Rose & Westra
A Division of GZA

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April 30, 2023
File No. 16.0062961.61

Ms. Karen Vorce, District Supervisor
Grand Rapids District Office
Remediation and Redevelopment Division
Michigan Department of Environment, Great Lakes, and Energy
350 Ottawa Avenue NW, Unit 10
Grand Rapids, Michigan 49503
vorcek@michigan.gov

Re: Wolverine World Wide, Inc. Consent Decree Court Case No. 1:18-cv-00039
Filter Completion Report

Dear Ms. Vorce:

On behalf of Wolverine World Wide, Inc. (Wolverine), Rose & Westra, a Division of GZA GeoEnvironmental, Inc. (R&W/GZA), is submitting this cover letter and enclosure in response to the referenced Consent Decree, effective February 19, 2020.

This submittal includes the Filter Completion Report identified in Section 7.12(a)(i) of the Consent Decree.

If you have any questions, please contact us.

Very truly yours,

Rose & Westra, a Division of GZA GeoEnvironmental, Inc.

Loretta J. Powers, CHMM
Associate Principal

Mark A. Westra
Principal

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Enclosure: Filter Completion Report

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FILTER COMPLETION REPORT
Kent County, Michigan

DRAFT

Disclaimer: This document is a DRAFT document that has not received approval from the Michigan Department of Environment, Great Lakes, and Energy (EGLE). This document was prepared pursuant to a court Consent Decree. The opinions, findings and conclusions expressed are those of the authors and not those of EGLE.

April 30, 2024
File No. 16.0062335.61

PREPARED FOR:
Wolverine World Wide, Inc.
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APPENDICES

1.0 INTRODUCTION

On behalf of Wolverine World Wide, Inc. (Wolverine), Rose & Westra, a Division of GZA GeoEnvironmental, Inc. (R&W/GZA), prepared this Filter Completion Report (Filter CR) summarizing the activities completed associated with the *Revision to POET and POU O&M Work Plan* dated January 6, 2020 (Work Plan; **Appendix A**) and September 16, 2020 *Alternate Water Supply Management Plan Point-of-Entry Treatment Systems* (POET O&M; **Appendix B**) and associated supplemental documentation. The Work Plan was implemented as set forth in the Consent Decree No. 1:18-cv-00039-JTM-ESC, effective February 19, 2020 (CD).

Section 7.12(a)(i) of the CD indicates this Filter CR shall be submitted no later than the completion of the municipal water extensions required by Section IV. While the municipal water extensions required by Section IV are substantially complete, not all connections and associated post-construction tasks are complete as of the date of this Filter CR. Wolverine and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) agreed on an April 30, 2024 due date for this Filter CR based on the substantial completion of the municipal water installation. Wolverine and EGLE also agreed March 30, 2024 would be the end date for data included in this report (i.e. status of properties will be determined on March 30, 2024).

The CD indicates the Filter CR:

(A) demonstrates that Defendant has met the conditions in Paragraph 7.5;

(B) provides for the continued implementation of the Response Activity Plan for Operation and Maintenance submitted pursuant to Paragraph 7.4(b)

(C) provides a proposed Financial Assurance Mechanism as set forth in Section VIII (Financial Assurance) for the long-term operation of filters.

2.0 CONDITIONS OF CD PARAGRAPH 7.5

Section 7.5 of the CD:

7.5 Filters.

(a) Defendant shall operate and maintain all whole house filters and point of use filters required to be installed, operated, or maintained pursuant to this Consent Decree in accordance with the performance objective in Paragraph 7.1(b) as set forth in Appendix L—Statement of Work for Operation and Maintenance and the Response Activity Plan in Paragraph 7.4(b).

(b) Defendant will continue to operate and maintain all filters Defendant has installed as of the Effective Date in the Municipal Water Areas in accordance with Appendix L— Statement of Work for Operation and Maintenance and the Response Activity Plan in Paragraph 7.4(b) until municipal water is installed for that particular property owner.

(c) In the Filter Areas, Defendant will continue operation and maintenance in accordance with Appendix L— Statement of Work for Operation and Maintenance and the Response Activity Plan in Paragraph 7.4(b) on the following filters existing as of the Effective Date:

(i) All filters Defendant has installed in homes with concentrations of PFOA + PFOS above 10 ppt in water coming into the home and prior to

treatment unless and until new, applicable cleanup criteria become effective[1]; and

(ii) If new, applicable cleanup criteria become effective, all filters Defendant has installed in the Filter Areas with PFAS Compounds with concentrations above applicable cleanup criteria in water coming into the home and prior to treatment.

(d) Wolverine will cease operation and maintenance of any filters that are not required to be operated and maintained under this Consent Decree in accordance with Appendix L—Statement of Work for Operation and Maintenance and the Response Activity Plan in Paragraph 7.4(b).

(e) Defendant shall offer to install and maintain new filters for any residential drinking water well existing on the Effective Date in the Filter Areas if a drinking water well sample, including those samples collected pursuant to Paragraph 7.6, (i) contains concentrations of PFOA+ PFOS above 10 ppt until new applicable cleanup criteria become effective or (ii) if new applicable cleanup criteria become effective, contains PFAS Compounds at concentrations that exceed applicable criteria for PFAS Compounds.

(f) If at any time in the future a home in the Filter Area where Defendant is operating and maintaining a filter is hooked up to a municipal water supply, Defendant may cease operation and maintenance on that home's filter upon written notice to MDEQ and the homeowner.

(g) For any filter Defendant ceases to operate and maintain pursuant to a process set forth in this Consent Decree, Defendant shall be responsible for the proper removal of the filter system and spent granular activated carbon from the home unless the homeowner agrees in writing to keep the filter system.

The Response Activity Plan for the Operation and Maintenance of Filters (so-called POET O&M) outlines the implementation of the requirements identified in CD Section 7.5. Appendix K of the CD indicates the POET O&M must be submitted within 45 days of the entry of the CD. As such, the POET O&M was due on and transmitted to EGLE on April 6, 2020. A revised, final version incorporating EGLE's review comments was submitted on September 16, 2020.

Appendix I of the CD contains a list and map of the property parcels included in the Municipal Water Areas (**Appendix C**). The Filter Areas are mapped in the CD in Appendix D (also included in **Appendix C**). Prior to the implementation of the CD, 540 point-of-entry treatment (POET) filters and 237 point of use (POU) filters were installed by Wolverine in these areas.

[1] When established, the CD identified concentrations of PFOA+PFOS above 10 ηg/l (ppt) in water coming into a home/building as the threshold for filter installation and O&M applicability. However, the CD also indicates if applicable cleanup criteria become effective, they supersede the 10 ppt PFOA+PFOS. On August 3, 2020, Michigan Part 201 drinking water criteria were implemented for 8 ppt for PFOA and 16 ppt for PFOS. These Part 201 criteria supersede the 10 ppt PFOS+PFOA established in the CD (which is referenced throughout this report).

2.1 POET AND POU O&M

Tables 1 and 2 list the POETs and POUs requiring Wolverine O&M per the CD. These tables also include POU filters which were later installed and maintained by Wolverine (see **Section 2.4**) and notes about the carbon change outs for each unit.

POETS

On the Effective Date of the CD, 458 POETs required O&M by Wolverine (19 in the Filter Areas and 439 in the Municipal Water Areas). Based on concentrations of PFOS+PFOA below 10 ppt in the Filter Area, 82 POETs were no longer under Wolverine O&M.

