established to protect aquatic communities from lethal and sub-lethal thermal effects. The lowest daily maximum effluent limitation for temperature is 100° F compared to the highest daily maximum effluent temperature of 74° F and the lowest weekly average effluent temperature limitation is 88° F compared to the highest weekly average effluent temperature of 74° F, so temperature limitations are unnecessary. One year of effluent temperature monitoring is recommended in the WQBEL memo; however, since the limits are so much higher than the measured temperatures no monitoring will be required.

Total Nitrogen Monitoring (NO2+NO3, TKN and Total N) – Based on the "Guidance for Total Nitrogen Monitoring in WPDES Permits" dated October 2012, quarterly effluent monitoring for Total Nitrogen is required for municipal majors discharging to the Mississippi River Basin.

4 Land Application - Proposed Monitoring and Limitations

Municipal Sludge Description						
Sample Point	**Sludge Class (A or B)**	**Sludge Type (Liquid or Cake)**	**Pathogen Reduction Method**	**Vector Attraction Method**	**Reuse Option**	**Amount Reused/Disposed (Dry Tons/Year)**
002	B	Liquid	Anaerobic Digestion	Injection	Land Application	140 dry U.S. Tons (Avg. 2014 – 2016)
Does sludge management demonstrate compliance? **Yes**						
Is additional sludge storage required? **No**						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? **No** If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in landapplying sludge from this facility						
Is a priority pollutant scan required? **Not applicable, design flow of 1.65 MGD is less than 5 MGD.** Priority pollutant scans are required once every 10 years at facilities with design flows between 5 MGD and 40 MGD, and once every 5 years if design flow is greater than 40 MGD.						

Sample Point Number: 002- SLUDGE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Jan 1, 2020 - Dec 31, 2020
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Jan 1, 2020 - Dec 31, 2020
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH4-N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	

Changes from Previous Permit & Explanation of Limits and Monitoring Requirements

New time frame for PCB monitoring is calendar year 2019. Requirements for land application of municipal sludge are determined in accordance with ch. NR 204 Wis. Adm. Code. Ceiling and high quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k).

5 Compliance Schedules

5.1 Adaptive Management Interim Limit Compliance Update

Required Action	Due Date
Progress Report: Submit a progress report on the ability of the wastewater treatment facility to consistently meet the Adaptive Management interim effluent limit of 0.6 mg/L as a 6-month seasonal average with averaging periods of May through October and November through April.	11/30/2019
Comply with Adaptive Management Interim Limit: The Adaptive Management interim effluent limit of 0.6 mg/L as a six-month average goes into effect. The averaging periods are May through October and November through April. Compliance with the 6-month average limit is evaluated at the end of each 6-month period on April 30 and October 31 annually.	11/01/2020

Explanation of Adaptive Management Interim Limit Compliance Update Schedule

This compliance schedule provides Stoughton until November 1, 2020 to comply with the phosphorus adaptive management limit of 0.6 mg/L as a 6-month seasonal average. A progress report on the facility's ability to meet the interim limit is required for the first year of the permit.

5.2 Mercury Pollutant Minimization Program

As a condition of the variance to the water quality based effluent limitation(s) for mercury granted in accordance with s. NR 106.145(6), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Mercury Progress Reports: Submit an annual mercury progress report. The annual mercury progress report shall: Indicate which mercury pollutant minimization activities or activities outlined in the approved Pollutant Minimization Plan have been implemented; Include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling; and Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. The first annual mercury progress report is to be submitted by the Due Date.	01/31/2020
Annual Mercury Progress Report #2: Submit a mercury progress report as defined above.	01/31/2021
Annual Mercury Progress Report #3: Submit a mercury progress report as defined above.	01/31/2022
Annual Mercury Progress Report #4: Submit a mercury progress report as defined above.	01/31/2023
Final Mercury Report: Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities from the approved pollutant minimization plan were not pursued and why. The report shall include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling during the current permit term. The report shall also include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. If the permittee intends to re-apply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed pollutant minimization plan outlining the pollutant minimization activities proposed for the upcoming permit term should be submitted along with the final report.	09/30/2023
Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual mercury reports each year covering pollutant minimization activities implemented and mercury concentration trends.	

5.3 Explanation of Mercury Pollutant Minimization Program Schedule

Stoughton has applied for a variance from the mercury water quality criterion for the protection of wildlife (1.3 ng/L). As conditions of receiving a mercury variance Stoughton shall maintain effluent quality at or below an alternative mercury effluent (variance) limit of 3.2 ng/L, implement the "Mercury Pollutant Minimization Program (PMP) Plan" dated June 7, 2017 and submit annual mercury progress reports as described in the compliance schedule above.

Special Reporting Requirements

The City of Stoughton in collaboration with Madison Metropolitan Sewerage District, Village of Oregon, and the WDNR Nevin Fish Hatchery have requested and the Department approved a plan to implement a watershed adaptive management

approach. This proposed permit aligns the timeline of permit reissuance and expiration along with adaptive management compliance dates for these facilities.

Attachments:

Water Quality Based Effluent Limits (WQBEL) – May 22, 2017

WET Checklist Summary – May 22, 2017, WQBEL Memo, Page 17

Map – May 22, 2017, WQBEL Memo, Page 20

Adaptive Management Request Form – June 15, 2017

Madison Metropolitan Sewerage District Adaptive Management Plan – January 2017

Madison Metropolitan Sewerage District Adaptive Management Plan Amendment – February 2017

Stoughton Mercury Pollutant Minimization Program (PMP) Plan – June 7, 2017

Stoughton Facility Specific Mercury Variance Data Sheet – July 28, 2017

Substantial Compliance Determination – April 10, 2017

Public Notice –

Proposed Expiration Date:

March 31, 2024

Prepared By:

Phillip Spranger, Wastewater Specialist

Date: October 22, 2018

cc: Amy Garbe

State of Wisconsin

CORRESPONDENCE/MEMORANDUM

DATE: May 22, 2017 FILE REF: 3200

TO: Phillip Spranger - SCR/Fitchburg

FROM: Adrian Stocks - WY/3

SUBJECT: Water Quality-Based Effluent Limitations for the City of Stoughton Wastewater Treatment Facility WPDES Permit No. WI-0020338-09

This is in response to your request for an evaluation of the need for water quality-based effluent limitations using Chapters NR 102, 104, 105, 106, 207, 210 and 217 of the Wisconsin Administrative Code (where applicable), for the discharge from the City of Stoughton wastewater treatment facility in Dane County. This municipal wastewater treatment facility (WWTF) discharges to the Yahara River located in the Yahara River and Lake Kegonsa Watershed in the Lower Rock River Basin. This discharge is included in the Rock River TMDL as approved by EPA. The evaluation of the permit recommendations is discussed in more detail in the attached report.

No changes are recommended in the permit limitations for $CBOD_5$, Total Suspended Solids, Dissolved Oxygen, and, pH. Based on our review, the following recommendations are made on a chemical-specific basis:

Outfall 001

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
$CBOD_5$ May-October November-April			33 mg/L 454 lbs/day 40 mg/L	25 mg/L 25 mg/L		
TSS			40 mg/L	30 mg/L		1
pH	9.0 s.u.	6.0 s.u.				
Dissolved Oxygen May-October		6.0 mg/L				
Ammonia Nitrogen April-May June-September October-March	 28 mg/L 28 mg/L 28 mg/L		 20 mg/L **28 mg/L** **28 mg/L**	 11 mg/L **28 mg/L** **18 mg/L**		2,3
Fecal Coliforms (May – September)			**780#/100 mL** **(geometric mean)**	400#/100 mL (geometric mean)		2
Chromium (+6)	32.04 µg/L		**32.04 µg/L**	**32.04 µg/L**		2
Bis(2-ethylhexyl) phthalate	33.92 µg/L		13.33 µg/L	**13.33 µg/L**		2
Phosphorus				1.0 mg/L	0.6 mg/L	1
Mercury	1.3 ng/L					4
Temperature						5
Chloride						5

Footnotes:

1. Additional phosphorus and TSS mass limitations from the current permit and listed in attachment #1 are required in accordance with the wasteload allocations specified in the Rock River TMDL

- Monthly average Total Phosphorus mass limits are required as listed in the table on page 2.
- Monthly and weekly average TSS mass limits are required as listed in the table on page 2.

2. Additional limits needed to comply with s. NR 106.07(3), Wis. Adm. Code Expression of Limits are in **bold.**
3. pH variable ammonia limits (see table below) may be used in place of the 28 mg/L daily maximum limit:

Effluent pH s.u.	NH_3-N Limit mg/L	Effluent pH s.u.	NH_3-N Limit mg/L	Effluent pH s.u.	NH_3-N Limit mg/L
$6.0 < pH \leq 6.1$	110	$7.0 < pH \leq 7.1$	72	$8.0 < pH \leq 8.1$	17
$6.1 < pH \leq 6.2$	108	$7.1 < pH \leq 7.2$	66	$8.1 < pH \leq 8.2$	14
$6.2 < pH \leq 6.3$	106	$7.2 < pH \leq 7.3$	59	$8.2 < pH \leq 8.3$	11
$6.3 < pH \leq 6.4$	104	$7.3 < pH \leq 7.4$	52	$8.3 < pH \leq 8.4$	9.4
$6.4 < pH \leq 6.5$	101	$7.4 < pH \leq 7.5$	46	$8.4 < pH \leq 8.5$	7.8
$6.5 < pH \leq 6.6$	98	$7.5 < pH \leq 7.6$	40	$8.5 < pH \leq 8.6$	6.4
$6.6 < pH \leq 6.7$	94	$7.6 < pH \leq 7.7$	34	$8.6 < pH \leq 8.7$	5.3
$6.7 < pH \leq 6.8$	89	$7.7 < pH \leq 7.8$	29	$8.7 < pH \leq 8.8$	4.4
$6.8 < pH \leq 6.9$	84	$7.8 < pH \leq 7.9$	24	$8.8 < pH \leq 8.9$	3.7
$6.9 < pH \leq 7.0$	78	$7.9 < pH \leq 8.0$	20	$8.9 < pH \leq 9.0$	3.1

4. This is the water quality-based effluent limitation for mercury. An alternative effluent limitation of 3.3 ng/L (equal to the 1-day P_{99} of representative data) as a daily maximum may be included in the permit in place of the water quality-based effluent limit if the mercury variance application that was submitted is approved by EPA.
5. Monitoring in the fourth year of the permit term

Along with the chemical-specific recommendations mentioned above, the need for acute and chronic whole effluent toxicity (WET) monitoring and limits has also been evaluated for the discharge from the Stoughton WWTF. Following the guidance provided in the Department's November 1, 2016 *Whole Effluent Toxicity Program Guidance Document - Revision #11*, annual acute WET testing is recommended and annual chronic WET testing is recommended in the reissued permit. Tests should be done in rotating quarters, in order to collect seasonal information about this discharge. WET testing shall continue after the permit expiration date (until the permit is reissued).

According to the requirements specified in s. NR 106.08, Wis. Adm. Code, acute and chronic WET limits are required. The acute WET limit should be expressed as 1.0 TUa as a daily maximum in the effluent limits table of the permit. The chronic WET limit should be expressed as 3.0 TUc as a monthly average in the effluent limits table of the permit.

Sampling WET concurrently with any chemical-specific toxic substances is recommended. Chronic testing shall be performed using a dilution series of 100%, 75%, 50%, 25% & 12.5%. The Instream Waste Concentration to assess chronic test results is 33%. The primary control and dilution water used in WET tests conducted on Outfall 001 shall be a grab sample collected from the Yahara River.

Please consult the attached report for details regarding the above recommendations. If there are any questions or comments, please contact Jake Zimmerman at (608) 275-3230 or Jacob.Zimmerman@wisconsin.gov.

Attachments:

1. Water Quality-Based Effluent Limits for the Stoughton WWTF
2. Thermal Effluent Limit Calculation Table
3. Site Map

PREPARED BY: Jacob Zimmerman, Water Resources Engineer

APPROVED BY: Diane Figiel date: 5/22/17

Diane Figiel, P.E,
Water Resources Engineer

E-cc: Amy Garbe, P.E., Wastewater Engineer – SCR/Waukesha
Tim Ryan, P.E., Regional Wastewater Supervisor – SCR/Fitchburg

Attachment #1

Water Quality-Based Effluent Limitations for the Stoughton Wastewater Treatment Facility

WPDES Permit No. WI-0020338

Prepared by: Jacob Zimmerman

PART 1 – BACKGROUND INFORMATION

Facility Description: The City of Stoughton wastewater treatment facility (WWTF) serves a population of approximately 12,350 people as well as several significant industries. This facility is a conventional activated sludge plant consisting of screening, grit removal, primary settling, and biological treatment including Bio-P removal, final clarification and UV disinfection. Waste sludge is thickened in a dissolved air flotation thickener before being combined with primary sludge and anaerobically digested. The digested sludge is dewatered on a gravity belt thickener before storage. Land spreading on Department approved farmland is the final disposal option for the stored bio-solids. Back up chemical is available to treat side streams (or the forward flow if necessary) for Phosphorus. The collection system for the Stoughton WWTF is a separate sewer system with no constructed overflow points.

Attachment #3 is a site map of the area showing the approximate location of Outfall 001.

Existing Permit Limitations: The current permit, expiring on June 30, 2019 includes the following effluent limitations.

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Footnotes
$CBOD_5$ May-October November-April			 33 mg/L 454 lbs/day 40 mg/L	 25 mg/L 25 mg/L	1
TSS			40 mg/L	30 mg/L	1, 2
pH	9.0 s.u.	6.0 s.u.			1
Dissolved Oxygen		6.0 mg/L			1
Fecal Coliforms (May – September)				400#/100 mL (geometric mean)	
Phosphorus				1.3 mg/L	3
Ammonia Nitrogen					4
Mercury	3.3 ng/L				5
Chloride					6
Temperature					6
Total Kjeldahl Nitrogen					6
Nitrite + Nitrate					6
Total Nitrogen					6

Footnotes:

1. These limitations are not being evaluated as part of this review. Because the water quality criteria, reference effluent flow rates, and receiving water characteristics have not changed, limitations for these water quality characteristics do not need to be re-evaluated at this time.

2. Additional limits to comply with the Rock River TMDL are listed below

Total Suspended Solids Effluent Limitations				
Month	**Monthly TSS WLA[1] (tons/month)**	**Days Per Month**	**Monthly Ave TSS Effluent Limit[2] (lbs/day)**	**Weekly Ave TSS Effluent Limit[3] (lbs/day)**
Jan	6.23	31	402	**567**
Feb	6.21	28	444	**625**
March	6.23	31	402	**567**
April	6.28	30	419	**590**
May	6.23	31	402	**567**
June	6.28	30	419	**590**
July	6.23	31	402	**567**
Aug	6.23	31	402	**567**
Sept	6.28	30	419	**590**
Oct	6.23	31	402	**567**
Nov	6.28	30	419	**590**
Dec	6.23	31	402	**567**

3. Monthly mass limitations required by the Rock River TMDL include:

Total Phosphorus Effluent Limitations	
Month	**Monthly Ave Total P Effluent Limit[2] (lbs/day)**
Jan	**4.3**
Feb	**5.6**
March	**4.9**
April	**5.3**
May	**5.2**
June	**5.3**
July	**5.1**
Aug	**4.6**
Sept	**4.9**
Oct	**4.1**
Nov	**4.0**
Dec	**3.9**

4. Daily maximum ammonia limits are dependent upon pH and listed below:

Daily Maximum Ammonia Limitations (mg/L)								
pH	Criterion	Limit	pH	Criterion	Limit	pH	Criterion	Limit
6	54.99	109.98	7	36.09	72.19	8	8.41	16.82
6.2	53.17	106.34	7.2	29.54	59.08	8.2	5.73	11.45
6.4	50.53	101.06	7.4	22.97	45.94	8.4	3.88	7.77
6.6	46.84	93.69	7.6	17.03	34.06	8.6	2.65	5.30
6.8	42.00	83.99	7.8	12.14	24.28	8.8	1.84	3.69
						9	1.32	2.65

5. This is an alternate concentration limit in accordance with NR 106.145(5).
6. Monitoring only

Receiving Water Information:

- Name: Yahara River (WBIC 798300)
- Classification: Warmwater sport fish community, non-public water supply.
- Low Flow: The following 7-Q_{10} and 7-Q_2 values are from USGS Station LR 43,5A, at the Stoughton Dam just upstream of where Outfall 001 is located. The Harmonic Mean has been estimated as recommended in *State of Wisconsin Water Quality Rules Implementation Plan* (Publ. WT-511-98)
  7-Q_{10} = 21cfs (cubic feet per second)
  7-Q_2 = 41 cfs
  90-Q_{10} = 34.85 cfs
  Harmonic Mean Flow = 93.16 cfs

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7-Q_{10} (cfs)	97	79	76	46	54	27	24	33	32	36	100	120
7-Q_2 (cfs)	180	180	170	150	140	96	87	97	110	130	220	200

- Hardness = 257 mg/L as $CaCO_3$. This value represents the geometric mean of data from five WET tests which occurred between November 2014 and August 2016.
- % of low flow used to calculate limits: 25%
- Source of background concentration data: The numerical values are shown in the tables below. If no data is available, the background concentration is assumed to be negligible and a value of zero is used in the computations. Background data for calculating effluent limitations for Ammonia Nitrogen are described later.
- Multiple dischargers: There are no other dischargers to the Yahara River which would impact the mixing zone of Stoughton's outfall.
- Impaired water status: The Yahara River is listed as impaired for phosphorus and total suspended solids above and below the outfall to Lake Kegonsa.