The POET O&M was completed to include the following POET operations and maintenance as established in the Work Plan (paraphrased):

1) The pre-CD-established O&M program was modified after the Effective Date of the CD until the first carbon change out at each individual residence for (a) POETs in Municipal Water Areas, and (b) POETs in Filter Areas where influent concentrations were above 10 ppt for PFOS+PFOA:

Pre-CD Monitoring Interval	Monitoring after Effective Date of the CD until the first Carbon Change Out at Each Individual Residence	Proposed Carbon Change Out Intervals*
Weekly	Monthly	6 months
Monthly	Quarterly	12 months
Quarterly	Semi-Annual	16 months
Semi-Annual	None, if sampled since July 1, 2019. If not sampled since July 1, 2019, one additional sample will be collected within the first eight months after CD is effective.	16 months
Annual	None, if sampled since July 1, 2019. If not sampled since July 1, 2019, one additional sample will be collected within the first eight months after the CD is effective.	20 months**

*Carbon change out is removing the lead carbon vessel(s) and moving the lag vessel(s) into the lead position and installing a new vessel(s) in the lag position(s). On a case-by-case basis carbon change outs may occur off-schedule when unique issues such as unexpected pressure drop occurs across the POET system. If a POET has been installed or a carbon change out has occurred at an individual address within six months prior to the Effective Date of the CD, that POET system will automatically be put on the carbon change out schedule and monitoring will cease. Wolverine, after consultation with and approval from EGLE, may agree to postpone a scheduled change out to accommodate the scheduled installation of municipal water for the home.

**The change out will occur earlier than 20 months if there is a demonstrated reduction in flow rate or increased pressure drop across the POET prior to the expiration of 20 months (i.e., evidence of physical clogging rather than carbon exhaustion due to PFAS burden).

2) Once the initial carbon change out occurred at an individual system, the specified carbon change-out schedule began for that particular address (i.e., if a pre-CD weekly system is changed March 1, 2020 as part of the initial change out, the six-month schedule will be triggered with the next scheduled change on September 1, 2020 and so on).

3) UV lamp and sediment filter maintenance continued on annual and thrice yearly basis, respectively.

4) After each carbon change out, R&W/GZA scheduled a site visit to confirm configuration and operation of the POET systems.

5) Once the presumptive carbon change outs began, the following performance monitoring was conducted. The sampling was completed approximately 2 -4 weeks (or longer) after the individual carbon change out occurs.

Pre-CD Monitoring Interval	Carbon Change Out Intervals	Percentage of Random Systems Sampled after Granular Activated Carbon (GAC) Change Out (CO)*	Ports Sampled for Performance Monitoring**
Weekly	6 months	100% first GAC CO and 25% subsequent GAC COs	IN-MP-EF
Monthly	12 months	100% first GAC CO and 12% subsequent GAC COs	IN-MP-EF
Quarterly	16 months	10%	IN-MP
Semi-Annual	16 months	5%	IN-MP
Annual	20 months	5%	IN

*For the three POETs installed in the filter areas with known influent concentrations over 70 ppt PFOS+PFOA, influent and mid-point monitoring samples will be collected one time between each carbon change out.
**IN= Influent, MP = Midpoint, and EF = Effluent

6) Wolverine stopped providing POET monitoring and/or carbon changeout (as specified above) when the individual residence was connected to municipal water. Wolverine offered the POET to the homeowner if they wished to continue operating and maintaining it or removed the GAC shortly after the home was connected to municipal water, whichever the homeowner selected.

7) At the locations with Type II water supplies (i.e. Armory and Convent), the POET systems were maintained and monitored within their permit requirements until municipal water connections were provided.

8) After the Effective Date of the CD, in Filter Areas, if a parcel had not had detections of PFOS+PFOA exceeding 10 ppt, Wolverine offered to remove the POET at Wolverine's expense, or the resident could choose to keep the POET if they assumed operation and maintenance.

Sampling data from the POET monitoring program as described above has been and will continue to be reported to EGLE in both Quarterly and Annual Summary Reports as well as monthly database updates. Each quarterly report summarizes implementation including filter sampling, analytical results, carbon change outs, resident notifications, and municipal water connections. If the POET sampling and analytical results indicated detections of PFOS+PFOA in either mid-point and/or effluent samples, they were summarized and remedial actions taken to address, if applicable, were included.

Kaat's Culligan provides the UV lamp and sediment filter maintenance on the annual and thrice yearly basis, respectively. Kaat's, with assistance from GZA, continues the scheduling and implementation of these two maintenance items as well as the presumptive GAC change outs. GZA conducts routine observations after GAC change outs are completed as well as the sampling prescribed in the POET O&M as discussed above.

It should be noted, the routine maintenance, GAC change outs, system checks, and sampling are subject to property owner/resident approval and scheduling. In many cases, multiple contacts have been made with residents to request access for specific tasks and either the resident declines or is non-responsive.

POUS

On the Effective Date of the CD, 147 POUs required O&M by Wolverine (30 in the Filter Areas and 117 in the Municipal Water Areas). Based on concentrations of PFOS+PFOA below 10 ppt in the Filter Areas, 73 POUs were no longer under Wolverine O&M. Additionally, 17 POUs in the Municipal Water Areas were no longer being used by the homeowners at the implementation of the CD.

Per the Work Plan and POET O&M, the following O&M was established for POUs:

- In Filter Areas at residences where influent concentrations are above 10 ppt for PFOS+PFOA as well as in Municipal Water Areas, Wolverine will continue to provide replacement cartridges for the NSF-certified POUs, as specified in the existing POU O&M Plan and the manufacturer's suggestion. Two sets of replacement cartridges will be mailed each year to each residence. Wolverine will stop providing POU replacement cartridges when an individual residence is connected to municipal water.

- In Filter areas, if a parcel is resampled and a detection of PFOS+PFOA greater than 10 ppt or other applicable PFAS criterion is identified, that resident will be offered a POU which will be maintained as stated above.

- After the Effective Date of the CD, in filter areas, if a parcel has not had detections of PFOS+PFOA exceeding 10 ppt, Wolverine will offer to remove the POU at Wolverine's expense, or the resident may choose to keep the POU if they assume operation and maintenance.

The following addresses in the Filter Areas were offered a POU filter per the requirements of the CD but either declined or did not respond to multiple contact attempts. Seven addresses have not been connected to municipal water service.

PPN	Address	Municipal Water Connection Date	POU Status
410625351003	4145 11 MILE RD NE	11/8/2023	Offered
411016176019	6600 BOTANY BLUFF DR NE	Not Applicable	Offered
411011375001	6955 CHILDSDALE AVE NE	Not Applicable	Offered
411002300029	3535 HOUSE ST NE	Not Applicable	Offered
411001300021	7800 JERICHO AVE NE	Not Applicable	Offered
411022277004	5653 MALL AVE NE	7/27/2023	Offered
411022277002	5663 MALL AVE NE	7/26/2023	Offered
411022279005	5748 MALL AVE NE	7/27/2023	Offered
411001401002	7957 NORTHLAND DR NE	Not Applicable	Declined
411001251009	8191 NORTHLAND DR NE	Not Applicable	Offered*
410625351001	9391 SUMMIT AVE NE	1/3/2024	Offered
410625315002	9545 SUMMIT AVE NE	2/6/2024	Offered
410625100031	9881 SUMMIT AVE NE	1/9/2024	Offered
410625100025	9740 SUMMIT AVE NE	4/3/2024	Offered
410625100044	9610 SUMMIT AVE NE	1/26/2024	Offered
410625100045	9620 SUMMIT AVE NE	2/20/2024	Offered
410625326004	9530 SUMMIT AVE NE	1/3/2024	Offered
410625326008	9380 SUMMIT AVE NE	2/16/2024	Offered
410625376003	9300 SUMMIT AVE NE	2/6/2024	Offered
410625100023	9933 SUMMIT AVE NE	1/22/2024	Offered
411023326001	6622 WEST RIVER DR NE	Previously Connected	Offered
410625100051	4133 WRENS WAY CT NE	Not Applicable	Offered

Notes:

1) Municipal water connection dates listed were provided through a Consolidation and Contamination Risk Reduction (C2R2) grant.
2) "*" indicates owner indicated already had same filter installed that was being offered. Wolverine offered to take over O&M but have not received a response.