Effluent Information:

- Design Flow Rate(s):
  Annual average = 1.65 MGD (Million Gallons per Day)
  For reference, the actual average flow from 2016 was 0.939 MGD.
- Hardness = 352 mg/L as $CaCO_3$. This value represents the geometric mean of four data points from August 9, 2016- September 15, 2016 as reported on the permit application.

- Effluent characterization: This facility is categorized as a major municipal discharger so the permit application required effluent sample analyses for all of the "priority pollutants" except for the Dioxins and Furans, plus Chloride and Hardness.

Sample Date	Chloride mg/L	Sample Date	Chloride mg/L	Sample Date	Chloride mg/L
01/03/2017	460	02/01/2017	410	03/01/2017	330
01/11/2017	440	02/06/2017	400	03/15/2017	400
01/17/2017	560	02/14/2017	350	03/21/2017	420
01/24/2017	380	02/22/2017	380	03/28/2017	400
1-day P_{99} = 566.58 mg/L					
4-day P_{99} = 483.99 mg/L					

Sample Date	Copper µg/L	Sample Date	Copper µg/L	Sample Date	Copper µg/L
08/29/2016	4.5	09/15/2016	5.8	09/29/2016	4.3
09/01/2016	4.5	09/19/2016	4.9	10/03/2016	5.8
09/06/2016	6.4	09/22/2016	4.2	10/06/2016	4.7
09/12/2016	5.5	09/26/2016	4.9		
1-day P_{99} = 6.96 µg/L					
4-day P_{99} = 5.94 µg/L					

Sample Date	Mercury ng/L	Sample Date	Mercury ng/L	Sample Date	Mercury ng/L
09/30/2014	0.76	09/22/2015	1.2	08/30/2016	1.3
12/09/2014	1.1	12/07/2015	2	11/03/2016	1.5
03/31/2015	2.6	03/02/2016	2.5	02/16/2017	1.8
05/18/2015	1.9	05/31/2016	1.2		
1-day P_{99} = 3.46 ng/L					
4-day P_{99} = 2.43 ng/L					
30-day P_{99} = 1.89 ng/L					

- Effluent data for substances for which a single sample was analyzed is shown in the tables in Part 2 below, in the column titled "MEAN EFFL. CONC.".
- Water Source: City of Stoughton Utility
- Additives: The city uses chlorine and fluoride in the drinking water system. Alum is available to treat side streams (or the forward flow if necessary) for phosphorus at the wastewater treatment facility.

PART 2 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR TOXIC SUBSTANCES – EXCEPT AMMONIA NITROGEN

In general, permit limits for toxic substances are recommended whenever any of the following occur:

1. The maximum effluent concentration exceeds the calculated limit (s. NR 106.05(3), Wis. Adm. Code)
2. If 11 or more detected results are available in the effluent, the upper 99th percentile (or P_{99}) value exceeds the comparable calculated limit (s. NR 106.05(4), Wis. Adm. Code)
3. If fewer than 11 detected results are available, the mean effluent concentration exceeds 1/5 of the calculated limit (s. NR 106.05(6), Wis. Adm. Code)

The following tables list the water quality-based effluent limitations for this discharge along with the results of effluent sampling for all of the detected substances. All concentrations are expressed in term of micrograms per Liter (µg/L), except for hardness and chloride (mg/L) and mercury (ng/L).

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

RECEIVING WATER FLOW = 16.8 cfs, (1-Q_{10} (estimated as 80% of 7-Q_{10})).

SUBSTANCE	REF. HARD.* mg/L	ATC	MAX. EFFL. LIMIT**	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	1-day P_{99}	1-day MAX. CONC.
Arsenic		339.80	679.60	135.92	<1.0		
Cadmium	352	43.65	87.30	17.46	<0.14		
Chromium (+3)	301	4445.84	8891.68	1778.34	0.76		
Chromium (+6)		**16.02**	**32.04**	**6.41**	**11**		
Copper	352	50.87	101.74			6.96	6.4
Lead	352	360.70	721.40	144.28	<1.5		
Mercury - ng/L		830	166			3.46	2.6
Nickel	268	1048.88	2097.76	419.55	1.3		
Zinc	333	344.68	689.36	137.87	26		
Cyanide		45.78	91.56	18.31	0.028		
Chloride - mg/L		757	1514			566.58	560
Bis(2-ethylhexyl) phthalate* **			**33.92**	**6.78**	**11**		

* The indicated hardness may differ from the effluent hardness because the effluent hardness exceeded the maximum range in ch. NR 105 over which the acute criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

** The 2 x ATC method of limit calculation yields a more restrictive limit than consideration of ambient concentrations and 1-Q_{10} flow rates per the changes to s. NR 106.07(3), Wis. Adm. Code, effective 09/01/2016.

***The limit is set equal to the secondary acute value since no ATC is available for this substance pursuant s. NR 106.06 (3) (b) 2, Wis. Adm. Code.

Attachment #1

Weekly Average Limits based on Chronic Toxicity Criteria (CTC)

RECEIVING WATER FLOW = 5.25 cfs (¼ of the 7-Q_{10})

SUBSTANCE	REF. HARD.* mg/L	CTC	MEAN BACK-GRD.	WEEKLY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	4-day P_{99}
Arsenic		152.20		465.19	93.04	<1.0	
Cadmium	175	3.82		11.68	2.34	<0.14	
Chromium (+3)	257	286.20		874.74	174.95	0.76	
Chromium (+6)		**10.98**		**33.56**	**6.71**	**11**	
Copper	257	23.21		70.94			5.94
Lead	257	69.72		213.09	42.62	<1.5	
Mercury – ng/L		440		1340			2.43
Nickel	257	115.99		354.51	70.90	1.3	
Selenium		5.00		15.28	3.06	<2.0	
Zinc	257	274.81		839.93	167.99	26	
Cyanide		11.47		35.06	7.01	0.028	
Chloride - mg/L		395		1207.28			483.99
Bis(2-ethylhexyl) phthalate* **		**4.36**		**13.33**	**2.67**	**11**	

* The indicated hardness may differ from the receiving water hardness because the receiving water hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the chronic criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

Monthly Average Limits based on Wildlife Criteria (WC)

RECEIVING WATER FLOW = 8.71 cfs (¼ of the 90-Q_{10})

SUBSTANCE	WC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	30-day P_{99}
Mercury (ng/L)	**1.30**	**>1.30**	**1.30**			**1.89**

Monthly Average Limits based on Human Threshold Criteria (HTC)

RECEIVING WATER FLOW = 23.29 cfs (¼ of the Harmonic Mean)

SUBSTANCE	HTC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Antimony	373		3776	755	0.32
Cadmium	370		3745	749	<0.14
Chromium (+3)	3.82E+06		38648172	7729634	0.76
Chromium (+6)	7636		77296	15459	11
Lead	140		1417	283	<1.5
Mercury (ng/L)	1.50		15.2	3.0	1.62
Nickel	43000		435273	87055	1.3
Selenium	2600		26319	5264	<2.0
Cyanide	9300		94140	18828	0.028

Monthly Average Limits based on Human Cancer Criteria (HCC)

RECEIVING WATER FLOW = 23.29 cfs (¼ of the Harmonic Mean)

SUBSTANCE	HCC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Arsenic	13.3		134.6	26.9	<1.0
Bis(2-ethylhexyl) phthalate***	6.9		70	14	11

Because only one substance for which Human Cancer Criteria exists was detected, determination of the cumulative cancer risk is not needed.

Conclusions and Recommendations: Based on a comparison of the effluent data and calculated effluent limitations, effluent limitations are apparently needed for mercury, chromium +6, and Bis(2-ethylhexyl) phthalate.

Mercury – The previous permit included a variance from the calculated WQBEL for Mercury of 3.3 ng/L as a daily maximum. A review of data from the September 2014 through February 2017 indicates the 30 day P_{99} is 1.89 ng/L, which is above the Wildlife Criterion of 1.3 ng/L. Therefore, **a mercury effluent limit is recommended for the Stoughton WWTF.**

Section NR 106.145(4) allows for eligibility for an alternative mercury effluent limitation if the permittee submits an application for an alternative mercury limit, which includes the submittal of a pollutant minimization plan. Stoughton has submitted this application. Section NR 106.145(5) specifies that an alternative limitation shall equal the 1-day P_{99} of the effluent data, and shall be expressed as a daily maximum concentration. The applicable alternative mercury limitation of 3.46 ng/L, as a daily maximum. However since the current permit has an alternative mercury limit which is more stringent, that limit remains applicable. **Therefore** if a variance is granted and approved by US Environmental Protection Agency **a limit of 3.3 ng/L as a daily maximum is recommended.**

Chromium (+6) – Since the one detected chromium (+6) sample is greater than $1/5^{th}$ of the calculated effluent, a **limit for chromium (+6) is recommended**. Due to the lack of additional samples, it is recommended a compliance schedule is given to allow time to collect more data to determine if this one sample is representative of the effluent. Monthly sampling during the first year of the permit term is recommended.

Bis(2-ethylhexyl) phthalate- Since the one detected Bis(2-ethylhexyl) phthalate samples is greater than $1/5^{th}$ of the calculated daily max and weekly average limits, **both daily max and weekly average limits are recommended.**

Bis(2-ethylhexyl) phthalate sample contamination has been identified by other dischargers, originating from the vinyl tubing used in the automatic sampler. If similar tubing was used for the collection of the sample included in this permit application, contamination is suspected and Stoughton representatives should be advised to investigate this possibility. If they can demonstrate such sample contamination, that the sample result of 11 µg/L is not representative of the effluent discharged, prior to the end of the 30-day Public Notice period preceding permit reissuance, the need for effluent limitations for this substance will

be reviewed. The permit may be written with a compliance schedule to attain compliance with the effluent limitations for this substance.

Chloride- Consistent with the current permit, **four samples per month (on consecutive days) are recommended.** This allows for averaging of the results to compare with the final water quality based effluent limit, and also allows the use of the average in determining future interim limits, if needed.

PART 3 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR AMMONIA NITROGEN

Section NR 106.33(2) was updated effective September 1, 2016. As a result, seasonal 20 and 40 mg/L thresholds for including ammonia limits in municipal discharge permits are no longer applicable under current rules. As such, s. NR 106.33(1) enables the Department to determine the need to include ammonia limits in municipal discharge permits based on the statistical comparisons in s. NR 106.05.

Daily Maximum Limits based on Acute Toxicity Criteria (ATC):
Daily maximum limitations are based on acute toxicity criteria, which are a function of the effluent pH and the receiving water classification. The acute toxicity criterion (ATC) for ammonia is calculated using the following equation.

$$\text{ATC in mg/L} = [A \div (1 + 10^{(7.204 - pH)})] + [B \div (1 + 10^{(pH - 7.204)})]$$

Where:

A = 0.411 and B = 58.4 for a Warmwater Sport fishery, and
pH (s.u.) = that characteristic of the effluent.

The effluent pH data for the past six years was examined as part of this evaluation. A total of 1097 sample results were reported from January 2010 through March 2017. The maximum reported value was 7.8 s.u. (Standard pH Units), and a pH of greater than 7.7 s.u. was reported nine times. More than 99% of the time the pH was 7.7 s.u. or less. The 1-day P_{99}, calculated in accordance with s. NR 106.05(5), is 7.72 s.u. The mean plus the standard deviation multiplied by a factor of 2.33, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 7.72 s.u. A value of 7.7 s.u. is believed to represent the maximum reasonably expected pH, and therefore most appropriate for determining daily maximum limitations for ammonia nitrogen. Substituting a value of 7.7 s.u. into the equation above yields an ATC = 13.96 mg/L and a computed daily maximum limit of 27.91 mg/L.

Updates to subchapter IV of Ch. NR 106, Wis. Adm. Code (effective September 1, 2016) outline the option for the Department to implement use of the 1-Q_{10} receiving water low flow in order to calculate daily maximum ammonia nitrogen limits if it is determined that the previous method of acute ammonia limit calculation (2×ATC) is not sufficiently protective of the fish and aquatic life. Since the Qs:Qe ratio is greater than 2:1; the 2×ATC method will yield the most stringent limits. Therefore the limits based upon the 1-Q_{10} receiving water low flow will not be calculated.

Presented below is a table of daily maximum limitations corresponding to various effluent pH values. The current permit allows for use of the variable daily maximum ammonia limits so this table has been updated to reflect current discharge conditions. Use of this table is not necessarily recommended in the permit, but it is presented herein should the permittee wish to use this option.

Daily Maximum Limits – WWSF

Effluent pH s.u.	NH_3-N Limit mg/L	Effluent pH s.u.	NH_3-N Limit mg/L	Effluent pH s.u.	NH_3-N Limit mg/L
$6.0 < pH \leq 6.1$	110	$7.0 < pH \leq 7.1$	72	$8.0 < pH \leq 8.1$	17
$6.1 < pH \leq 6.2$	108	$7.1 < pH \leq 7.2$	66	$8.1 < pH \leq 8.2$	14
$6.2 < pH \leq 6.3$	106	$7.2 < pH \leq 7.3$	59	$8.2 < pH \leq 8.3$	11
$6.3 < pH \leq 6.4$	104	$7.3 < pH \leq 7.4$	52	$8.3 < pH \leq 8.4$	9.4
$6.4 < pH \leq 6.5$	101	$7.4 < pH \leq 7.5$	46	$8.4 < pH \leq 8.5$	7.8
$6.5 < pH \leq 6.6$	98	$7.5 < pH \leq 7.6$	40	$8.5 < pH \leq 8.6$	6.4
$6.6 < pH \leq 6.7$	94	$7.6 < pH \leq 7.7$	34	$8.6 < pH \leq 8.7$	5.3
$6.7 < pH \leq 6.8$	89	$7.7 < pH \leq 7.8$	29	$8.7 < pH \leq 8.8$	4.4
$6.8 < pH \leq 6.9$	84	$7.8 < pH \leq 7.9$	24	$8.8 < pH \leq 8.9$	3.7
$6.9 < pH \leq 7.0$	78	$7.9 < pH \leq 8.0$	20	$8.9 < pH \leq 9.0$	3.1

Weekly Average & Monthly Average Limits based on Chronic Toxicity Criteria (CTC):
The ammonia limit calculation also warrants evaluation of weekly and monthly average limits based on chronic toxicity criteria for ammonia, since those limits relate to the assimilative capacity of the receiving water.