2.2 MUNICIPAL WATER AREA POET AND POU REMOVALS

Prior to or upon scheduling of municipal water connections, properties in the Municipal Water Areas where a POET and/or POU were installed received a letter informing them of their options as it pertains to removal of the filtration systems. Sample letters are included in **Appendix D**. Residents were given the following options:

- Retain the POET with future O&M at their expense. The letters indicated non-responsiveness was assumed to be acknowledgement by the resident that they would retain the POET at their expense.

- Have the POET removed.

In accordance with the CD and POET O&M, the GAC in the POETs must be properly managed during maintenance and removal. As such, the following guidelines were used regarding the handling of the GAC by Kaat's if a property retained the installed POET:

- Addresses below 10 ppt PFOS+PFOA influent: Wolverine would have no obligation to change out the carbon.

- Addresses between 10 and 1,000 ppt PFOS+ PFOA influent: No removal of lead GAC column(s) if GAC was changed out within the 6 months prior to connection to municipal water. If over 6 months Wolverine offered to remove the lead GAC column(s) if the resident wishes to have it removed prior to them taking over O&M (except as provided below).

  For any address that received an extension/deferment on a scheduled carbon change out as requested by Wolverine on 6/8/20, Wolverine offered to complete that carbon changeout before the homeowner takes over O&M.

- Addresses over 1,000 ppt PFOS + PFOA influent: Wolverine removed lead GAC column(s), regardless of length of use. If a homeowner refused to allow Wolverine to remove the lead GAC column(s), the homeowner was required to acknowledge in writing they will properly dispose of the GAC in accordance with all applicable local, state, and federal law.

  If a home in this category received an extension/deferment on a scheduled carbon change out as requested by Wolverine on June 8, 2020, Wolverine offered to complete a carbon change out prior to the homeowner taking over O&M of the POET system.

Table 3 summarizes the POETs and POUs in the Municipal Water Areas no longer maintained by Wolverine and the use status (if known).

2.3 FILTER AREAS POETS AND POUS INSTALLATIONS

Based on additional data received after implementation of the CD (i.e. locations were PFOS+PFOA concentrations exceeded 10 ppt or the then-newly developed Part 201 groundwater drinking water criteria, and a filter was not previously installed), 8 POUs were installed in the Filter Areas. These are as follows and are integrated into **Table 2** as well:

Area Type	PPN	Address	Municipal Water Connection Date	POU Install Date
Filter Area	410627300006	2445 11 MILE RD NE	Not Applicable	9/19/2022
Filter Area	411015427006	3083 RAPIDFALL CT NE	1/13/2023	6/22/2021
Filter Area	411022279001	3150 RIPLEY ST NE	7/12/2023	6/7/2021
Filter Area	411022279004	3180 RIPLEY ST NE	7/28/2023	6/11/2021
Filter Area	410625376001	9350 SUMMIT AVE NE	1/19/2024	6/11/2021
Filter Area	410625315003	9489 SUMMIT AVE NE	1/17/2024	6/11/2021
Municipal Water Area	411005126009	1084 10 MILE RD NE	10/12/2023	9/4/2020
Municipal Water Area	411002200035	8371 CHILDSDALE AVE NE	2/8/2024	6/30/2020

Note:
Municipal water connections for portions of the Filter Areas were provided through a C2R2 grant.

2.4 FILTER AREAS POET AND POU REMOVALS

After the Effective Date of the CD, 2 POUs in the Filter Areas where known PFOS+PFOA concentration were greater than 10 ppt, were removed. These are as follows:

Area Type	PPN	Address	POU Removal Date
Filter Area	411001300021	7800 JERICHO AVE NE	8/3/2020*
Filter Area	410625301002	4189 TRADEWIND DR NE	6/1/2021**

Notes:

1. "*"indicates POU was scheduled to be removed before Michigan Part 201 groundwater drinking water criteria was established. Results were not greater than 10 ppt for PFOS+PFOA; however, results were greater than PFOA for the Part 201 groundwater drinking water criteria. There has been no response to a POU re-install offer.
2. "**" indicates POU was removed by the homeowner.

As discussed, POETs and POUs in filter areas where known PFOS+PFOA concentrations were less than 10 ppt, the property owners were provided options for removal or retention of the installed filters. Sample notification letters are included as **Appendix D**. **Table 4** summarizes the POETs and POUs in the Filter Areas no longer maintained by Wolverine and the use status (if known).

Additionally, some addresses in the Filter Areas were ultimately connected to municipal water service under programs not included in the CD. This included 18 properties were POUs were in use. **Table 5** summarizes the additional Filter Areas properties where Wolverine no longer maintains POUs and the use status (if known).

3.0 CONTINUED IMPLEMENTATION PER PARAGRAPH 7.4(B)

Based on the status of municipal water connections, the following sections define the continued implementation of the filter O&M.

3.1 MUNICIPAL WATER AREAS – POET AND POU O&M

In the Municipal Water Areas, a total of 3 POETs and 0 POUs are still in use as their respective structures have not yet been connected to municipal water. These addresses include:

PPN	Address	Municipal Water Connection Date	POET Status
411004200049	8151 HERRINGTON AVE NE	Pending	Installed
411008200047	7546 PINE ISLAND DR NE	Pending	Installed
411015351044	2461 ROGUE RIVER RD NE	Pending	Installed

It is GZA's understanding the municipal water contractors and Plainfield Township are working with these property owners to coordinate connection to the municipal water system. Until they are connected, Wolverine will continue to operate the POETs in accordance with the POET O&M. Upon connection, these property owners will also be provided with the options for filter removal or retention and Wolverine will cease O&M.

3.2 FILTER AREAS – POET AND POU O&M

In the Filter Areas where known PFOS+PFOA concentrations were greater than 10 ppt or the currently established Part 201 drinking water criteria, a total of 19 POETs and 16 POUs are still in use as their respective structures have not yet been connected to municipal water. **Table 6** summarizes these addresses.

While outlined in the POET O&M, the following summarizes the general maintenance and sampling frequency for the remaining POETs and POUs.

- All POETs remaining in the filter area under Wolverine's O&M plan will receive presumptive GAC change outs every 16 months as well as the routine UV lamp and sediment filter maintenance on annual and thrice yearly basis, respectively.
    - For POETs with known influent concentrations below 70 ppt, approximately 5% of the systems will be sampled at the influent and mid-point during the routine post-installation observations.
    - For POETs with known influent concentrations above 70 ppt, influent and mid-point samples will be collected one time between each carbon change out. If PFOS+PFOA are identified in the mid-point sample, a presumptive GAC change out will occur rather than waiting the pre-determined 16 months.
    - If equipment or components of the POETs fail, they will be repaired or replaced, at the discretion of a licensed plumber.
- The property owners with POUs remaining under Wolverine's O&M plan will continue to receive two GAC cartridge replacement sets per year. They are generally delivered in the spring of each year. If a filter breaks, it will be repaired or replaced, at the direction of a licensed plumber.

These filters will be maintained by Wolverine as required under the CD until municipal water is connected to a property.

4.0 FINANCIAL ASSURANCE MECHANISM (FAM)

Wolverine will implement one of the standard forms of EGLE-accepted and approved financial assurance mechanisms (e.g., a performance bond, escrow, cash, certificate of deposit, irrevocable letter of credit, corporate guarantee, Financial Test, or other equivalent security (e.g., the use of treasury shares is an appropriate FAM approved by EGLE)) in an amount to be determined in consultation with EGLE to ensure ongoing operation and maintenance of filters as required under the CD, Sections 7.12(a)(i)(C) and 8.2.

TABLES

Area Type	PPN	Address	Former Monitoring Interval	Municipal Water Connection Date	First GAC Change Date	Second GAC Change Date	Third GAC Change Date
Municipal Water Area	411005126062	1172 10 MILE RD NE	Semi-Annual	10/9/2023	6/16/2020	3/15/2022	NA
Municipal Water Area	411005200041	1310 10 MILE RD NE	Annual	10/16/2023	8/18/2020	3/22/2022	NA
Municipal Water Area	411005200001	1332 10 MILE RD NE	Semi-Annual	9/18/2023	8/12/2020	2/8/2022	6/29/2023
Municipal Water Area	411005200002	1344 10 MILE RD NE	Annual	9/18/2023	7/6/2020	2/28/2022	NA
Municipal Water Area	411005200027	1380 10 MILE RD NE	Semi-Annual	10/19/2023	8/12/2020	3/8/2022	9/29/2023
Municipal Water Area	411005200028	1456 10 MILE RD NE	Semi-Annual	10/9/2023	6/29/2020	1/21/2022	5/2/2023
Municipal Water Area	411005200029	1460 10 MILE RD NE	Semi-Annual	10/18/2023	11/18/2020	3/11/2022	6/19/2023
Municipal Water Area	411005200034	1530 10 MILE RD NE	Annual	12/29/2023	2/2/2021	10/6/2023	NA
Municipal Water Area	411005200024	1538 10 MILE RD NE	Semi-Annual	11/2/2023	Attempted to Schedule	Attempted to Schedule	NA
Municipal Water Area	411005200025	1542 10 MILE RD NE	Semi-Annual	10/25/2023	7/27/2020	3/9/2022	8/10/2023
Municipal Water Area	411005200026	1546 10 MILE RD NE	Semi-Annual	9/25/2023	7/8/2020	4/20/2022	8/14/2023
Municipal Water Area	411005200038	1550 10 MILE RD NE	Semi-Annual	11/30/2023	6/23/2020	2/8/2022	9/28/2023
Municipal Water Area	411005200039	1590 10 MILE RD NE	Annual	12/21/2023	7/13/2020	2/18/2022	NA
Municipal Water Area	411005200032	1602 10 MILE RD NE	Semi-Annual	9/6/2023	9/1/2020	2/1/2022	8/10/2023
Municipal Water Area	411005200042	1622 10 MILE RD NE	Semi-Annual	9/19/2023	2/5/2021	4/25/2022	8/31/2023
Municipal Water Area	411005200043	1656 10 MILE RD NE	Semi-Annual	7/31/2023	8/11/2020	1/24/2022	5/2/2023
Municipal Water Area	411004101002	1672 10 MILE RD NE	Semi-Annual	10/12/2023	6/10/2020	3/7/2022	8/11/2023
Municipal Water Area	411004104002	1736 10 MILE RD NE	Annual	12/20/2023	7/7/2020	5/3/2022	10/19/2023
Municipal Water Area	411004126005	1866 10 MILE RD NE	Semi-Annual	9/14/2023	5/21/2020	2/21/2022	NA
Municipal Water Area	411004126007	1884 10 MILE RD NE	Semi-Annual	8/17/2023	5/21/2020	2/21/2022	NA
Municipal Water Area	411004126002	1918 10 MILE RD NE	Semi-Annual	9/20/2023	6/25/2020	3/11/2022	8/14/2023
Municipal Water Area	411004126003	1940 10 MILE RD NE	Annual	8/28/2023	8/14/2020	2/4/2022	NA
Municipal Water Area	411004128001	2034 10 MILE RD NE	Semi-Annual	9/23/2022	7/27/2020	1/21/2022	NA
Municipal Water Area	411004200012	2070 10 MILE RD NE	Annual	10/21/2022	6/25/2020	1/23/2022	NA
Municipal Water Area	411004200015	2186 10 MILE RD NE	Annual	8/4/2022	6/23/2020	2/2/2022	NA
Municipal Water Area	410628300011	1981 11 MILE RD NE	Quarterly	10/3/2022	11/18/2020	3/29/2022	NA
Municipal Water Area	410628451002	2011 11 MILE RD NE	Quarterly	9/27/2022	5/7/2020	4/22/2022	NA
Municipal Water Area	410628451003	2029 11 MILE RD NE	Quarterly	12/12/2022	5/11/2020	4/4/2022	NA
Municipal Water Area	410633201002	2050 11 MILE RD NE	Quarterly	9/29/2022	5/8/2020	4/22/2022	NA
Municipal Water Area	410633226001	2202 11 MILE RD NE	Quarterly	12/8/2022	5/14/2020	NA	NA
Municipal Water Area	410628478003	2211 11 MILE RD NE	Semi-Annual	9/19/2022	6/17/2020	4/22/2022	NA
Municipal Water Area	410628478004	2215 11 MILE RD NE	Semi-Annual	5/17/2023	Attempted to Schedule	Attempted to Schedule	NA
Municipal Water Area	410628478002	2251 11 MILE RD NE	Semi-Annual	6/7/2023	8/28/2020	3/18/2022	NA
Municipal Water Area	410633226004	2286 11 MILE RD NE	Semi-Annual	2/13/2023	7/22/2020	5/20/2022	NA
Municipal Water Area	410634226002	3060 11 MILE RD NE	Weekly	9/10/2021	11/6/2020	NA	NA
Municipal Water Area	410634226003	3100 11 MILE RD NE	Semi-Annual	6/21/2021	9/1/2020	NA	NA
Municipal Water Area	410627400046	3155 11 MILE RD NE	Semi-Annual	8/10/2021	NA	NA	NA
Municipal Water Area	410635100020	3246 11 MILE RD NE	Semi-Annual	8/30/2021	7/13/2020	NA	NA
Municipal Water Area	410634300016	8500 ALGOMA AVE NE	Semi-Annual	11/7/2022	6/22/2020	4/1/2022	NA
Municipal Water Area	410633426019	8641 ALGOMA AVE NE	Semi-Annual	1/5/2023	Attempted to Schedule	NA	NA
Municipal Water Area	410634300029	8720 ALGOMA AVE NE	Semi-Annual	7/13/2023	8/27/2020	5/13/2022	NA
Municipal Water Area	410633276001	9001 ALGOMA AVE NE	Quarterly	8/8/2023	4/21/2020	3/29/2022	NA
Municipal Water Area	410633226009	9045 ALGOMA AVE NE	Quarterly	7/10/2023	5/12/2020	6/3/2022	NA
Municipal Water Area	410633226008	9049 ALGOMA AVE NE	Quarterly	5/25/2023	5/7/2020	4/25/2022	NA
Municipal Water Area	410633226012	9051 ALGOMA AVE NE	Quarterly	7/5/2023	4/28/2020	NA	NA
Municipal Water Area	410633226013	9053 ALGOMA AVE NE	Quarterly	12/1/2023	7/24/2020	7/27/2022	NA
Municipal Water Area	410633226006	9057 ALGOMA AVE NE	Quarterly	7/10/2023	5/13/2020	3/28/2022	NA
Municipal Water Area	410633226007	9059 ALGOMA AVE NE	Quarterly	11/7/2023	5/18/2020	5/4/2022	NA
Municipal Water Area	410633226014	9063 ALGOMA AVE NE	Quarterly	6/8/2023	5/4/2020	4/20/2022	NA
Municipal Water Area	410628477004	9247 ALGOMA AVE NE	Semi-Annual	7/25/2023	11/18/2020	3/28/2022	NA
Municipal Water Area	410633426013	2300 ALGOMA WOODS DR NE	Semi-Annual	6/2/2023	7/2/2020	5/3/2022	NA
Municipal Water Area	410633426014	2324 ALGOMA WOODS DR NE	Semi-Annual	6/6/2023	6/16/2020	4/5/2022	NA
Municipal Water Area	411016276009	6517 BELMONT AVE NE	Semi-Annual	11/10/2021	8/7/2020	NA	NA
Municipal Water Area	411015102003	6790 BELMONT AVE NE	Semi-Annual	9/15/2021	7/13/2020	NA	NA
Municipal Water Area	411009476001	6813 BELMONT AVE NE	Annual	1/31/2022	NA	NA	NA
Municipal Water Area	411010352012	6824 BELMONT AVE NE	Semi-Annual	11/8/2021	8/28/2020	NA	NA
Municipal Water Area	411010352007	6830 BELMONT AVE NE	Quarterly	4/29/2022	5/12/2020	3/18/2022	NA
Municipal Water Area	411010351006	6935 BELMONT AVE NE	Semi-Annual	1/13/2022	8/13/2020	NA	NA
Municipal Water Area	411010303008	7124 BELMONT AVE NE	Semi-Annual	11/10/2021	7/31/2020	NA	NA
Municipal Water Area	411010302009	7143 BELMONT AVE NE	Semi-Annual	12/21/2021	7/1/2020	NA	NA
Municipal Water Area	411010326027	7190 BELMONT AVE NE	Semi-Annual	12/15/2021	7/1/2020	NA	NA