Weekly average and monthly average limits for Ammonia Nitrogen are based on chronic toxicity criteria. The 30-day chronic toxicity criterion (CTC) for ammonia in waters classified as a Warmwater sport fishery is calculated by the following equation.

$$CTC = E \times \{[0.0676 \div (1 + 10^{(7.688 - pH)})] + [2.912 \div (1 + 10^{(pH - 7.688)})]\} \times C$$

Where:

pH = the pH (su) of the receiving water,
E = 0.854,
C = the minimum of 2.85 or $1.45 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Present), or
$C = 1.45 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Absent), and
T = the temperature (°C) of the receiving water – (Early Life Stages Present), or
T = the maximum of the actual temperature (°C) and 7 - (Early Life Stages Absent)

The 4-day criterion is simply equal to the 30-day criterion multiplied by 2.5. The 4-day criteria are used in a mass-balance equation with the 7-Q_{10} (4-Q_3, if available) to derive weekly average limitations. And the 30-day criteria are used with the 30-Q_5 (estimated as 85% of the 7-Q_2 if the 30-Q_5 is not available) to derive monthly average limitations. The stream flow value is further adjusted to temperature. 100% of the flow is used if the Temperature ≥ 16 °C. Only 25% of the flow is used if the Temperature < 11 °C. And 50% of the flow is used if the Temperature ≥ 11 °C but < 16 °C.

The rules provide a mechanism for less stringent weekly average and monthly average effluent limitations when early life stages (ELS) of critical organisms are absent from the receiving water. This applies only when the water temperature is less than 14.5 °C, during the winter and spring months. Burbot, an early spawning species, are not believed to be present in the Yahara River, based on conversations with local

fisheries biologists. So "ELS Absent" criteria apply from October through March, and "ELS Present" criteria will apply from April through September.

Since minimal ambient data is available, the "default" basin assumed values are used for Temperature, pH and background ammonia concentrations, shown in the table below, with the resulting criteria and effluent limitations.

		Spring April-May	Summer June-Sept	Winter Oct-Mar
Background Information:	7-Q_{10} (cfs)	21	21	21
	7-Q_2 (cfs)	41	41	41
	Ammonia (mg/L)	0.09	0.07	0.135
	Temperature (°C)	6	19	4
	pH (s.u.)	7.95	7.95	7.95
	% of Flow used	25	100	25
	Reference Weekly Flow (cfs)	5.25	21	5.25
	Reference Monthly Flow (cfs)	8.71	34.85	8.71
Criteria mg/L:	4-day Chronic			
	Early Life Stages Present	6.53	5.02	
	Early Life Stages Absent			10.61
	30-day Chronic			
	Early Life Stages Present	2.61	2.01	
	Early Life Stages Absent			4.24
Effluent Limitations mg/L:	Weekly Average			
	Early Life Stages Present	19.78	45.71	
	Early Life Stages Absent			32.14
	Monthly Average			
	Early Life Stages Present	11.22	28.44	
	Early Life Stages Absent			18.26

Reasonable Potential:

The following table evaluates the statistics based upon ammonia data reported from January 2010 through March 2017 with those results being compared to the calculated limits to determine the need to include ammonia limits in the permit for the months and averaging periods where there currently isn't a limit. That need is determined by calculating 99th upper percentile (or 1-day, 4-day, and 30 day P_{99}'s) values for ammonia during each of the three periods of months and comparing to the daily maximum, weekly average, and monthly average limits, respectively.

	Ammonia mg/L April - May	Ammonia mg/L June - September	Ammonia mg/L October - March
1-day P_{99}	32.70	35.75	37.63
4-day P_{99}	20.64	19.68	22.62
30-day P_{99}	14.53	11.21	15.02
Mean*	11.67	7.62	11.58
Std	6.16	7.24	7.30
Sample size	181	366	584
Range	1.7-33.60	0.09-35.80	<0.022-39.0

Conclusions and Recommendations:
In summary, after rounding to two significant figures, the following effluent limitations for Ammonia Nitrogen are recommended for Stoughton. No mass limitations are recommended in accordance with s. NR 106.32(5). Additional limitations are discussed in Part 6.

Months Applicable	April-May	June-Sept	Oct-Mar
Daily Maximum	28	28	28
Weekly Average	20	-	-
Monthly Average	11	-	-

PART 4 –PHOSPHORUS

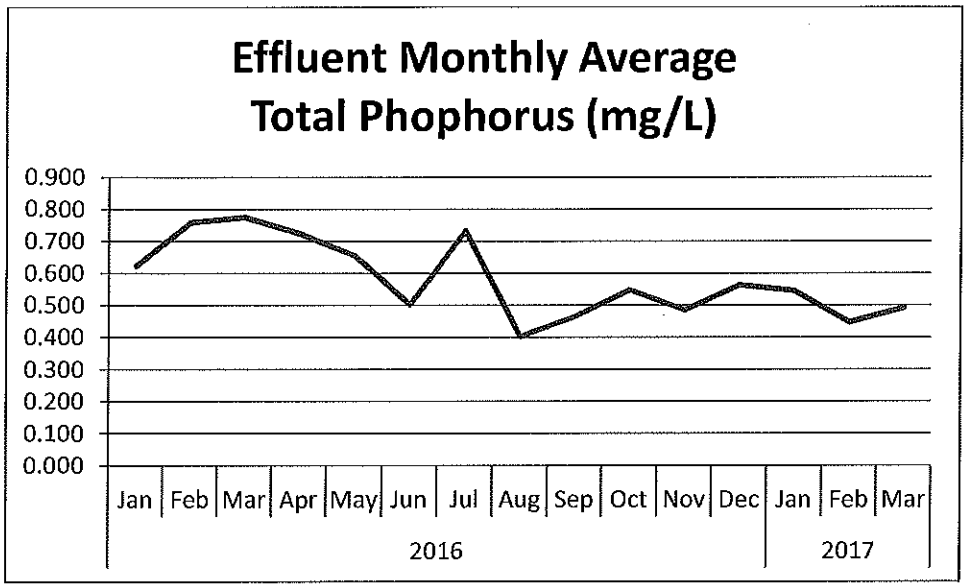
Section NR 217.16, Wis. Adm. Code states that the Department my include a TMDL-derived water quality based effluent (WQBEL) for phosphorus in addition to, or in lieu of, a s. NR 217.13, Wis. Adm. Code WQBEL in a WPDES permit. The Rock River TMDL was developed to protect the water quality of impaired waters within the watershed and the discharge from the Stoughton WWTF is to the Yahara River. Since the Yahara River was listed as impaired prior to TMDL development the TMDL-based phosphorus limits were included in the permit at the last reissuance rather than the s. NR 217.13, Wis. Adm. Code WQBEL. Stoughton was unable to meet these limits, and a compliance schedule and an interim limit of 1.3 mg/L were required in the permit.

The Yahara River remains impaired for phosphorus; meaning the Rock River TMDL limits remain applicable. The following limits from the current permit are recommended to be retained for phosphorus:

Total Phosphorus Effluent Limitations	
Month	**Monthly Ave[2] (lbs/day)**
Jan	**4.3**
Feb	**5.6**
March	**4.9**
April	**5.3**
May	**5.2**
June	**5.3**
July	**5.1**
Aug	**4.6**
Sept	**4.9**
Oct	**4.1**
Nov	**4.0**
Dec	**3.9**

As part of the compliance schedule, Stoughton has notified the Department of its intent to use adaptive management to comply with the limits. In accordance with s. NR 217.18 (3) (e) 2, Wis. Adm. Code, the effluent concentration limits shall be 0.6 mg/L expressed as a six-month average and 1.0 mg/L as a

monthly average in the first permit of an adaptive management plan. If the permittee is unable to meet this value, a compliance schedule and an interim limit of 1.0 mg/L may be included in the reissued permit. Based upon available data from the previous 12 months, it appears that Stoughton can comply with the 0.6 mg/L interim limit upon permit issuance. **Therefore, both concentration limits of 0.6 mg/L as a six-month average and 1.0mg/l as a monthly average are recommended in addition to the Rock River TMDL limits.**



Six-Month Average Concentration (mg/L)	
May-Oct	0.551
Nov-Apr	0.543

Monthly Average Concentration (mg/L)	
Apr-16	0.724
May-16	0.655
Jun-16	0.502
Jul-16	0.733
Aug-16	0.403
Sep-16	0.465
Oct-16	0.548
Nov-16	0.485
Dec-16	0.563
Jan-17	0.545
Feb-17	0.448
Mar-17	0.492

PART 5 –THERMAL

New surface water quality standards for temperature took effect on October 1, 2010. These new regulations are detailed in chs. NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. Daily maximum and weekly average temperature criteria are available for the 12 different months of the year depending on the receiving water classification.

In accordance with s. NR 106.53(2)(b), the highest daily maximum flow rate for a calendar month is used to determine the acute (daily maximum) effluent limitation. In accordance with s. NR 106.53(2)(c), the highest 7-day rolling average flow rate for a calendar month is used to determine the sub-lethal (weekly average) effluent limitation. These values were based off of actual flow reported from January 2010-March 2017.

The table below summarizes the maximum temperatures reported during monitoring in 2012. Comparing the representative highest effluent temperature to the calculated effluent limits determines the reasonable potential of exceeding the effluent limits. The complete thermal table used for calculation is attached.

Month	Representative Highest Monthly Effluent Temperature		**Calculated Effluent Limit**	
	Weekly Maximum (°F)	Daily Maximum (°F)	**Weekly Average Effluent Limitation** (°F)	**Daily Maximum Effluent Limitation** (°F)
JAN	44	46	-	120
FEB	46	52	-	120
MAR	57	57	-	120
APR	58	59	88	120
MAY	63	65	105	120
JUN	70	70	100	115
JUL	74	74	103	100
AUG	74	74	-	120
SEP	73	73	-	120
OCT	67	68	117	120
NOV	61	62	-	120
DEC	59	60	-	120

Reasonable Potential:
Based on the available effluent data, **no effluent limits are recommended for temperature.** One year of temperature monitoring is recommended during the fourth year of the next permit term.

Attachment #1

PART 6– EXPRESSION OF LIMITS

Revisions to ch. NR 106 align Wisconsin's water quality-based effluent limitations with 40 CFR 122.45(d), which requires WPDES permits contain the following limits, whenever practicable and necessary to protect water quality:

- Weekly average and monthly average limitations for publically owned treatment works (POTWs), and
- Daily maximum and monthly average limitations for all other discharges.

Stoughton is a POTW, and is therefore subject to weekly average and monthly average limitations whenever limitations are determined to be necessary.

This evaluation provides additional limitations necessary to comply with the expression of limits in s. NR 106.07. Pollutants already compliant with s. NR 106.07 or that have an approved impracticability demonstration, are excluded from this evaluation including water-quality based effluent limitations for phosphorus, temperature, and pH, among other parameters.

Additional limitations needed to comply with s. NR 106.07 Expression of limits:

Parameter	Daily Maximum	Weekly Average	Monthly Average	Weekly Geometric Mean	Monthly Geometric Mean	Multiplication Factor (CV)	Assumed Monitoring Frequency (n)
Fecal Coliforms				780 #/100mL$_3$	400 #/100ml	1.95	8
Ammonia Nitrogen April-May June-Sept Oct-March	 28 mg/L 28 mg/L 28 mg/L	 20 mg/L 28 mg/L$_1$ 28 mg/L$_1$	 11 mg/L 28 mg/L$_1$ 18 mg/L$_1$				
Chromium (+6)	32.04 µg/L	32.04 µg/L$_1$	32.04 µg/L$_1$				
Bis(2-ethylhexyl) phthalate	33.92 µg/L	13.33 µg/L	13.33 µg/L$_2$				

Methods for calculation:

The methods for calculating limitations for municipal POTWs to conform to 40 CFR 122.45(d) are specified in s. NR 106.07(3), and are as follows:

1. Whenever a daily maximum limitation is determined necessary to protect water quality, a weekly and monthly average limitation shall also be included in the permit and set equal to the daily maximum limit or the calculated weekly average and monthly average water quality based effluent limitations, whichever is more restrictive.
2. Whenever a weekly average limitation is determined necessary to protect water quality, a monthly average limitation shall also be included in the permit and set equal to the weekly average limit unless a more restrictive limit is already determined necessary to protect water quality.
3. Whenever a monthly average limitation is determined necessary to protect water quality, a weekly average limit shall be calculated using the following procedure and included in the permit unless a more restrictive limit is already determined necessary to protect water quality:

Weekly Average Limitation = (Monthly Average Limitation x MF)

Where:

MF= Multiplication factor as defined in Table 1

CV = Standard deviation/arithmetic mean,

= 0.6 for < 10 data points and for fecal coliform

n= the number of samples per month required in the permit

s. NR 106.07 (3) (e) 4. Table 1 — Multiplication Factor (for CV = 0.6)

CV	n=1	n=2	n=3	n=4	n=8	n=12	n=16	n=20	n=24	n=30
0.6	1.00	1.31	1.51	1.64	1.95	2.12	2.23	2.30	2.36	2.43

Note: This methodology is based on the *Technical Support Document for Water Quality-based Toxics Control* (March 1991). PB91-127415.

PART 7 – WHOLE EFFLUENT TOXICITY (WET)

WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time and effects are recorded. The following evaluation is based on procedures in the Department's WET Program Guidance Document (revision #11, dated November 1, 2016).

- Acute tests predict the concentration that causes lethality of aquatic organisms during a 48 to 96-hour exposure. In order to assure that a discharge is not acutely toxic to organisms in the receiving water, WET tests must produce a statistically valid LC_{50} (Lethal Concentration to 50% of the test organisms) greater than 100% effluent.

- Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven-day exposure. In order to assure that a discharge is not chronically toxic to organisms in the receiving water, WET tests must produce a statistically valid IC_{25} (Inhibition Concentration) greater than the instream waste concentration (IWC). The IWC is an estimate of the proportion of effluent to total volume of water (receiving water + effluent). The IWC of 33% shown in the WET Checklist summary below was calculated according to the following equation, as specified in s. NR 106.03(6):

$$IWC\ (as\ \%) = Q_e \div \{(1 - f)Q_e + Q_s\} \times 100$$

Where:

Q_e = annual average flow = 2.56 cfs

f = fraction of the Q_e withdrawn from the receiving water = 0

Q_s = ¼ of the 7-Q_{10} = 21 cfs ÷ 4 = 5.25 cfs

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests, unless the use of different dilution water is approved by the Department prior to use. The primary control water must be specified in the WPDES permit.

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), receiving water must be used as the dilution water and primary control in chronic WET tests, unless the use of different dilution water is approved by the Department prior to use. The dilution water used in WET tests conducted on Outfall 001 shall be a grab sample collected from the Yahara River. The specific receiving water location must be specified in the WPDES permit.

- Shown below is a tabulation of all available WET data for Outfall 001. Efforts are made to insure that decisions about WET monitoring and limits are made based on representative data. Data which is not believed to be representative of the discharge is not included in reasonable potential calculations. The table below differentiates between tests used and not used when making WET determinations.

WET Data History

Date Test Initiated	Acute Results LC_{50} % (% survival in 100% effluent)				Chronic Results IC_{25} %				Footnotes or Comments
	C. dubia	Fathead minnow	Pass or Fail?	Used in RP?	*C. dubia*	Fathead Minnow	Pass or Fail?	Use in RP?	
11/11/2014	>100	>100	Pass	Yes	94.1	>100	Pass	Yes	
02/24/2015	>100	>100	Pass	Yes	72.6	82.7	Pass	Yes	
06/07/2016	>100	81	Fail	Yes	35.7	32.3	Fail	Yes	
08/02/2016	>100	>100	Pass	Yes	>100	>100	Pass	Yes	Retest
08/30/2016	>100	>100	Pass	Yes	77.5	>100	Pass	Yes	Retest

Footnotes:

- WET reasonable potential is determined by multiplying the highest toxicity value that has been measured in the effluent by a safety factor, in order to predict the likelihood (95% probability) of toxicity occurring in the effluent above the applicable WET limit. The safety factor used in the equation changes based on the number of toxicity detects in the dataset. The fewer detects present, the higher the safety factor, because there is more uncertainty surrounding the predicted value. **WET limits must be given, according to s. NR 106.08(6), Wis. Adm. Code, whenever the applicable Reasonable Potential equation results in a value greater than 1.0.**

  According to s. NR 106.08(6) (d), TUa effluent values are equal to zero whenever toxicity is not detected (i.e. when the LC50. IC25 or IC 50 $\geq$ 100 %)

  Acute Reasonable Potential = [(TUa effluent) (B)]

TUa (maximum) 100/LC50	**B** (multiplication factor from s. NR 106.08(5)(c), Wis. Adm. Code, Table 4)
100/81	6.2 Based on 1 detects

  [(TUa effluent) (B)] = 7.65 > 1.0

  Chronic Reasonable Potential = [(TUa effluent) (B) (IWC)]

TUa (maximum) 100/IC25	**B** (multiplication factor from s. NR 106.08(5)(c), Wis. Adm. Code, Table 4)	IWC
100/32.3	2.3 Based on 4 detects	33%

  [(TUa effluent) (B) (IWC)] = 2.35 > 1.0

Therefore, reasonable potential is shown for acute and chronic WET using the procedures in s. NR 106.08(6) and representative data from November 2014-August 2016.