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Municipal Water Area	411010176021	7220 BELMONT AVE NE	Semi-Annual	11/15/2021	8/12/2020	NA	NA
Municipal Water Area	411003152004	8139 BELMONT AVE NE	Semi-Annual	11/2/2020	7/23/2020	NA	NA
Municipal Water Area	411015376017	6072 BELSHIRE AVE NE	Semi-Annual	10/16/2020	7/21/2020	NA	NA
Municipal Water Area	411015352017	6175 BELSHIRE AVE NE	Semi-Annual	1/7/2021	8/14/2020	NA	NA
Municipal Water Area	410635301015	3232 BENT TREE RIDGE DR NE	Semi-Annual	7/27/2021	2/5/2021	NA	NA
Municipal Water Area	410635301006	3235 BENT TREE RIDGE DR NE	Quarterly	6/29/2021	5/1/2020	NA	NA
Municipal Water Area	410635301016	3260 BENT TREE RIDGE DR NE	Semi-Annual	7/1/2021	7/24/2020	NA	NA
Municipal Water Area	410635301007	3275 BENT TREE RIDGE DR NE	Quarterly	6/23/2021	8/27/2020	NA	NA
Municipal Water Area	410635301011	3290 BENT TREE RIDGE DR NE	Quarterly	7/7/2021	5/20/2020	NA	NA
Municipal Water Area	410635301008	3325 BENT TREE RIDGE DR NE	Semi-Annual	6/22/2021	11/4/2020	NA	NA
Municipal Water Area	410635301012	3330 BENT TREE RIDGE DR NE	Semi-Annual	8/3/2021	7/8/2020	NA	NA
Municipal Water Area	410628452001	9207 BOOTH BAY CT NE	Semi-Annual	8/7/2023	2/3/2021	6/1/2022	NA
Municipal Water Area	410628452002	9215 BOOTH BAY CT NE	Quarterly	11/23/2022	5/6/2020	5/10/2022	NA
Municipal Water Area	410628452003	9227 BOOTH BAY CT NE	Quarterly	11/18/2022	5/12/2020	3/23/2022	NA
Municipal Water Area	410628452004	9239 BOOTH BAY CT NE	Semi-Annual	6/28/2023	5/4/2022	NA	NA
Municipal Water Area	411004200058	2100 BRENT DR NE	Semi-Annual	12/22/2022	6/17/2020	2/2/2022	NA
Municipal Water Area	411004200059	2150 BRENT DR NE	Semi-Annual	1/4/2023	6/22/2020	2/22/2022	NA
Municipal Water Area	411004200056	2200 BRENT DR NE	Semi-Annual	12/20/2022	7/20/2020	3/22/2022	NA
Municipal Water Area	411004200032	2109 BRITTANY DR NE	Semi-Annual	9/21/2022	7/23/2020	3/22/2022	NA
Municipal Water Area	411004200033	2145 BRITTANY DR NE	Semi-Annual	11/21/2022	6/25/2020	2/4/2022	NA
Municipal Water Area	411004200034	2179 BRITTANY DR NE	Semi-Annual	9/22/2022	7/28/2020	2/8/2022	NA
Municipal Water Area	411009340001	7042 CHANDLER DR NE	Semi-Annual	9/30/2020	NA	NA	NA
Municipal Water Area	411009301008	7071 CHANDLER DR NE	Semi-Annual	1/12/2021	NA	NA	NA
Municipal Water Area	411009301002	7081 CHANDLER DR NE	Semi-Annual	9/2/2020	NA	NA	NA
Municipal Water Area	411009301003	7129 CHANDLER DR NE	Semi-Annual	7/29/2020	NA	NA	NA
Municipal Water Area	411009301001	7169 CHANDLER DR NE	Semi-Annual	7/8/2020	NA	NA	NA
Municipal Water Area	411009326009	7184 CHANDLER DR NE	Semi-Annual	8/10/2020	NA	NA	NA
Municipal Water Area	411009100010	7200 CHANDLER DR NE	Semi-Annual	7/23/2020	NA	NA	NA
Municipal Water Area	411009100005	7249 CHANDLER DR NE	Annual	9/30/2020	NA	NA	NA
Municipal Water Area	411009100035	7300 CHANDLER DR NE	Semi-Annual	8/13/2020	NA	NA	NA
Municipal Water Area	411009100039	7343 CHANDLER DR NE	Semi-Annual	9/29/2020	6/26/2020	NA	NA
Municipal Water Area	411009100038	7367 CHANDLER DR NE	Semi-Annual	7/31/2020	NA	NA	NA
Municipal Water Area	411009100044	7370 CHANDLER DR NE	Annual	8/24/2020	NA	NA	NA
Municipal Water Area	411009100011	7401 CHANDLER DR NE	Semi-Annual	8/3/2020	5/14/2020	NA	NA
Municipal Water Area	411009100045	7410 CHANDLER DR NE	Semi-Annual	7/20/2020	NA	NA	NA
Municipal Water Area	411009100015	7415 CHANDLER DR NE	Semi-Annual	7/21/2020	5/19/2020	NA	NA
Municipal Water Area	411009100026	7419 CHANDLER DR NE	Monthly	8/11/2020	4/20/2020	NA	NA
Municipal Water Area	411009100046	7422 CHANDLER DR NE	Semi-Annual	8/19/2020	NA	NA	NA
Municipal Water Area	411009100027	7425 CHANDLER DR NE	Weekly	8/4/2020	3/31/2020	NA	NA
Municipal Water Area	411009100030	7428 CHANDLER DR NE	Annual	7/8/2020	NA	NA	NA
Municipal Water Area	411009100036	7480 CHANDLER DR NE	Quarterly	8/25/2020	4/21/2020	NA	NA
Municipal Water Area	411009100013	7485 CHANDLER DR NE	Quarterly	8/6/2020	4/24/2020	NA	NA
Municipal Water Area	411009200025	7501 CHANDLER DR NE	Quarterly	8/24/2020	5/13/2020	NA	NA
Municipal Water Area	411009200022	7555 CHANDLER DR NE	Semi-Annual	6/30/2020	NA	NA	NA
Municipal Water Area	411009200037	7557 CHANDLER DR NE	Annual	7/15/2020	NA	NA	NA
Municipal Water Area	411009200023	7565 CHANDLER DR NE	Semi-Annual	4/22/2021	NA	NA	NA
Municipal Water Area	411002200053	8341 CHILDSDALE AVE NE	Monthly	11/10/2023	6/12/2020	9/1/2021	3/13/2023
Municipal Water Area	410635100038	8850 ELSTNER AVE NE	Monthly	8/25/2021	5/4/2021	NA	NA
Municipal Water Area	410635100029	8870 ELSTNER AVE NE	Monthly	8/27/2021	5/19/2020	NA	NA
Municipal Water Area	410635100028	8894 ELSTNER AVE NE	Monthly	8/12/2021	5/18/2021	NA	NA
Municipal Water Area	410635100027	8922 ELSTNER AVE NE	Quarterly	9/3/2021	5/7/2020	NA	NA
Municipal Water Area	410635100026	8948 ELSTNER AVE NE	Quarterly	9/3/2021	4/22/2020	NA	NA
Municipal Water Area	410634228004	9047 ELSTNER AVE NE	Semi-Annual	9/5/2023	11/18/2020	4/19/2022	NA
Municipal Water Area	410634228002	9145 ELSTNER AVE NE	Semi-Annual	11/12/2021	6/26/2020	NA	NA
Municipal Water Area	410627400045	9311 ELSTNER AVE NE	Semi-Annual	7/29/2021	8/10/2020	NA	NA
Municipal Water Area	411010326038	7077 EMERALD FOREST DR NE	Semi-Annual	1/18/2022	7/2/2020	NA	NA
Municipal Water Area	411010351003	2466 FROND ST NE	Semi-Annual	11/3/2021	7/28/2020	NA	NA
Municipal Water Area	410628476018	9285 GARDEN GATE DR NE	Semi-Annual	5/17/2023	5/22/2020	4/14/2022	NA
Municipal Water Area	410628476017	9305 GARDEN GATE DR NE	Semi-Annual	5/18/2023	11/18/2020	4/14/2022	NA
Municipal Water Area	410628476013	9370 GARDEN GATE DR NE	Semi-Annual	6/19/2023	8/14/2020	4/20/2022	NA
Municipal Water Area	411010351004	6975 HERRINGTON AVE NE	Semi-Annual	12/22/2021	2/9/2021	NA	NA