Expression of WET limits

Acute WET limit = 1.0 TU_a (daily maximum)

Chronic WET limit = 3.0 TU_c (monthly average)

The WET Checklist was developed to help DNR staff make recommendations regarding WET limits, monitoring, and other permit conditions. The Checklist steps the user through a series of questions that evaluate the potential for effluent toxicity. The Checklist indicates whether acute and chronic WET limits are needed, based on requirements specified in s. NR 106.08, Wis. Adm. Code, and recommends monitoring frequencies based on poiuts accumulated during the Checklist analysis. As toxicity potential increases, more points accumulate and more monitoring is recommended to insure that toxicity is not occurring. The completed WET Checklist recommendations for this permittee are summarized in the table below. Staff recommendations, based on the WET Checklist and best professional judgment, are provided below the summary table. For guidance related to RP and the WET Checklist, see Chapter 1.3 of the WET Guidance Document: http://dnr.wi.gov/topic/wastewater/WETguidance.html.

WET Checklist Summary

	Acute	Chronic
AMZ/IWC	Not Applicable. **0 Points**	IWC = 33 %. **0 Points**
Historical Data	5 tests used to calculate RP = 7.65. 1 test failed	5 tests used to calculate RP = 2.66 1 test failed
Effluent Variability	Little variability, no violations or upsets, consistent WWTF operations **0 Points**	Same as Acute. **0 Points**
Receiving Water Classification	Full Fish & Aquatic Life **5 Points**	Same as Acute. **5 Points**
Chemical-Specific Data	Limits for 2substances based on ATC: Bis(2-Ethylhexyl) phthalate and Chromium (+6) Additional detects: Antimony, Chromium (+3), Copper, Lead, Mercury, Nickel, Zinc, Cyanide, and Chloride **11 Points**	Limits for 2 substances based on CTC: Bis(2-Ethylhexyl) phthalate and Chromium (+6) Additional detects: Antimony, Chromium (+3), Copper, Lead, Mercury, Nickel, Zinc, Cyanide, and Chloride **11 Points**
Additives	0 Biocides and 0 Water Quality Conditioners added. SorbX-100 Used: No **0 Points**	No additives are present. **0 Points**

Attachment #1

Discharge Category	3 Industrial Contributors: B&G Foods Inc., Color-Con, Uniroyal Global Engineering Products, LLC **7 Points**	Same as Acute. **7 Points**
Wastewater Treatment	Secondary or Better **0 Points**	Same as Acute. **0 Points**
Downstream Impacts	No impacts known **0 Points**	Same as Acute. **0 Points**
Total Checklist Points:	**23 Points**	**23 Points**
Recommended Monitoring Frequency (from Checklist):	1x yearly	1x yearly
Limit Required?	Yes Limit = 1.0 TU_a	Yes Limit = 3.0TU_c
TRE Recommended? (from Checklist)	No	No

- A minimum of annual acute and chronic monitoring is required because acute and chronic WET limits are required. Federal regulations at 40 CFR Part 122.44(i) require that monitoring occur at least once per year when a limit is present.

- A minimum of annual acute and chronic monitoring is recommended because Stoughton is a major municipal discharger with a design flow in excess of 1.0 MGD. Federal regulations at 40 CFR Part 122.21(j) requires at least 4 acute and chronic WET tests with each permit application on samples collected since the previous reissuance. Therefore, annual monitoring is recommended in the permit term, so that data will be available for the next permit application.

Conclusions and Recommendations:
Following the guidance provided in the Department's WET Program Guidance Document (revision #11, dated November 1, 2016), based upon the point totals generated by the WET Checklist, other information given above, and Chapter 1.3 of the WET Guidance Document, **annual acute WET testing is recommended and annual chronic WET testing is recommended in the reissued permit**. Tests should be done in rotating quarters, in order to collect seasonal information about this discharge. WET testing shall continue after the permit expiration date (until the permit is reissued).

According to the requirements specified in s. NR 106.08, Wis. Adm. Code, acute and chronic WET limits are required. **The acute WET limit should be expressed as 1.0 TUa as a daily maximum in the effluent limits table of the permit. The chronic WET limit should be expressed as 3.0 TUc as a monthly average in the effluent limits table of the permit.**

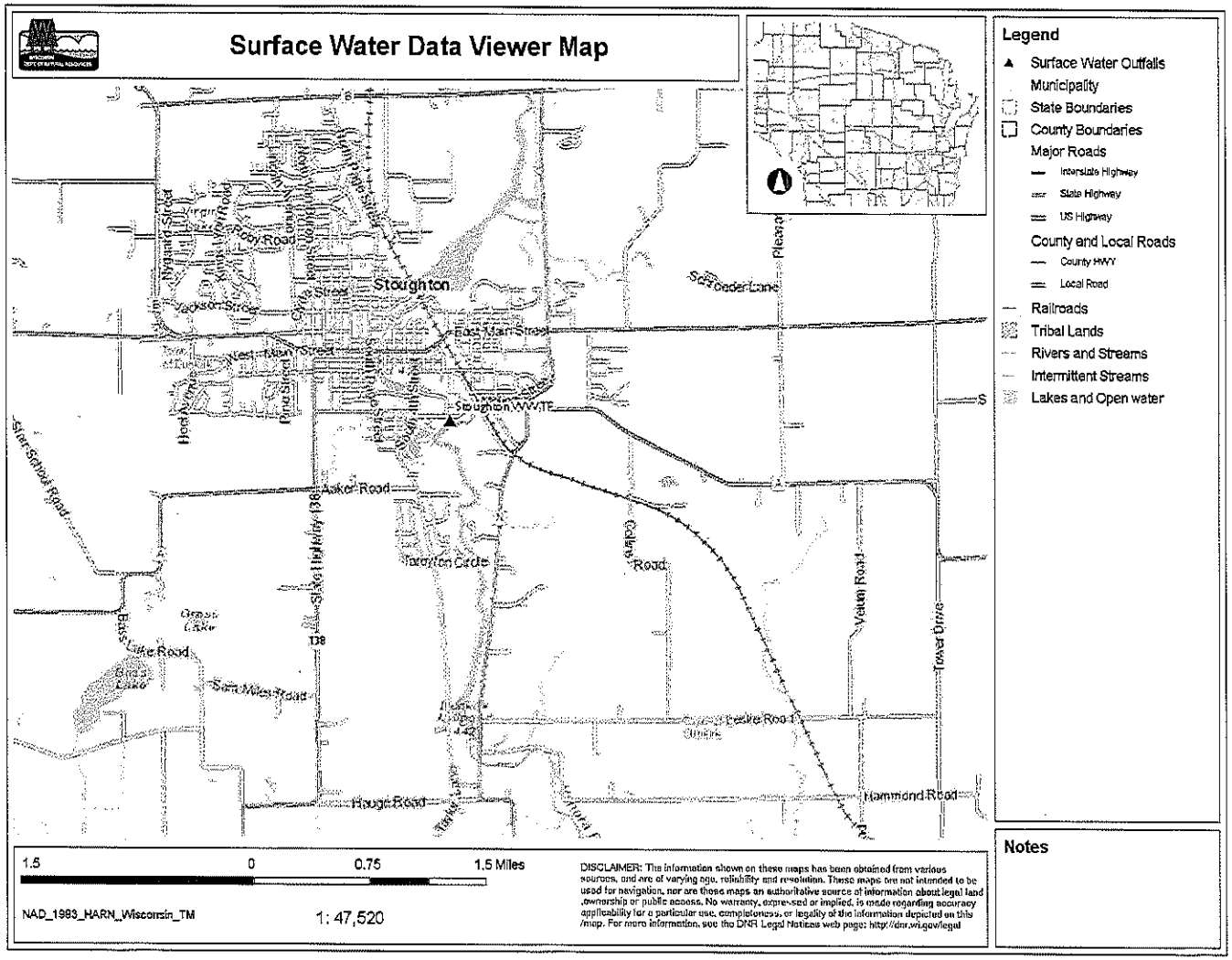
Temperature limits for receiving waters with unidirectional flow

(calculation using default ambient temperature data)

Facility:	Stoughton		**Data Range**	**7-Q_{10}**	21	cfs
Outfall(s):	001	**Start:**	01/01/10	**Dilution:**	25%	
Date Prepared:	22-Apr-17	**End:**	03/31/17	**f:**	0	
Design Flow (Qe):	1.65	MGD		**Stream type:**	Small warm water sport or forage fish community	
Region:	SER			**Qs:Qe ratio:**	2.1	:1
				Calculation Needed?	YES	

Month	Water Quality Criteria			Receiving Water Flow Rate (7-Q_{10})	Representative Highest Effluent Flow Rate (Qe)		Representative Highest Monthly Effluent Temperature		99th Percentile of Representative Data		**Calculated Effluent Limits**	
	Ta (default)	Sub-Lethal WQC	Acute WQC		7-day Rolling Ave (Qesl)	Daily Max Flow Rate (Qea)	Weekly Ave	Daily Max	Weekly Ave	Daily Max*	**Weekly Ave Limit**	**Daily Max Limit**
	(°F)	(°F)	(°F)	(cfs)	(MGD)	(MGD)	(°F)	(°F)	(°F)	(°F)	(°F)	(°F)
JAN	33	49	76	97	1.331	1.543	44	46	45	48	-	120
FEB	34	50	76	79	1.252	1.460	46	52	46	52	-	120
MAR	38	52	77	76	1.588	1.798	57	57	56	60	-	120
APR	48	55	79	46	1.584	1.890	58	59	58	60	88	120
MAY	58	65	82	54	1.542	1.727	63	65	64	67	105	120
JUN	66	76	84	27	1.837	2.540	70	70	69	72	100	115
JUL	69	81	85	24	2.138	4.135	74	74	74	75	103	100
AUG	67	81	84	33	1.353	1.419	74	74	74	75	-	120
SEP	60	73	82	32	1.243	1.506	73	73	72	75	-	120
OCT	50	61	80	36	1.148	1.445	67	68	67	70	117	120
NOV	40	49	77	100	1.228	1.577	61	62	61	64	-	120
DEC	35	49	76	120	1.175	1.347	59	60	58	61	-	120

*NA - Indicates that there are greater than 100 daily maximum values, therefore 99th percentile would be a value less than the recorded daily maximum.


Surface Water Data Viewer Map
Legend
Surface Water Outfalls
Municipality
State Boundaries
County Boundaries
Major Roads
Interstate Highway
State Highway
US Highway
County and Local Roads
County HWY
Local Road
Railroads
Tribal Lands
Rivers and Streams
Intermittent Streams
Lakes and Open water
Stoughton
Stoughton WWTF
East Main Street
West Main Street
Lake Road
Jackson Street
Roby Road
Page Street
Cross Street
Division Street
Fourth Street
Second Street
Veterans Parkway
Silver Lake Road
Highway 138
Tarrytown Circle
Vinburn Road
Tower Drive
Pleasant View Road
Schroeder Lane
Bass Lake Road
Green Lake
Sand Mills Road
Rouge Road
Hammond Road
Notes
1.5
0
0.75
1.5 Miles
NAD_1983_HARN_Wisconsin_TM
1: 47,520
DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/legal

State of Wisconsin
Department of Natural Resources
Bureau of Watershed Management
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Watershed Adaptive Management Request

Form 3200-139 (1/12)

Notice: Pursuant to s. NR 217.18, Wis. Adm. Code, this form must be completed and submitted to the Department at the time of the reissuance of an existing WPDES (Wisconsin pollutant discharge elimination system) permit to request adaptive management for phosphorus water quality based effluent limits (WQBEL).Failure to provide all requested information may result in denial of your request. Personal information collected will be used for administrative purposes and may be provided to requestors to the extent required by Wisconsin Open Records law [ss. 19.31-19.39, Wis. Stats.].

Type of Request:

- [x] This is the formal adaptive management request as required in s. NR 217.18(2)
- [ ] This is a preliminary adaptive management request (to be submitted as part of facility planning.)

Facility and Permit Information

Facility Name			WPDES Permit No.
Stoughton Utilities Wastewater Treatment Plant			WI - 0020338-08
Facility Address	**City**	**State**	**ZIP Code**
700 Mandt Parkway	Stoughton	WI	53589

Receiving Water: Yahara River

Owner Contact Information

Last Name	First Name	MI	Phone No. (incl. area code)
Kardasz	Robert	P	608-877-7423
Street Address			**FAX Number**
600 South Fourth Street			608-873-4878
City	**State**	**ZIP Code**	**Email address**
Stoughton	WI	53589	rkardasz@stoughtonutilities.com

Facility Information

Provide listed information for each lagoon or pond basin

Required for AM Request	Wis. Administrative Code Reference	Conclusion	Evidence/Source of Information (attach as needed)
1. NPS contribute at least 50% of total P contribution	s. NR 217.18(2)(b)	[x] NPS contributes at least 50% [ ] NPS DOES NOT contribute at least 50%	Rock River Basin TMDL Report
2. WQBEL Requires Filtration	s. NR 217.18(2)(c)	[x] Filtration required [ ] Filtration NOT required	See Attachment A (limits <0.4 mg/L)
3. AM Plan	s. NR 217.18(2)(d)	[ ] Plan is included – Page 3 [x] Plan is NOT included *For a preliminary adaptive management request, AM plan not required*	Please refer to the Yahara WINs AM Plan, of which Stoughton is a part.

Facility Operation and Performance

1. **Current P removal capability** – If the facility is currently required by a WPDES permit to monitor effluent phosphorus (P) provide a summary of the influent and effluent annual average P concentrations for each of the past three (3) years. If permit required P data is not available, the applicant should provide any other P data that may be applicable and available. If no data is available, the Department may estimate the P effluent concentration by based on data from other similar facilities.

	Average TP, mg/L	
Year	Influent	Effluent
2012	6.0	0.56
2013	6.5	0.59
2014	5.6	0.51

2. **Facility Operation** – Provide a summary description of overall facility operation. If not a continuously discharging facility, describe storage procedures and the time periods when effluent discharge occurs.

See Attachment B.

3. **Previous Studies** – Reference or attach any facility planning or evaluation study that evaluated facility performance capabilities (Note – Only include studies that are recent, within 5 years, or otherwise applicable for the evaluation of the existing facility and current conditions).

See Attachment C.

Adaptive Management Plan (s. NR 217.18(d))

This section should summarize the Adaptive Management Plan for internal and external review. A complete Adaptive Management Plan should be attached. Note: If this is a preliminary adaptive management request, this section is not required.

Watershed	Percent Contribution of Applicant Discharge
Yahara River	*

Action Area (include map)

*

Watershed Characteristics and Timeline Justification

*

Key Proposed Actions

*

Key Goals and Measures for Determining Effectiveness

*See Madison MSD's Yahara WINs Adaptive Management Plan submitted under separate cover and incorporated herein by reference.

Partner(s)

Madison MSD and other Yahara WINs partners

Funding Sources

Yahara WINs and its funding partners

Adaptive Management Request and Certification

Based on the information provided, I am requesting the Watershed Adaptive Management option to achieve compliance with phosphorus water quality standards in accordance with s. NR 217.19, Wis. Adm. Code.
I certify that the information provided with this request is true, accurate and complete to the best of my knowledge.

Print or type name of person submitting request*	Title
Robert P. Kardasz	Utilities Director
Signature of Official	**Date Signed**
Robt P. Kardasz	JUNE 15, 2016

*Must be an Authorized Representative for the treatment facility

Strand Associates, Inc.®
910 West Wingra Drive
Madison, WI 53715
(P) 608-251-4843
(F) 608-251-8655

June 7, 2017

Ms. Amy Garbe
Wisconsin Department of Natural Resources
141 Northwest Barstow Street, Room 108
Waukesha, WI 53188

Re: WPDES Permit Number 0020338-09-0 Mercury Pollutant Minimization Program (PMP) Plan

Dear Ms. Garbe:

1. Background

This PMP has been developed to reduce the level of mercury discharged from the Stoughton Wastewater Treatment Plant (WWTP) to a level closer to or below the proposed water quality based effluent limit of 1.3 nanograms per liter (ng/L). Achieving this level is unlikely without the construction of new treatment systems. Stoughton Utilities (SU) has applied for a variance from the 1.3 ng/L mercury limit for the next term of the facility's Wisconsin Pollutant Discharge Elimination System (WPDES) permit. The PMP is a requirement of the variance.