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Municipal Water Area	411010301022	6997 HERRINGTON AVE NE	Semi-Annual	11/8/2021	8/11/2020	NA	NA
Municipal Water Area	411010301028	7019 HERRINGTON AVE NE	Semi-Annual	12/17/2021	11/6/2020	NA	NA
Municipal Water Area	411009429006	7029 HERRINGTON AVE NE	Semi-Annual	10/27/2021	8/14/2020	NA	NA
Municipal Water Area	411010301026	7034 HERRINGTON AVE NE	Semi-Annual	12/23/2021	2/3/2021	NA	NA
Municipal Water Area	411009429001	7157 HERRINGTON AVE NE	Semi-Annual	9/20/2021	6/24/2020	NA	NA
Municipal Water Area	411009426001	7193 HERRINGTON AVE NE	Semi-Annual	9/10/2021	7/10/2020	NA	NA
Municipal Water Area	411009200047	7210 HERRINGTON AVE NE	Annual	9/10/2021	1/4/2021	NA	NA
Municipal Water Area	411009200013	7211 HERRINGTON AVE NE	Semi-Annual	11/1/2021	8/7/2020	NA	NA
Municipal Water Area	411009200046	7220 HERRINGTON AVE NE	Semi-Annual	12/9/2021	7/13/2020	NA	NA
Municipal Water Area	411009200007	7320 HERRINGTON AVE NE	Semi-Annual	8/11/2021	12/3/2020	NA	NA
Municipal Water Area	411009251029	7373 HERRINGTON AVE NE	Semi-Annual	9/15/2021	6/30/2020	NA	NA
Municipal Water Area	411009200036	7400 HERRINGTON AVE NE	Annual	8/19/2020	NA	NA	NA
Municipal Water Area	411009200040	7415 HERRINGTON AVE NE	Semi-Annual	8/12/2020	NA	NA	NA
Municipal Water Area	411009200029	7426 HERRINGTON AVE NE	Semi-Annual	8/27/2020	NA	NA	NA
Municipal Water Area	411009200039	7435 HERRINGTON AVE NE	Annual	7/24/2020	NA	NA	NA
Municipal Water Area	411009200019	7445 HERRINGTON AVE NE	Annual	9/25/2020	NA	NA	NA
Municipal Water Area	411009200041	7460 HERRINGTON AVE NE	Semi-Annual	8/25/2020	NA	NA	NA
Municipal Water Area	411009200032	7500 HERRINGTON AVE NE	Semi-Annual	8/18/2020	NA	NA	NA
Municipal Water Area	411009200018	7509 HERRINGTON AVE NE	Annual	8/17/2020	NA	NA	NA
Municipal Water Area	411009200014	7531 HERRINGTON AVE NE	Annual	8/31/2020	NA	NA	NA
Municipal Water Area	411009200027	7550 HERRINGTON AVE NE	Semi-Annual	8/24/2020	2/28/2020	NA	NA
Municipal Water Area	411009200045	7580 HERRINGTON AVE NE	Semi-Annual	9/2/2020	NA	NA	NA
Municipal Water Area	411009200002	7585 HERRINGTON AVE NE	Semi-Annual	8/11/2020	NA	NA	NA
Municipal Water Area	411009200043	7608 HERRINGTON AVE NE	Annual	10/27/2020	NA	NA	NA
Municipal Water Area	411004477002	7630 HERRINGTON AVE NE	Semi-Annual	8/25/2020	NA	NA	NA
Municipal Water Area	411004451006	7649 HERRINGTON AVE NE	Semi-Annual	8/27/2020	NA	NA	NA
Municipal Water Area	411004451007	7651 HERRINGTON AVE NE	Semi-Annual	9/17/2020	5/20/2020	NA	NA
Municipal Water Area	411004451005	7661 HERRINGTON AVE NE	Semi-Annual	9/15/2020	NA	NA	NA
Municipal Water Area	411004451004	7667 HERRINGTON AVE NE	Semi-Annual	7/31/2020	NA	NA	NA
Municipal Water Area	411004476004	7680 HERRINGTON AVE NE	Semi-Annual	8/3/2020	NA	NA	NA
Municipal Water Area	411004476003	7712 HERRINGTON AVE NE	Semi-Annual	8/14/2020	NA	NA	NA
Municipal Water Area	411004476002	7720 HERRINGTON AVE NE	Semi-Annual	9/8/2020	NA	NA	NA
Municipal Water Area	411004451003	7737 HERRINGTON AVE NE	Semi-Annual	7/30/2020	NA	NA	NA
Municipal Water Area	411004451010	7747 HERRINGTON AVE NE	Semi-Annual	8/14/2020	NA	NA	NA
Municipal Water Area	411004451011	7757 HERRINGTON AVE NE	Semi-Annual	10/28/2020	5/12/2020	NA	NA
Municipal Water Area	411004451012	7777 HERRINGTON AVE NE	Annual	10/27/2020	NA	NA	NA
Municipal Water Area	411004426003	7830 HERRINGTON AVE NE	Semi-Annual	8/13/2020	NA	NA	NA
Municipal Water Area	411004451001	7863 HERRINGTON AVE NE	Semi-Annual	7/30/2020	NA	NA	NA
Municipal Water Area	411004426002	7864 HERRINGTON AVE NE	Semi-Annual	8/27/2020	NA	NA	NA
Municipal Water Area	411004200048	8004 HERRINGTON AVE NE	Semi-Annual	8/22/2022	3/2/2022	NA	NA
Municipal Water Area	411004200051	8025 HERRINGTON AVE NE	Semi-Annual	11/3/2022	7/30/2020	5/10/2022	NA
Municipal Water Area	411004200046	8092 HERRINGTON AVE NE	Semi-Annual	10/21/2022	6/22/2020	3/23/2022	NA
Municipal Water Area	411004200045	8100 HERRINGTON AVE NE	Semi-Annual	7/22/2022	11/23/2020	3/16/2022	NA
Municipal Water Area	411004200021	8138 HERRINGTON AVE NE	Semi-Annual	7/29/2022	6/22/2020	2/9/2022	NA
Municipal Water Area	411004200049	8151 HERRINGTON AVE NE	Semi-Annual	Pending	1/4/2021	2/2/2022	8/23/2023
Municipal Water Area	411004200044	8180 HERRINGTON AVE NE	Semi-Annual	7/22/2022	Gordon	Gordon	NA
Municipal Water Area	411004200029	8265 HERRINGTON AVE NE	Semi-Annual	7/28/2022	6/26/2020	2/2/2022	NA
Municipal Water Area	411004200025	8273 HERRINGTON AVE NE	Semi-Annual	6/28/2022	Attempted to Schedule	NA	NA
Municipal Water Area	411004200028	8281 HERRINGTON AVE NE	Semi-Annual	9/26/2022	7/20/2020	2/14/2022	NA
Municipal Water Area	411004200040	8301 HERRINGTON AVE NE	Semi-Annual	8/10/2022	8/17/2020	1/21/2022	NA
Municipal Water Area	411004200053	8315 HERRINGTON AVE NE	Semi-Annual	8/29/2023	7/24/2020	1/31/2022	NA
Municipal Water Area	411004200052	8327 HERRINGTON AVE NE	Semi-Annual	10/9/2023	7/23/2020	4/26/2022	NA
Municipal Water Area	411004200020	8333 HERRINGTON AVE NE	Semi-Annual	8/4/2022	7/22/2020	1/25/2022	NA
Municipal Water Area	411004200017	8377 HERRINGTON AVE NE	Semi-Annual	11/16/2022	Attempted to Schedule	NA	NA
Municipal Water Area	411004200037	8386 HERRINGTON AVE NE	Semi-Annual	11/16/2022	8/13/2020	2/1/2022	NA
Municipal Water Area	411004200019	8431 HERRINGTON AVE NE	Semi-Annual	9/26/2022	6/18/2020	3/1/2022	NA
Municipal Water Area	410635120025	8910 HOPEWELL DR NE	Quarterly	6/14/2021	Gordon	NA	NA
Municipal Water Area	411005400043	1265 HOUSE ST NE	Annual	12/3/2020	NA	NA	NA
Municipal Water Area	411005400042	1271 HOUSE ST NE	Semi-Annual	12/3/2020	NA	NA	NA
Municipal Water Area	411008200040	1300 HOUSE ST NE	Semi-Annual	1/11/2021	NA	NA	NA
Municipal Water Area	411008200045	1310 HOUSE ST NE	Semi-Annual	8/19/2020	NA	NA	NA

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Municipal Water Area	411005400037	1339 HOUSE ST NE	Annual	11/19/2020	NA	NA	NA
Municipal Water Area	411008200036	1360 HOUSE ST NE	Annual	2/10/2021	Gordon	NA	NA
Municipal Water Area	411008200049	1430 HOUSE ST NE	Annual	8/20/2020	Bayes	NA	NA
Municipal Water Area	411008200019	1440 HOUSE ST NE	Semi-Annual	9/28/2020	NA	NA	NA
Municipal Water Area	411005400045	1447 HOUSE ST NE	Semi-Annual	9/15/2020	NA	NA	NA
Municipal Water Area	411008200011	1460 HOUSE ST NE	Semi-Annual	10/14/2020	NA	NA	NA
Municipal Water Area	411005400018	1475 HOUSE ST NE	Annual	9/1/2020	NA	NA	NA
Municipal Water Area	411008200012	1480 HOUSE ST NE	Annual	9/30/2020	NA	NA	NA
Municipal Water Area	411005400019	1495 HOUSE ST NE	Semi-Annual	9/9/2020	NA	NA	NA
Municipal Water Area	411008200015	1500 HOUSE ST NE	Semi-Annual	9/9/2020	NA	NA	NA
Municipal Water Area	411009100041	1580 HOUSE ST NE	Semi-Annual	9/14/2020	NA	NA	NA
Municipal Water Area	411009100042	1584 HOUSE ST NE	Semi-Annual	1/21/2021	NA	NA	NA
Municipal Water Area	411005400025	1597 HOUSE ST NE	Semi-Annual	9/28/2020	NA	NA	NA
Municipal Water Area	411009100043	1600 HOUSE ST NE	Semi-Annual	8/21/2020	NA	NA	NA
Municipal Water Area	411005400008	1601 HOUSE ST NE	Semi-Annual	8/21/2020	9/30/2020	NA	NA
Municipal Water Area	411005400030	1617 HOUSE ST NE	Semi-Annual	8/25/2020	NA	NA	NA
Municipal Water Area	411005400031	1625 HOUSE ST NE	Semi-Annual	8/18/2020	NA	NA	NA
Municipal Water Area	411004300045	1640 HOUSE ST NE	Semi-Annual	8/25/2020	5/19/2020	NA	NA
Municipal Water Area	411004300047	1650 HOUSE ST NE	Quarterly	1/14/2021	NA	NA	NA
Municipal Water Area	411004300060	1654 HOUSE ST NE	Semi-Annual	8/5/2020	NA	NA	NA
Municipal Water Area	411005400011	1655 HOUSE ST NE	Semi-Annual	9/23/2020	NA	NA	NA
Municipal Water Area	411004300049	1664 HOUSE ST NE	Semi-Annual	10/20/2020	NA	NA	NA
Municipal Water Area	411004300050	1676 HOUSE ST NE	Semi-Annual	10/20/2020	NA	NA	NA
Municipal Water Area	411004300051	1682 HOUSE ST NE	Semi-Annual	10/1/2020	NA	NA	NA
Municipal Water Area	411004300052	1698 HOUSE ST NE	Quarterly	8/28/2020	4/23/2020	NA	NA
Municipal Water Area	411004300022	1711 HOUSE ST NE	Quarterly	10/21/2020	5/11/2020	NA	NA
Municipal Water Area	411004300023	1767 HOUSE ST NE	Quarterly	9/24/2020	5/5/2020	NA	NA
Municipal Water Area	411004300057	1778 HOUSE ST NE	Quarterly	10/15/2020	Gordon	NA	NA
Municipal Water Area	411004300010	1781 HOUSE ST NE	Quarterly	7/6/2020	Gordon	NA	NA
Municipal Water Area	411004300054	1786 HOUSE ST NE	Weekly	12/9/2020	NA	NA	NA
Municipal Water Area	411004300036	1850 HOUSE ST NE	Weekly	9/21/2020	4/17/2020	NA	NA
Municipal Water Area	411004401001	2115 HOUSE ST NE	Semi-Annual	9/22/2020	NA	NA	NA
Municipal Water Area	411015351036	6107 IDAHO AVE NE	Semi-Annual	11/2/2020	8/5/2020	NA	NA
Municipal Water Area	411015351035	6121 IDAHO AVE NE	Semi-Annual	2/24/2021	8/5/2020	NA	NA
Municipal Water Area	411015352042	6126 IDAHO AVE NE	Semi-Annual	9/23/2020	8/7/2020	NA	NA
Municipal Water Area	411004300042	7853 IMPERIAL PINE DR NE	Semi-Annual	1/28/2021	NA	NA	NA
Municipal Water Area	411004300041	7879 IMPERIAL PINE DR NE	Quarterly	11/23/2020	Gordon	NA	NA
Municipal Water Area	411004300063	7885 IMPERIAL PINE DR NE	Quarterly	11/23/2020	Gordon	NA	NA
Municipal Water Area	410633251006	8980 JEWELL AVE NE	Quarterly	10/20/2022	5/14/2020	4/19/2022	NA
Municipal Water Area	410633201008	9000 JEWELL AVE NE	Quarterly	9/29/2022	8/27/2020	4/7/2022	NA
Municipal Water Area	410633100076	9011 JEWELL AVE NE	Semi-Annual	1/4/2023	Property Owner Declined Further Maintenance and Sampling		
Municipal Water Area	410633201006	9070 JEWELL AVE NE	Quarterly	9/30/2022	5/12/2020	3/30/2022	NA
Municipal Water Area	410633201005	9090 JEWELL AVE NE	Quarterly	10/5/2022	8/31/2020	3/30/2022	NA
Municipal Water Area	410633100011	9101 JEWELL AVE NE	Quarterly	8/30/2022	1/11/2021	3/9/2022	NA
Municipal Water Area	410633201001	9150 JEWELL AVE NE	Quarterly	9/12/2022	5/26/2020	2/1/2022	NA
Municipal Water Area	410633100033	9165 JEWELL AVE NE	Quarterly	1/18/2023	5/8/2020	5/4/2022	NA
Municipal Water Area	410633100032	9171 JEWELL AVE NE	Quarterly	11/11/2022	5/19/2020	4/25/2022	NA
Municipal Water Area	411009251019	2020 KORBEN WOODS CT NE	Annual	12/3/2021	8/27/2020	NA	NA
Municipal Water Area	411009251018	2039 KORBEN WOODS CT NE	Annual	12/16/2021	7/7/2020	NA	NA
Municipal Water Area	411009251020	2042 KORBEN WOODS CT NE	Semi-Annual	9/29/2021	6/25/2020	NA	NA
Municipal Water Area	411009251017	2055 KORBEN WOODS CT NE	Annual	12/15/2021	8/18/2020	3/8/2022	NA
Municipal Water Area	411009251021	2075 KORBEN WOODS CT NE	Semi-Annual	12/30/2021	Attempted to Schedule	NA	NA
Municipal Water Area	411009251016	2077 KORBEN WOODS CT NE	Semi-Annual	12/15/2021	6/29/2020	NA	NA
Municipal Water Area	410634227042	8900 LADY LAUREN DR NE	Semi-Annual	7/1/2020	NA	NA	NA
Municipal Water Area	410634227043	8903 LADY LAUREN DR NE	Weekly	6/10/2020	4/9/2020	NA	NA
Municipal Water Area	410634227041	8914 LADY LAUREN DR NE	Semi-Annual	6/24/2020	NA	NA	NA
Municipal Water Area	410634227045	8919 LADY LAUREN DR NE	Weekly	6/8/2020	NA	NA	NA
Municipal Water Area	410634227040	8922 LADY LAUREN DR NE	Weekly	7/13/2020	4/9/2020	NA	NA
Municipal Water Area	410634227046	8927 LADY LAUREN DR NE	Weekly	6/18/2020	4/7/2020	NA	NA
Municipal Water Area	410634227039	8930 LADY LAUREN DR NE	Monthly	7/28/2020	4/16/2020	NA	NA