SU developed a PMP in 2009 as a requirement of the Stoughton WWTP WPDES permit. The variance limit for mercury in the permit dated August 1, 2014, is 3.3 ng/L. Annual reports have been submitted to the Wisconsin Department of Natural Resources (WDNR) to show progress in the minimization program. Forms used to submit annual reports are included in Attachment A.

The WDNR is currently in the process of revoking and reissuing the WPDES permit for the Stoughton WWTP to incorporate the selected phosphorus compliance option. Total recoverable mercury data collected since 2012 indicates a statistical 1-day p99 of 3.86 ng/L. Since the 2014 permit will not remain in effect for the full five years, we believe continuing the variance mercury limit of 3.3 ng/L would be reasonable.

2. Influent and Effluent Mercury Concentrations in Wastewater

According to the United States Environmental Protection Agency (USEPA), the typical influent mercury concentrations at publically owned treatment works are in the 50 to 200 ng/L range. The Stoughton WWTP typically experiences concentrations near the lower end of this window. Since 2010, the highest influent mercury concentration was 950 ng/L in December 2010. This is over twice the concentration of the second highest measured concentration of 450 ng/L in June 2011, and appears to be an outlier. There were six influent samples with a mercury concentration above 100 ng/L; one sample from each of the six years of data were above this value. These annual spikes in concentration have a significant effect on the average mercury concentrations. The average and median concentrations in the wastewater from the City of Stoughton (City) were 113 ng/L and 51 ng/L, respectively.

The highest effluent mercury value since 2010 was 3.5 ng/L in March 2013. The average effluent mercury concentration since 2010 was 1.7 and the median concentration was 1.6. These effluent mercury levels are consistently low, however are typically higher than the water quality based effluent limit of 1.3 ng/L. There were eight samples since 2010 where the effluent mercury level was below the 1.3 ng/L limit. Of those eight samples, only two were below 1.0 ng/L.

Table B-1 includes influent and effluent mercury concentrations from quarterly samples along with the corresponding daily flow measurement and is located in Attachment B. Figure B-1 plots both influent

mercury concentration and daily flow relative to time. It should be noted that there was not any available flow data for the sample collected in December 2011, so an average daily flow of 1.21 million gallons per day (mgd) was used for plotting purposes. This data does not show a strong correlation between mercury and daily flow. The previous PMP appears to have had some benefit, as the annual spike observed in concentration has been lowered after 2011. These high values early in data collection contribute to a noticeable downward trending "best fit" line. This is more noticeable in the annual average influent mercury concentration graph, Figure B-2. The annual average suggests that the initial efforts of the PMP lowered a significant amount of influent mercury concentration. After the initial effect of the effort, the downward trend is less significant.

The effluent data has been more stable throughout the duration of data collection, with values typically consistent between 1 ng/L and 3 ng/L. Figure B-3 shows the effluent mercury concentration relative to daily flow measurement. The downward trend in the effluent data is so small that a trend is not determined to be significant. The slight downward trend may be attributed to the reduction of legacy mercury within the sewers. The insignificant decrease in effluent concentrations suggests that new treatment systems may be the only timely way to experience a significant reduction. This would be an overwhelming financial responsibility for the City. Legacy mercury in sewers will continue to decrease; however, at a slow rate.

Mercury concentrations in the biosolids (sludge) produced at the WWTP are analyzed once per year. The results from samples dating back to 2004 are shown in Table B-2 and Figure B-4. Since the development of the PMP in 2009, an obvious drop in biosolids metal quality has been observed. Since 2012, there have been two years where the sludge concentration was less than the limit of detection. These are shown as half of the limit of detection, or 0.7 milligrams per kilogram (mg/kg) in Figure B-4. The USEPA and WDNR criteria for mercury concentration in biosolids include a "ceiling" concentration of 57 mg/kg and an "exceptional quality" concentration of 17 mg/kg. The biosolids samples analyzed from the Stoughton WWTP have a maximum concentration of 5.3 mg/kg in April 2006. After 2011, the typical concentration is near 1 mg/kg; significantly lower than the "exceptional quality" standard. These low concentrations of mercury in the biosolids are further evidence of lower levels of mercury in the influent wastewater.

3. Identification of Sources of Mercury

As described above and as shown in the attached figures, the concentrations of mercury in the wastewater contributed to the Stoughton WWTP are typically very low.

There are currently five medical facilities identified in the wastewater service area: Stoughton Hospital, Dean Clinic, UW Health, Stoughton Vet, and Meriter Clinic. The medical facilities have been contacted by SU regarding best management practice (BMP) programs for disposal of mercury wastes. All facilities have implemented all recommended wastewater BMPs. The City plans to update BMP forms in 2017, and schedule site visits or an inspection every year to identify compliance with the updated BMPs.

There are currently four dental facilities identified in the wastewater service area: Lifetime Family Dentistry, John Wiencek, Adriana Jarmillo, and Thor Anderson. The four dental clinics have been inspected by SU annually. All dentists have been documented using amalgam separators. Annual follow-up will include documentation of separator maintenance. An annual letter is also planned to facilitate awareness and upkeep of BMPs.

There are two upper level school facilities in the wastewater service area: Stoughton High School and River Bluff Middle School. These schools are potential sources of mercury from chemistry laboratories or from the nurse's office. The two schools have been contacted and inspected by SU regarding disposal of mercury wastes and implementation of all recommended BMPs. An inspection is planned for each of the schools every other year to assure continued compliance with all recommended BMPs.

There are three elementary school facilities in the wastewater service area: Fox Prairie Elementary School, Kegonsa Elementary School, and Sandhill Elementary School. These schools may also be potential sources of mercury from the nurse's office. The elementary schools have not been contacted by SU regarding disposal of mercury wastes and implementation of all recommended BMPs. SU will begin an outreach program and inspection of the elementary schools in the second year of the reissued WPDES permit term.

There are four industries identified in the wastewater service area: Stoughton WWTP, Stoughton Trailers, Color-Con, and Uniroyal. BMP forms were sent by SU to all industries to have them go through the outreach forms to see if anything has changed. A blank outreach form is included in Attachment C. A site visit is planned to be scheduled every other year throughout the duration of the WPDES permit to assure continued compliance with recommended BMPs.

There are several senior citizen centers in the wastewater service area. The two largest centers are Skaalen Nursing and Rehabilitation Center and Nazareth Health and Rehabilitation Center. These communities may be potential sources of mercury from products used in the nurse's office. SU will begin an outreach program and inspection of the two largest senior citizen centers beginning the second year of the reissued WPDES permit term.

There may be a few other customers in the wastewater service area that are potential sources of mercury, including heating, ventilation, and air conditioning (HVAC) wholesalers, automotive repair shops, and metal scrap yards. A survey of customers as potential mercury sources is planned to be expanded, with a follow-up of implementation of BMPs to be scheduled annually. An example survey is included with this letter in Attachment C. These sources will be included in the ensuing annual PMP reports following the issuance of the reissued WPDES permit.

A sampling plan will be implemented the first year of this permit by SU to try to identify sewers that contribute to mercury at the plant. During the first year, SU will collect samples each quarter from the influent at the WWTP and at each of the three main interceptors coming into the plant. If one interceptor has a higher concentration compared to the other two, SU will go into the tributary areas of that interceptor the following year and collect samples from main trunk lines in attempt to further pinpoint the source of mercury contributing to the WWTP. This will help identify if one of the business parks, schools, industries, or other area mentioned above may be a key source of mercury. This approach may also identify a sewer that contains legacy mercury. SU will rehabilitate a sewer containing high amounts of legacy mercury by cured in place pipe (CIPP) lining prior to the expiration of the reissued WPDES permit.

It seems most likely that the occasional increase in mercury concentration is due to legacy mercury in the sewer system or improper disposal of mercury wastes such as fluorescent light bulbs. SU will continue outreach programs to facilitate awareness; and inform customers about the clean sweep disposal and recycling program.

4. Categories of Mercury Sources

The largest sources of mercury in municipal wastewater are expected to be from industrial processes and from dental facilities. There are only four industries and four dental facilities in the wastewater service area, all of which have implemented all recommended BMPs. Each of the dental facilities uses amalgam separators.

Another potential category of mercury source is laboratories at schools and medical facilities. As part of previous PMP efforts, all schools and medical facilities indicated programs are in place for proper disposal of mercury wastes.

Other commercial customers in the wastewater service area contributing mercury may include HVAC wholesalers, automotive repair shops, and metal scrap yards. Other contributors may be identified as a potential mercury source following a survey distributed to all commercial customers in the service area.

Another category of mercury sources is the improper disposal of mercury wastes. This category is only amenable to source control to the extent of public education and public access to facilities to dispose of mercury wastes in a proper manner.

SU plans to continue and expand upon the steps taken in previous PMPs as follows:

a. Update the SU BMP forms for medical facilities. Visit all medical facilities in the wastewater service area regarding programs in place for disposal of mercury waste and spill management annually.
b. Survey all dental facilities in the wastewater service area regarding disposal of mercury wastes and programs in place for disposal of mercury wastes every two years. The survey will include a request for documentation regarding maintenance performed on amalgam separators.
c. Survey all schools in the wastewater service area regarding programs in place for disposal of mercury waste, spill management, and mercury elimination efforts every two years.
d. Survey all industrial contributors regarding proper disposal of mercury waste and spill management every other year.
e. Identify potential additional mercury contributors through a distributed survey to all commercial facilities in the wastewater service area.
f. Survey newly identified mercury contributors for implementation of BMPs every other year.
g. Monthly checks with Johns Disposal and weekly checks with Waste Management to facilitate identification of mercury contributors.
h. Publish a Public Notice in the local newspaper, twice per year, regarding the hazards of mercury, proper disposal of products containing mercury, and spill management. The Public Notice will emphasize the types of products that may contain mercury and therefore require proper disposal. Examples of these products include fluorescent tubes and bulbs, button batteries from watches and hearing aids, chemistry sets, older thermometers and temperature switches, and older toys and games.
i. Publicize county clean sweep events through the local newspaper. The clean sweep notice will emphasize the types of products that may contain mercury and therefore require proper disposal.

5. Documentation of Source Control and Outcomes

SU will continue to document the effectiveness of the PMP efforts with respect to mercury. Quarterly sampling and testing of influent and effluent wastewater will be continued. Graphs will be prepared annually to evaluate trends in influent and effluent mercury concentrations. Annual testing of mercury concentration in biosolids will also continue.

An annual PMP status report will also be prepared and submitted to the WDNR. The annual status report will include a list of the potential mercury sources, a summary of actions taken as part of the PMP, and the wastewater influent, effluent, and biosolids mercury monitoring results.

6. Maintenance of Effluent Quality for Mercury

Maintenance of effluent quality for mercury will be facilitated by:

a. Repeated contacts with customers that represent potential sources of mercury to confirm that BMPs have been implanted and remain in place.

b. Repeated public education through publication of newspaper notices and publicity of county clean sweep events.
c. Continued operation of the WWTP to optimize treatment for conventional pollutants, which will help optimize mercury removal.

Please contact Jane Carlson or Ryan Yentz with any questions or comments regarding this PMP plan by phone at 608-251-4843 or by e-mail at Jane.Carlson@strand.com or Ryan.Yentz@strand.com.

Sincerely,

STRAND ASSOCIATES, INC.®

Jane Carlson, P.E., ENV SP
Senior Associate

Ryan M. Yentz

Enclosures

c/enc.: Brian G. Erickson, Stoughton Utilities Wastewater System Supervisor
Robert P. Kardasz, P.E., Stoughton Utilities Director

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ATTACHMENT A
FORM 1: MERCURY PMP REPORT FORMS

FORM 1: Mercury PMP Report Cover Sheet

WPDES Permit Holder or Sewer Authority Name: Stoughton Wastewater Utility

Initial Plan: X Annual Report _____ and Date Initial Plan Submitted _____

Report Date: _____ Period Covered by This Report: _____

Name of Treatment Plant(s)	WPDES Permit Number	Mercury Effluent Limit (ng/l)
Stoughton WWTP	**WI-0020338-08-0**	3.3

Person to contact concerning information contained in this report:

Name: Brian Erickson

Title: Wastewater System Supervisor

Mailing Address: 600 S. Fourth St

City, State, Zip Code: Stoughton, WI 53589

Telephone No. 608-877-7421

E-mail: berickson@stoughtonutilities.com

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of the individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete.

_____ Wastewater System Supervisor

Date Title of Official

Brian Erickson _____

Name of Official Signature of Official

FORM 2: Mercury PMP Summary of Resources

1. Person(s) implementing PMP _____ Title _____

Brian Erickson _____ Wastewater System Supervisor _____

_____ _____

_____ _____

2. Total Person-Hours [1] _____

Total Cost [2] _____

3. Are there any anticipated changes in treatment plant resources that would significantly change program hours or costs during the subsequent year, such as involving or hiring more personnel, purchasing equipment to implement the pollutant minimization program, or conducting compliance monitoring?

_____ Yes _____X_____ No If yes, explain:

4. Collaboration on mercury reduction activities is encouraged. Did any other municipal departments, county agencies, non-profit organizations, or other municipalities help implement part of your mercury reduction program?

_____ Yes _____x_____ No If yes, explain:

5. A program for collecting mercury from the permittee's sewer system users is required. List all available options for recycling mercury including household hazardous waste centers, clean sweep events, and collection events hosted by the POTW.

Recycling Option	Frequency of Availability
Clean Sweep	Monthly
Waste Management	Weekly
Johns Disposal	Weekly

[1] Include time of all staff involved in administering and implementing the various program areas, e.g. Pretreatment Coordinator, Superintendent of POTW, Clerical Staff, Field Monitoring Personnel, Laboratory Personnel, and others.

[2] Include all administrative, monitoring, laboratory staff, and equipment costs including monitoring/analytical work done by an outside laboratory.

FORM 3: Mercury PMP Summary of Treatment Plant Analytical Mercury Data

Influent		Effluent		Biosolids	
Date	Concentration ng/L	Date	Concentration ng/L	Date	Concentration mg/kg
	No Data	4-17-08	2.9	7-29-09	2.1
		5-1-08	1.9	3-13-09	1.4
		5-14-08	1.7	5-07-08	3.4
		5-29-08	42	9-17-08	2.9
		6-25-08	1.4	10-04-07	4.0
		7-8-08	1.1	4-11-07	2.2
		7-12-08	1.9	10-04-06	2.9
		7-21-08	1.1	4-17-06	5.3
		8-25-08	1.6		
		9-16-08	0.8		
		10-16-08	1.4		
		11-5-08	1.5		
Average	N/D	Average	1.572	Average	**3.025**
Test Method		Test Method	EPA1631E	Test Method	EPA 245.5
Average from 1 year ago		Average from 1 year ago		Average from 1 year ago	
Average from 2 years ago		Average from 2 years ago		Average from 2 years ago	
Average from 3 years ago		Average from 3 years ago		Average from 3 years ago	
Laboratory doing the wastewater analysis:		Northern Lake Service, Inc			
Laboratory doing the biosolids analysis:		Test America			

Is there a numerical or narrative mercury limit in your sewer use ordinance? NO

If yes, what is it? _____

FORM 4A: Medical Facility Inventory[1]

Name	Address	City, State, Zip Code	Type of Facility	Contact	Phone

[1] List should include all hospitals, clinics and veterinary facilities with diagnostic laboratories (including laboratories contracted or managed independently of the medical facility).

FORM 4B: Medical Facility Mercury Checklist

Best Management Practices for Mercury are taken from the AHA/EPA "Making Medicine Mercury-Free" Criteria.

Compliance with these BMPs may be considered as compliance with the local sewer use ordinance limit for mercury; wastewater sampling and analysis may also be waived by the municipality. It is the intention of the Mercury Pollutant Minimization Program to encourage implementation of mercury BMPs. Report date BMP implemented, or if not implemented, date anticipated.

	Yes	No	Date	Best Management Practice
Policy				1. Has your facility established a mercury plan and timeline for the reduction and eventual elimination of mercury-containing equipment and chemicals?
				2. Has your facility implemented an Environmentally Preferable Purchasing (EPP) policy for mercury products and a process to regularly review mercury use reduction and elimination progress?
				3. Has your facility established mercury management protocols for safe handling, mercury spill clean up procedures, disposal procedures, and education and training of employees?
Mercury Products				4. Has your facility replaced patient mercury thermometers?
				5. Has your facility replaced all or majority (75%) of mercury sphygmomanometers?
				6. Has your facility replaced all or majority (75%) of mercury clinical devices (bougies, miller-abbott tubes, dilators, etc)?
				7. Has your facility inventoried and labeled all mercury-containing facility devices (switches, thermostats, etc.)? **
				8. Has your facility implemented a program to recycle fluorescent lamps? **
				9. Has your facility implemented battery collection programs? **
Lab				10. Has your facility replaced all or majority (75%) of mercury lab thermometers?
				11. Has your facility replaced B5/Zenkers stains with non-mercury substitute?
				12. Has your facility inventoried mercury-containing lab chemicals?

** May not affect wastewater

Wastewater Sampling and Analysis (Not required for facilities implementing or scheduled to implement all BMPs)

Sampling Location _____ Mercury Effluent Concentration _____ Date _____

(Attach summary if multiple wastewater outfalls)

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of the individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete.

Name of Facility | Address | Size of Facility (Number of beds, employees, or other)

Printed Name of Official | Signature | Title | Phone | Date

FORM 4C: Medical Facility Compliance and Outreach Summary

General Outreach to All Medical Facilities

Outreach Accomplished	Outreach Planned

Outreach may include newspaper articles or advertisements, mailings, workshops, speaking engagements, etc. Identify type and date.

Compliance and Specific Outreach to Individual Medical Facilities

Name of Facility	Implemented All WW BMPs	Scheduled All WW BMPs	Wastewater Analysis	Outreach Accomplished	Outreach Planned

Outreach may include a site visit, an inspection, sampling, etc. Identify type and date.

Sector Evaluation *Notes:*

_____ % Implemented All WW BMPs
_____ % Scheduled to Implement All WW BMPs
_____ % In Compliance with Local Wastewater Limits

_____ Total % Compliant (Medical Mercury PMP Score)

Enter on Form 10 under IA: Medical Sector Score

FORM 5A: Dental Facility Inventory[1]

Name	Address	City, State, Zip Code	Type of Facility	Contact	Phone

[1] List should include all dental facilities that install or remove amalgam fillings. Dental facilities not working with amalgam do not need to be included.

FORM 5B: Dental Facility Mercury Checklist

Best Management Practices are those defined by the ADA and Installation of an Amalgam Separator meeting ISO 11143 Standards.

Compliance with the ADA recommended mercury management practices plus the installation and maintenance of an amalgam separator meeting ISO 11143 standards may be considered as compliance with the local sewer use ordinance limit for mercury; wastewater sampling and analysis may also be waived by the municipality. It is the intention of the Mercury Pollutant Minimization Program to encourage implementation of mercury BMPs. Report date BMP implemented, or if not implemented, date anticipated. If you do not place or remove amalgam fillings, check here, sign and return form. _____

Yes	No	Date	Best Management Practice
			1. Has all bulk mercury been eliminated from your stock at your dental office?
			2. Does your dental office use precapsulated alloys?
			3. Does your dental office recycle disposable amalgam capsules?
			4. Does your dental office capture and recycle non-contact scrap amalgam?
			5. Does your dental office capture and recycle contact amalgam including the contents of chair-side traps?
			6. Does your dental office recycle contact amalgam retained by the vacuum pump filter?
			7. Does your dental office disinfect and recycle extracted teeth with amalgam fillings?
			8. Does your dental office use non-chlorine, non-bleach line cleaners that minimize the dissolution of amalgam?
			9. Does your dental office have and maintain an amalgam separator meeting ISO standards? Manufacturer: _____Model: _____

Name and address of vendor where amalgam is recycled: _____

Wastewater Sampling and Analysis (Not required for facilities scheduling or implementing best management practices as defined above.)

Sampling Location _____ Mercury Effluent Concentration _____ Date _____

(Attach summary if multiple wastewater outfalls)

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of the individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete.

_____

Name of Facility Address Size of Facility (Number of chairs, employees, or other)

_____

Printed Name of Official Signature Title Phone Date

FORM 5C: Dental Facility Compliance and Outreach Summary

General Outreach to All Dental Facilities

Outreach Accomplished	Outreach Planned

Outreach may include newspaper articles or advertisements, mailings, workshops, speaking engagements, etc. Identify type and date.

Compliance and Specific Outreach for Individual Dental Facilities

Name of Facility	Implemented All BMPs	Scheduled All BMPs	Wastewater Analysis	Outreach Accomplished	Outreach Planned

Outreach may include a site visit, an inspection, sampling, etc. Identify type and date.

Sector Evaluation

_____ % Implemented All BMPs
_____ % Scheduled to Implement All BMPs
_____ % In Compliance with Local Wastewater Limits

_____ Total % Compliant (Dental Mercury PMP Score)

Enter on Form 10 under IB: Dental Sector Score

Notes:

FORM 6A: School and Educational Facility Inventory[1]

Name	Address	City, State, Zip Code	Type of Facility	Contact	Phone

[1] List should include all middle schools, high schools, technical schools, colleges, and universities.

FORM 6B: School Mercury Checklist

Best Management Practices for Mercury are taken from the WDNR's "Green and Healthy Schools" Criteria.

Compliance with these BMPs may be considered as compliance with the local sewer use ordinance limit for mercury; wastewater sampling and analysis may also be waived by the municipality. It is the intention of the Mercury Pollutant Minimization Program to encourage implementation of mercury BMPs. Report date BMP implemented, or if not implemented, date anticipated.

	Yes	No	Date	Best Management Practice
Policy				1. Has your school completed a mercury products inventory for the entire school?
				2. Does your school have an action plan in place to eliminate mercury-containing items that were found as a result of the inventory?
Mercury Products				3. Has all elemental mercury been eliminated from classrooms at your school?
				4. Have all mercury compounds been eliminated from classrooms and storerooms?
				5. Have all mercury lab thermometers been eliminated from the classrooms?
				6. Have all mercury lab barometers been eliminated from the classrooms?
				7. Have all mercury fever thermometers been eliminated from the nurse's office?
				8. Have all mercury blood-pressure cuffs been eliminated from the nurse's office?
				9. Are all mercury-containing items being stored in airtight, unbreakable containers?
				10. Has the danger of a mercury spill been mitigated by having a mercury spill kit and trained staffed to use the kit?
Optional				11. If your school has completed any of these activities, check below: ____ Classroom presentations on mercury ____ Recycling of fluorescent bulbs _____ Phase-out of mercury thermostats _____ Recycling of mercury batteries

Wastewater Sampling and Analysis (Not required for facilities implementing or scheduled to implement all BMPs)

Sampling Location _____ Mercury Effluent Concentration _____ Date _____

(Attach summary if multiple wastewater outfalls)

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of the individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete.

_____

Name of Facility Address Size of Facility (Number of students, employees, or other)

_____

Printed Name of Official Signature Title Phone Date

FORM 6C: School and Educational Facility Compliance and Outreach Summary

General Outreach to All School and Educational Facilities

Outreach Accomplished	Outreach Planned

Outreach may include newspaper articles or advertisements, mailings, workshops, speaking engagements, etc. Identify type and date.

Compliance and Specific Outreach for Individual School and Educational Facilities

Name of Facility	Implemented All BMPs	Scheduled All BMPs	Wastewater Analysis	Outreach Accomplished	Outreach Planned

Outreach may include a site visit, an inspection, sampling, etc. Identify type and date.

Sector Evaluation

_____ % Implemented All BMPs
_____ % Scheduled to Implement All BMPs
_____ % In Compliance with Local Wastewater Limits
_____ Total % Compliant (School Mercury PMP Score)

Enter on Form 10 under IC: School Sector Score

Notes:

FORM 7A: Industry Inventory[1]

Name	Address	City, State, Zip Code	Type of Facility	Contact	Phone

[1] List should include all industries and businesses identified by the POTW as having potential for mercury wastewater contributions (see instructions).

FORM 7B: Industry Mercury Checklist

Best Management Practices for Mercury are Defined as Listed Below

Compliance with these BMPs may be considered as compliance with the local sewer use ordinance limit for mercury; wastewater sampling and analysis may also be waived by the municipality. It is the intention of the Mercury Pollutant Minimization Program to encourage implementation of mercury BMPs. Report date BMP implemented, or if not implemented, date anticipated.

	Yes	No	Date	Best Management Practice
Policy				1. Has your facility established a mercury policy statement that includes the reduction or virtual elimination of mercury?
				2. Has your facility developed a plan to phase-out mercury-containing devices?
				3. Has your facility implemented a chemical management program that includes pre-purchase review and approval?
				4. Has your facility established mercury management protocols for safe handling, mercury spill clean up procedures, disposal procedures, and education and training of employees about these protocols?
Devices				5. Has your facility inventoried all mercury-containing devices (such as switches, thermostats, etc)? **
				6. Has your facility labeled mercury-containing devices to recycle at the end of life? **
				7. Has your facility implemented a program to recycle fluorescent lamps? **
				8. Does your facility properly recover and recycle elemental mercury and mercury-containing products? **
Chemicals				9. Has your facility requested certificates of analysis for bulk chemicals known to have potential mercury contamination?
				10. Has your facility reduced the use of mercury-containing chemicals as much as feasible?
				11. If applicable, has your facility inventoried mercury-containing lab chemicals, thermometers and other devices with a plan for non-mercury product substitution?

** May not effect wastewater

Wastewater Sampling and Analysis (Not required for facilities implementing or scheduled to implement all BMPs.)

Sampling Location _____ Mercury Effluent Concentration _____ Date _____
(Attach summary if multiple wastewater outfalls)

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of the individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete.

_____

Name of Facility Address Phone

_____

Printed Name of Official Signature Title Date

FORM 7C: Industry Compliance and Outreach Summary

General Outreach to All Industrial Facilities

Outreach Accomplished	Outreach Planned

Outreach may include newspaper articles or advertisements, mailings, workshops, speaking engagements, etc. Identify type and date.

Compliance and Specific Outreach for Individual Industrial Facilities

Name of Facility	Implemented All WW BMPs	Scheduled All WW BMPs	Wastewater Analysis	Outreach Accomplished	Outreach Planned

Outreach may include a site visit, an inspection, sampling, etc. Identify type and date. Add additional pages as necessary.

Sector Evaluation

Notes:

_____ % Implemented All WW BMPs
_____ % Scheduled to Implement All WW BMPs
_____ In Compliance with Local Wastewater Limits

_____ Total % Compliant (Industry Mercury PMP Score)

Enter on Form 10 under ID: Industry Sector Score

Form 8A: General Public Mercury Checklist and Outreach Summary

Best Management Practices for mercury are defined as reducing household use of new mercury-containing products and recycling (rather than discarding) old mercury-containing products.

List participation by households in reducing their use of new mercury containing products (i.e.: retail stores that no longer sell mercury fever thermometers) and participation by households in recycling their old mercury-containing products (i.e.: "CleanSweep" events for mercury thermometers). Include adoption of local ordinances that affect mercury product sale or recycling. *Note: Common household mercury products include fever and other thermometers, thermostats, "silent" light switches, and containers of liquid mercury.* Attach additional sheets as necessary.

Household Mercury Product	Discontinued Sale (Describe)	Recycled Products (Quantity)

Outreach activities to households (and retail stores). List date accomplished. Attach additional sheets as necessary.

Activity:	Website/Ads in Paper/Displays	Mailings/Surveys	Collection Events	Workshops/ Community Events	Site Visits/ Personal Contacts	Other: Describe
Date						
Date						
Date						
Date						
Date						

Sector Evaluation

The score for the General Public Sector is calculated based on a formula that uses POTW size and the number of outreach events. *The maximum value for the general public sector score is 100.*

# of outreach events x **facility factor** = **General Public Mercury PMP Score**

Enter on Form 10 under IIA: General Public Sector Score

Facility Size (MGD)	Facility Factor
1------4.9	10
5-----49.9	5
50----250	1

FORM 8B: HVAC (Thermostat) Mercury Checklist and Outreach Summary

Best Management Practices for mercury are defined as collecting and recycling mercury thermostats.

List HVAC wholesalers and contractors that collect and recycle mercury thermostats; include retail stores that offer this service. Attach additional sheets as necessary.

Name	Address	City/State Zip Code	Type of Facility

Estimated total number of HVAC wholesalers and contractors in service area: _____

Outreach activities to HVAC wholesalers and contractors. List date accomplished. Attach additional sheets as necessary.

Activity:	Website/Ads in Paper/Displays	Mailings/Surveys	Collection Events	Workshops/ Community Events	Site Visits/ Personal Contacts	Other: Describe
Date						
Date						
Date						
Date						
Date						

Sector Evaluation

_____ **HVAC (Thermostat) Mercury PMP Score**
(% HVAC wholesalers and contractors collecting and recycling mercury thermostats in service area).

Enter on Form 10 under IIB: HVAC Sector Score

Notes:

FORM 8C: Auto Switch Mercury Checklist and Outreach Summary

Best Management Practices for mercury are defined as removing and recycling auto mercury switches.

List auto-scrap yards that remove and recycle mercury hood and trunk switches; include dealerships that perform this same service. Attach additional sheets as necessary.

Name	Address	City/State/Zip Code	Type of Facility

Estimated total number of auto scrap yards and dealerships in service area: _____

Outreach activities to auto scrap yards and dealerships. List date accomplished. Attach additional sheets as necessary.

Activity:	Website/Ads in Paper/Displays	Mailings/Surveys	Collection Events	Workshops/ Community Events	Site Visits/ Personal Contacts	Other: Describe
Date						
Date						
Date						
Date						
Date						

Sector Evaluation *Notes:*

_____ **Auto Switch Mercury PMP Score**
(% auto scrap yards and dealerships removing and recycling mercury hood and trunk switches in service area).

Enter on Form 10 under IIC: Auto Switch Sector Score

Form 8D: Fluorescent Bulb Mercury Checklist and Outreach Summary

Best Management Practices for mercury are defined as increasing business and household use of energy-efficient low-mercury fluorescent bulbs and recycling (rather than discarding) burned out fluorescent bulbs.

List participation by businesses and households in recycling their burned out fluorescent bulbs, including both continuous and one-time "CleanSweep" events. Include adoption of local ordinances that affect fluorescent bulb recycling. Attach additional pages as necessary.

Business Fluorescent Bulb Recycling (Quantity, %, or other measures)	Household Fluorescent Bulb Recycling (Quantity, %, or other measures)

Outreach activities to businesses, households (and retail stores) promoting fluorescent bulb recycling. List date accomplished. Attach additional pages as necessary.

Activity:	Website/Ads in Paper/Displays	Mailings/Surveys	Collection Events	Workshops/ Community Events	Site Visits/ Personal Contacts	Other: Describe
Date						
Date						
Date						
Date						
Date						

Sector Evaluation

The score for the Fluorescent Bulb Sector is calculated based on a formula that uses POTW size and the number of outreach events. *The maximum value for the fluorescent bulb sector score is 100.*

# of outreach events x **facility factor** = **Fluorescent Bulb Mercury PMP Score**

Enter on Form 10 under IID: Fluorescent Bulb Sector Score

Facility Size (MGD)	Facility Factor
1------4.9	10
5-----49.9	5
50----250	1

FORM 9A: Historical Mercury PMP Score

This form gives credit to your POTW for mercury reduction projects completed before implementing a Mercury PMP. The information on the form will not change from year to year. The form is divided into outreach aimed at wastewater sectors and outreach aimed at optional sectors (dairy manometer outreach refers to farms that have participated in replacing and recycling their milk house mercury manometers). For each outreach activity that your POTW has done in the past, put a check in the corresponding box. To calculate your Historical Mercury Score, count the total number of boxes checked and enter that number in the box on the bottom of the page and also on Form 10.

		OUTREACH ACTIVITIES						SECTOR ACCOMPLISHMENTS			
		Ads in Paper/ Displays/ Website	Mailings/ Surveys	Collection Events	Workshops/ Community Events	Site Visits/ Personal Contacts	Other: Describe	Replaced Mercury Products	Recycled Mercury Products	Installed Mercury Treatment	Other - Describe
Wastewater Sectors	*Medical*										
	Dental										
	School										
	Industry										
Other Community Sectors	*General Public*										
	HVAC										
	Auto Switch										
	Fluorescent Bulb	x	x								
	Dairy Manometer										
	Other - Define										

Sector Evaluation:

Notes:

2 **Number of Mercury Outreach Activities and Mercury Sector Accomplishments:** (Total boxes checked)

For Annual Report: Enter on Form 10 under IIIA: Historical Score

FORM 9B: Extra-jurisdictional Mercury PMP Score

This form gives credit for mercury projects your POTW has completed outside the treatment plant service area. For the initial plan, include all activities you have implemented. For the annual report, include all activities that have occurred only in the past 12 months. The form is divided into outreach aimed at wastewater sectors and outreach aimed at optional sectors. For each outreach activity or sector accomplishment, put a check in the corresponding box. To calculate your Extra-jurisdictional Mercury Score, count the total number of boxes checked and enter that number in the box on the bottom of the page and also on Form 10.

		OUTREACH ACTIVITIES						SECTOR ACCOMPLISHMENTS			
		Ads in Paper/ Displays/ Website	**Mailings/ Surveys**	**Collection Events**	**Workshops/ Community Events**	**Site Visits/ Personal Contacts**	**Other: Describe**	**Replaced Mercury Products**	**Recycled Mercury Products**	**Installed Mercury Treatment**	**Other - Describe**
Wastewater Sectors	*Medical*										
	Dental										
	School										
	Industry										
Other Community Sectors	*General Public*										
	HVAC										
	Auto Switch										
	Fluorescent Bulb										
	Dairy Manometer										
	Other - Define										

Sector Evaluation: *Notes:*

_____ **Number of Mercury Outreach Activities and Mercury Sector Accomplishments:** (Total boxes checked)

or Annual Report: Enter on Form 10 under IIIB: Extra-jurisdictional Score

FORM 10: Community Mercury PMP Score

Facility Name: Stoughton WWTP Report Date: _____

I. Wastewater Sectors: (**Should** to be included in Mercury PMP Plan)

Sector	Sector Score	x	Weighting Factor*	=	Weighted Sector Score
A: Medical (from Form 4C)	_____	x	_____ (0.15)	=	_____
B: Dental (from Form 5C)	_____	x	_____ (0.50)	=	_____
C: School (from Form 6C)	_____	x	_____ (0.15)	=	_____
D: Industry (from Form 7C)	_____	x	_____ (0.20)	=	_____

Total Wastewater Sectors Score [ ]

* Weighting factor is the relative fraction of mercury to POTW that is attributable to each sector. If you know what fraction comes from each sector you can adjust accordingly. The weighting factors must add up to 1. Use default values in parenthesis above if unknown.

II. Other Community Sectors: (**May** be included in Mercury PMP Plan)

Sector	Sector Score	x	Weighting Factor**	=	Weighted Sector Score
A: General Public (from Form 8A)	_____	x	0.1	=	_____
B: HVAC (from Form 8B)	_____	x	0.1	=	_____
C: Auto Switch (from Form 8C)	_____	x	0.1	=	_____
D: Fluorescent Bulb (from Form 8D)	_____	x	0.1	=	_____

Total Other Community Sectors Score [ ]

** Weighting factor is between 0.0 and 0.1. Wisconsin's weighting factor is 0.1.

III. Other Credits: (**May** be included in Mercury PMP Plan)

Other	Score	x	Weighting Factor**	=	Weighted Score
A: Historical (from Form 9A)	_____	x	0.1	=	_____
B: Extra-jurisdictional (from Form 9B)	_____	x	0.1	=	_____

Total Other PMP Credits Score [ ]

** Weighting factor is between 0.0 and 0.1. Wisconsin's weighting factor is 0.1.

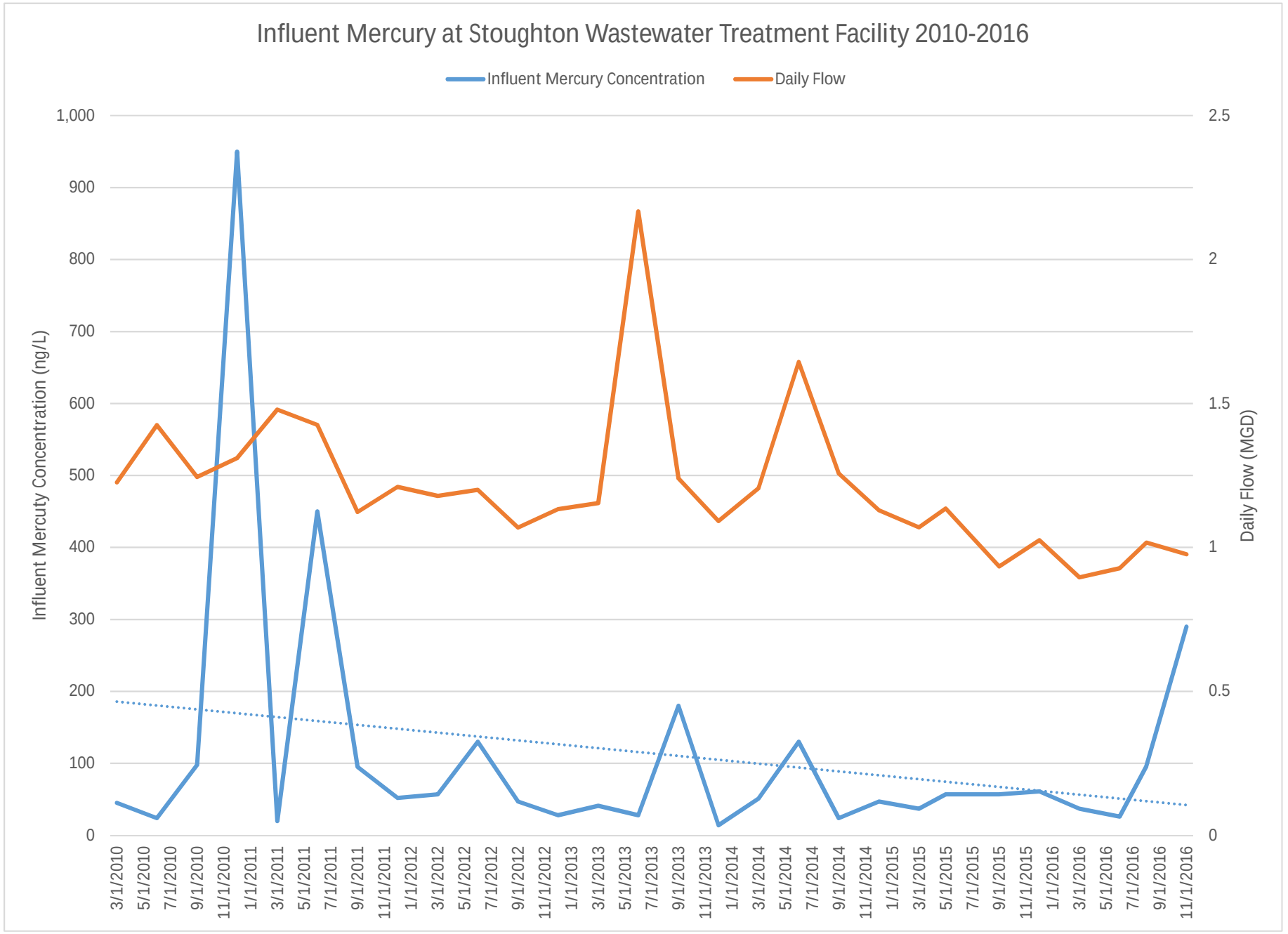
IV. Community Mercury PMP Score:

Total Score

Sum of Wastewater Sectors, Other Community Sectors and Other PMP Credits [ ]

ATTACHMENT B
MERCURY DATA

Figure B-1


Influent Mercury at Stoughton Wastewater Treatment Facility 2010-2016
Influent Mercury Concentration
Daily Flow
Influent Mercuty Concentration (ng/L)
Daily Flow (MGD)
1,000
900
800
700
600
500
400
300
200
100
0
2.5
2
1.5
1
0.5
0
3/1/2010
5/1/2010
7/1/2010
9/1/2010
11/1/2010
1/1/2011
3/1/2011
5/1/2011
7/1/2011
9/1/2011
11/1/2011
1/1/2012
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11/1/2014
1/1/2015
3/1/2015
5/1/2015
7/1/2015
9/1/2015
11/1/2015
1/1/2016
3/1/2016
5/1/2016
7/1/2016
9/1/2016
11/1/2016

Figure B-2

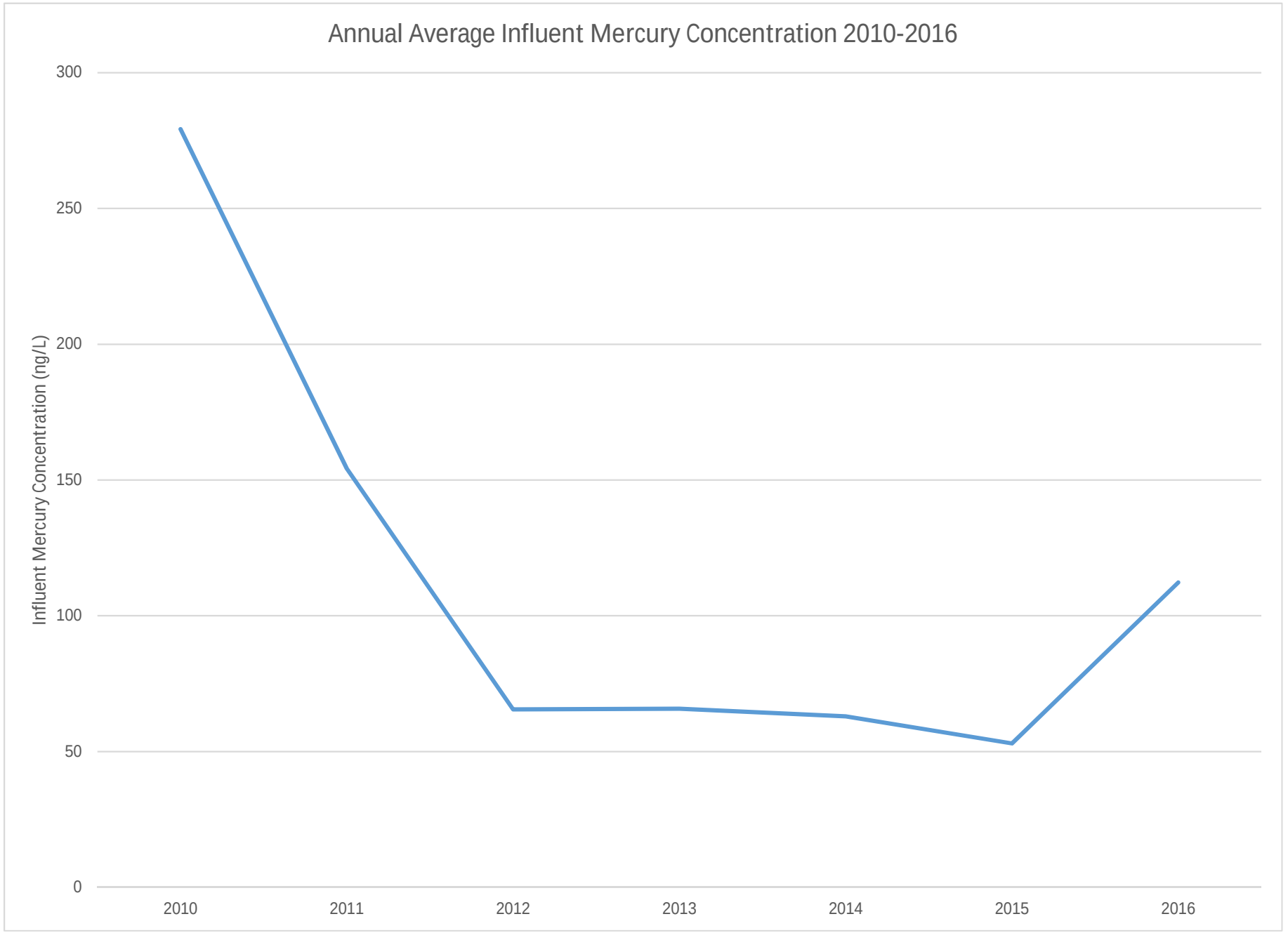
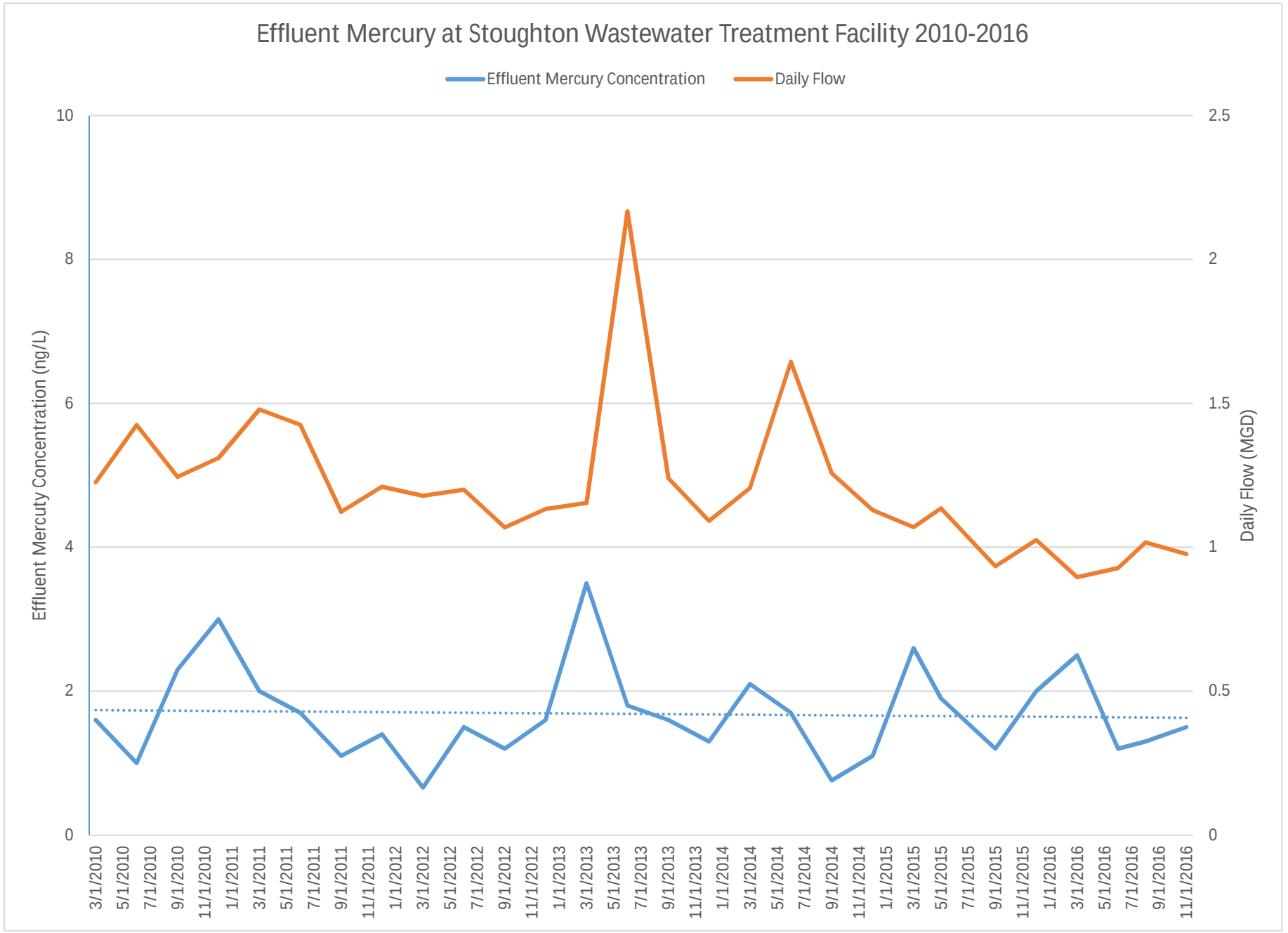

Annual Average Influent Mercury Concentration 2010-2016
Influent Mercury Concentration (ng/L)
300
250
200
150
100
50
0
2010
2011
2012
2013
2014
2015
2016

Figure B-3


Effluent Mercury at Stoughton Wastewater Treatment Facility 2010-2016
Effluent Mercury Concentration
Daily Flow
Effluent Mercuty Concentration (ng/L)
Daily Flow (MGD)
10
8
6
4
2
0
2.5
2
1.5
1
0.5
0
3/1/2010
5/1/2010
7/1/2010
9/1/2010
11/1/2010
1/1/2011
3/1/2011
5/1/2011
7/1/2011
9/1/2011
11/1/2011
1/1/2012
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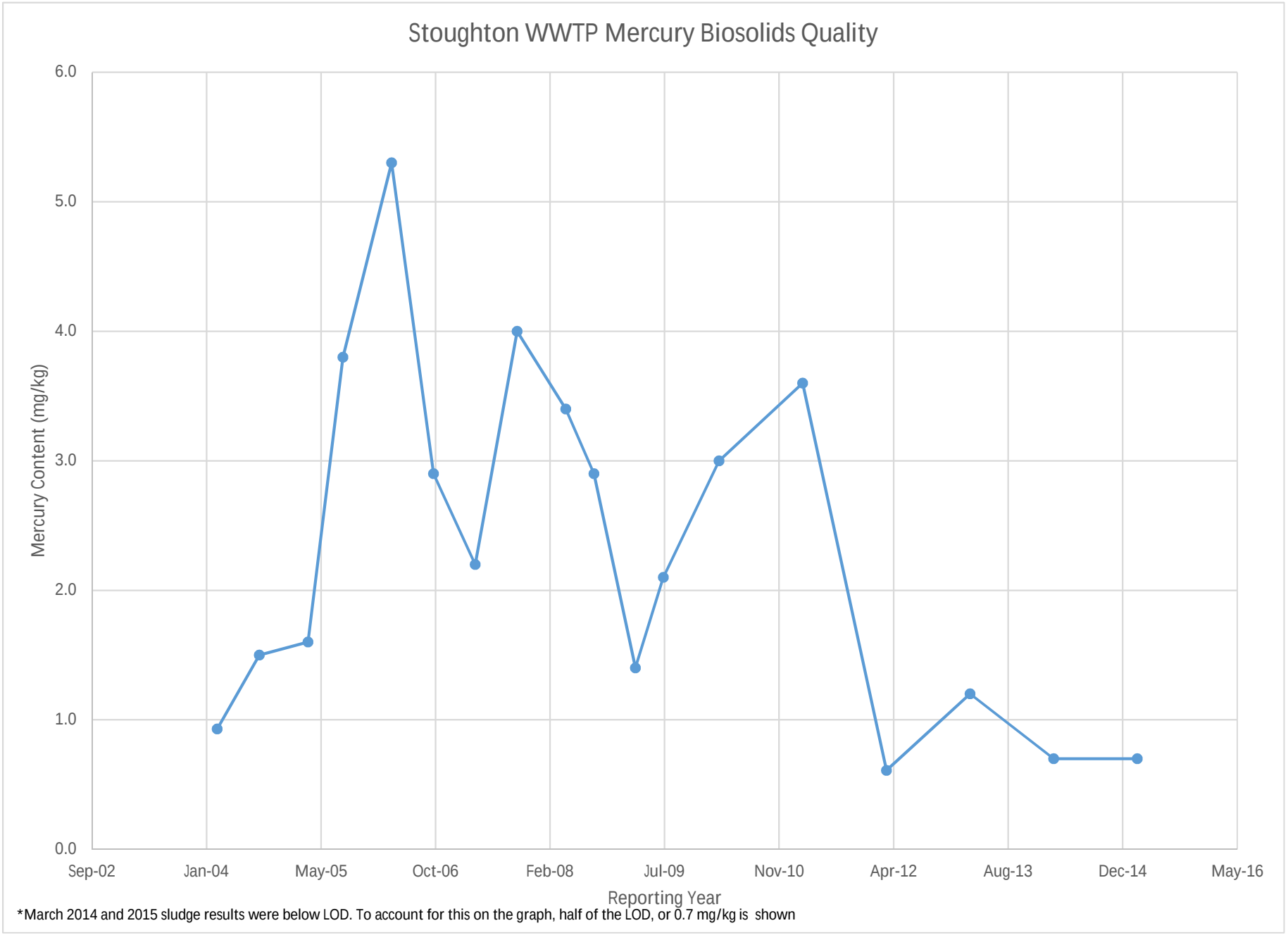
5/1/2015
7/1/2015
9/1/2015
11/1/2015
1/1/2016
3/1/2016
5/1/2016
7/1/2016
9/1/2016
11/1/2016

Figure B-4



*March 2014 and 2015 sludge results were below LOD. To account for this on the graph, half of the LOD, or 0.7 mg/kg is shown

Table B-1

Quarterly Influent and Effluent Mercury Concentration Sample Results

DATE	INFLUENT (ng/L)	EFFLUENT (ng/L)	FLOW (MGD)	COMMENTS
3/26/2016	37	2.5	0.896	
6/2/2016	26	1.2	0.928	
8/31/2016	96	1.3	1.017	
4-Nov	290	1.5	0.976	
3/31/2015	37	2.6	1.07	
5/18/2015	57	1.9	1.135	
9/22/2015	57	1.2	0.934	
12/31/2015	61	2	1.025	
3/11/2014	51	2.1	1.206	
6/30/2014	130	1.7	1.644	
9/30/2014	24	0.76	1.257	
12/9/2014	47	1.1	1.129	
3/27/2013	41	3.5	1.154	
6/27/2013	28	1.8	2.167	
9/30/2013	180	1.6	1.24	
12/31/2013	14	1.3	1.092	
3/27/2012	57	0.66	1.179	
6/29/2012	130	1.5	1.2	
9/26/2012	47	1.2	1.069	
12/18/2012	28	1.6	1.133	
3/16/2011	20	2	1.479	
6/30/2011	450	1.7	1.426	
9/30/2011	95	1.1	1.123	
12/30/2011	52	1.4		No flow data, used average daily flow of 1.21 MGD for graph
3/8/2010	45	1.6	1.226	
6/28/2010	24	1	1.425	
9/14/2010	98	2.3	1.245	
12/7/2010	950	3	1.31	

Table B-2

Annual Biosolids Sludge Concentration Sample Results

Reporting Year	Sludge (mg/kg)
Mar-15	<LOD
Mar-14	<LOD
Mar-13	1.2
Mar-12	0.61
Mar-11	3.6
Mar-10	3
Jul-09	2.1
Mar-09	1.4
Sep-08	2.9
May-08	3.4
Oct-07	4
Apr-07	2.2
Oct-06	2.9
Apr-06	5.3
Sep-05	3.8
Apr-05	1.6
Sep-04	1.5
Mar-04	0.93

ATTACHMENT C
EXAMPLE MERCURY SURVEY

STOUGHTON UTILITIES WASTEWATER TREATMENT PLANT
COMMERCIAL/INSTITUTIONAL SURVEY
MERCURY SOURCE MINIMIZATION STUDY

With the next issuance of the City of Stoughton's Wisconsin Pollutant Discharge Elimination System (WPDES) permit, additional requirements for mercury control are expected. The purpose of these requirements is to lower mercury contributions to Wisconsin's rivers and lakes. In the environment, a percentage of mercury undergoes a biological/chemical process and is converted to methyl mercury, which is a more toxic form of mercury. Once mercury is introduced to the sanitary sewer system, it becomes difficult and expensive to treat at the treatment plant.

Stoughton Utilities can generally meet the current effluent mercury limit set by the Wisconsin Department of Natural Resources (WDNR) of around 3.3 ng/L. However, the new regulations may result in an effluent mercury limit as low as 1.3 ng/L. For this low limit, a costly tertiary treatment process may be required, resulting in significant increases in sewer user charges including higher surcharge rates for mercury.

As a first step to compliance, it is prudent to review the sources of mercury in the wastewater discharged to the sanitary sewer system to see if they can be minimized. Some commercial, institutional, or industrial establishments discharge mercury to the sewerage system because it is present in fluorescent tubes and bulbs, button batteries from watches and hearing aids, chemistry sets, older thermometers and temperature switches, and older toys and games. In some cases, it may be feasible for these facilities to eliminate or reduce sources if it can be done without significant cost to the facility or adverse impact on the operations. Minimizing mercury in the wastewater by disposing of these products appropriately may be much more economical than removing it using tertiary treatment at the wastewater treatment plant. The Dane County Clean Sweep Program allows for disposal of products containing mercury by appropriate methods.

The purpose of this survey is to obtain the information required to explore mercury minimization.

Please complete the form by filling in answers to the following questions, and provide a copy to Brian Erickson at Stoughton Utilities, berickson@stoughtonutilities.com or P.O. Box 383, Stoughton, WI 53589 by _____.

1. Name and Address of Business or Facility:

2. Whom should we contact for additional information?

   Name: _____
   Telephone No.: _____
   E-mail: _____

3. Service(s) performed:

4. Mercury

   a. Do you have any products containing mercury that could result in mercury discharge to the sewer? These products may include fluorescent tubes and bulbs, button batteries from watches and hearing aids, chemistry sets, older thermometers and temperature switches, older toys and games, and so on.

      Yes ( ) No ( )

   b. If yes to a. above, please provide a list of all products containing mercury.

   c. For any of the above products, are you aware of disposal methods that could prevent undesirable mercury to enter the sanitary sewer system? Please describe current disposal methods for mercury products at your facility.

      Yes ( ) No ( )

Your assistance with this survey is appreciated. If you have questions, please call Jane Carlson at Strand Associates, Inc.®, Madison, Wisconsin, 608-251-4843.

Substantial Compliance Determination

Permittee Name: CITY OF STOUGHTON		Permit Number: 0020338-09-0
	Compliance?	Comments
Discharge Limits	Yes	No effluent violations during current permit term.
Sampling/testing requirements	Yes	The required sampling is being performed.
Groundwater standards	NA	No groundwater requirements in current WPDES permit.
Reporting requirements	Yes	Required reports are submitted on time. Some late submittals of Land Application forms but this is not a chronic issue.
Compliance schedules	Yes	Compliance schedules were included for phosphorus and mercury variance. The City is participating in the Yahara WINS adapative mangement project and will need a compliance schedule for annual reports. Annual reports for the mercury variance will also need to be continued because the City intends to reapply.
Management plan	Yes	A Pollutant Minimization Plan (PMP) is required as part of the Mercury variance and is being followed. The City plans on reapplying for the Mercury variance.
Other:	Yes	Operator in Charge (OIC) is at proper certification. Required: Advanced - A1, B, C, D, L, P & SS
Enforcement Considerations	None	
In substantial compliance?	Yes Comments: After review of all required compliance reports, discharge monitoring reports and a site inspection performed on 4/4/17, the City has been found to be in substantial compliance with all terms and conditions of their current WPDES permit. Signature: Amy Garbe Date: 04/10/2017 Concurrence: Date:	

210 Martin Luther King Jr. Blvd. Room 362 Madison, WI 53703 Phone: 608-266-4137 Fax: 608-266-9117 www.CapitalAreaRPC.org info@CapitalAreaRPC.org

Sent via email
November 2, 2018

Mr. Phillip Spranger
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

RE: Notice of Intent to Reissue WPDES Permit No. WI-0020338-09-0
City of Stoughton WWTF
700 Mandt Parkway
Stoughton, WI 53589

Dear Mr. Spranger:

CARPC has reviewed the proposed limits and conditions outlined in the Notice of Intent to Reissue the subject WPDES permit. We support the proposed discharge limit and monitoring modifications from the previous permit issuance. The modifications of the permit and the conditions under which discharge will be permitted would be consistent with the published *Dane County Water Quality Plan* as updated and revised.

We commend the City of Stoughton for establishment of a mercury pollutant minimization program prior to issuance of their previous permit. It is recommended that the City follow their mercury operational evaluation optimization report and update it as necessary to achieve mercury reductions consistent with the upcoming permit limits. We also commend the City for taking part in the MMSD's Yahara WINs Adaptive Management approach to reduce total phosphorus within the Yahara River Basin. The WWTP is consistently operating near full design biological loadings and the City has been working with industrial customers to reduce BOD loads. In 2015, influent (C)BOD loading was greater than 90 percent of design six months of the year and exceeded 100 percent of design loading in one month. However, in 2016, influent (C)BOD loading was greater than 90% of design only three months of the year and did not exceed 100 percent of design loading in any month. In both years, plant effluent was consistently well below its discharge permit limit for (C)BOD. Also, based on DOA population projections for the City and average annual per capita wastewater generation rates, hydraulic capacity of the existing wastewater treatment facility is expected to reach 90 percent of design capacity by 2020 and is expected to approach full capacity near 2040. The City's engineering consultant prepared a long range strategic plan in 2015 to evaluate plant operations, including loadings. It is recommended that the City implement the recommendations of that report. It is also recommended that the City continue its efforts to reduce I/I to achieve improved operational efficiency and reduce cost and work to reduce per capita water use across the service area.

Sincerely,

Tony Vandermuss

Tony Vandermuss, PE, ENV SP, LEED AP
Environmental Engineer

cc: Ms. Amy Garbe, Wisconsin Department of Natural Resources *(via email)*
Mr. Brett Hebert, Stoughton Director of Public Works *(via email)*
Mr. Brian Erickson, Stoughton Wastewater System Supervisor *(via email)*

Stoughton Utilities
600 South Fourth Street P.O. Box 383
Stoughton, WI 53589-0383
Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Subject: Annual LED holiday light customer incentive

Each year since 2011, Stoughton Utilities has offered a holiday light themed customer incentive. In past years, customers could bring in sets of older inefficient incandescent holiday lights and exchange them for sets of new energy efficient LED holiday lights. In 2017 we added the addition of indoor and outdoor light timers to promote energy conservation.

Since 2013, we have also paired the LED holiday light incentive with food drives and fundraising efforts for the Stoughton Food Pantry, with customers donating 3,927 pounds of food items and $1,650 in cash over these years. Along with the customer donations, Stoughton Utilities also made supplemental monetary donations to the food pantry from our Community Contributions Fund totaling $2,350.

Several changes are being made to this incentive for the 2018 holiday season. Stoughton Utilities has partnered with the Stoughton Personal Essentials Pantry to collect donations of household essentials that aren't provided at the food pantry, including toilet paper, Kleenex, soap, toothpaste, winter mittens, and more. This year, customers who donate four items will receive both a string of LED holiday lights and their choice of an indoor or outdoor timer.

Although an exchange of incandescent lights is no longer required, we will continue to allow customers to drop them off to be responsibly recycled.

MAKING SPIRITS BRIGHT WITH ENERGY EFFICIENT LIGHTS

Make your holidays shine bright with energy efficient LED holiday lights.

LEDs can last up to 40 years, use 90% less energy than traditional lights, and are easy to install. All of which means a safer (and less expensive!) holiday season for you and your family. This year, bring in donations for the Stoughton Personal Essentials Pantry and receive a new string of LED holiday lights and light timer! The Personal Essentials Pantry helps families in Stoughton with household essentials that aren't provided at the food pantry, including: toilet paper, kleenex, body wash, toothbrushes, winter hats and more. Visit our website for a full list of items needed!

STOP BY OUR OFFICE TO GET YOUR FREE LIGHTS!

Available while supplies last. Four item donation required for one string of lights and one light timer. Limit one string of lights and one timer per account.

Stoughton Utilities

At Stoughton Utilities, we join forces with other local not-for-profit utilities through WPPI Energy to share resources and lower costs.

stoughtonutilities.com **(608) 873-3379**

Shared strength through WPPI Energy

Stoughton Utilities

600 South Fourth Street P.O. Box 383
Stoughton, WI 53589-0383

Serving Electric, Water & Wastewater Since 1886

Date: November 13, 2018

To: Stoughton Utilities Committee

From: Brian R. Hoops
Stoughton Utilities Assistant Director

Subject: Utilities Committee Future Agenda Item(s)

This item appears on all agendas of Committees of the City of Stoughton.