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Municipal Water Area	410634227047	8935 LADY LAUREN DR NE	Weekly	7/16/2020	4/9/2020	NA	NA
Municipal Water Area	410634227048	8941 LADY LAUREN DR NE	Quarterly	7/27/2020	NA	NA	NA
Municipal Water Area	410634227038	8942 LADY LAUREN DR NE	Monthly	6/4/2020	5/19/2020	NA	NA
Municipal Water Area	410634227049	8947 LADY LAUREN DR NE	Quarterly	7/13/2020	NA	NA	NA
Municipal Water Area	410634227037	8954 LADY LAUREN DR NE	Monthly	6/4/2020	4/28/2020	NA	NA
Municipal Water Area	410634227001	9070 LADY LAUREN DR NE	Quarterly	7/20/2020	5/18/2020	NA	NA
Municipal Water Area	410634227007	9120 LADY LAUREN DR NE	Semi-Annual	7/22/2020	NA	NA	NA
Municipal Water Area	410634227008	9128 LADY LAUREN DR NE	Quarterly	6/26/2020	5/20/2020	NA	NA
Municipal Water Area	410634227010	9152 LADY LAUREN DR NE	Semi-Annual	8/13/2020	6/16/2020	NA	NA
Municipal Water Area	410634227021	9155 LADY LAUREN DR NE	Semi-Annual	6/5/2020	5/21/2020	NA	NA
Municipal Water Area	410634227011	9164 LADY LAUREN DR NE	Quarterly	6/23/2020	5/8/2020	NA	NA
Municipal Water Area	410634227020	9169 LADY LAUREN DR NE	Semi-Annual	10/5/2020	NA	NA	NA
Municipal Water Area	410634227019	9175 LADY LAUREN DR NE	Quarterly	7/7/2020	NA	NA	NA
Municipal Water Area	410634227012	9178 LADY LAUREN DR NE	Semi-Annual	7/9/2020	NA	NA	NA
Municipal Water Area	410634227018	9187 LADY LAUREN DR NE	Quarterly	6/16/2020	5/5/2020	NA	NA
Municipal Water Area	410634227013	9190 LADY LAUREN DR NE	Semi-Annual	7/8/2020	NA	NA	NA
Municipal Water Area	410634227017	9193 LADY LAUREN DR NE	Semi-Annual	6/29/2020	NA	NA	NA
Municipal Water Area	410634227016	9195 LADY LAUREN DR NE	Semi-Annual	9/3/2020	NA	NA	NA
Municipal Water Area	410634227015	9200 LADY LAUREN DR NE	Semi-Annual	10/5/2020	NA	NA	NA
Municipal Water Area	410634227014	9202 LADY LAUREN DR NE	Semi-Annual	6/24/2020	NA	NA	NA
Municipal Water Area	411009401007	2001 MEEK DR NE	Annual	1/20/2022	7/15/2020	NA	NA
Municipal Water Area	411009401006	2023 MEEK DR NE	Annual	1/31/2022	11/6/2020	2/16/2022	NA
Municipal Water Area	411009401010	2024 MEEK DR NE	Semi-Annual	1/19/2022	Attempted to Schedule	NA	NA
Municipal Water Area	411009401014	2036 MEEK DR NE	Semi-Annual	5/27/2022	3/8/2022	NA	NA
Municipal Water Area	411009401005	2039 MEEK DR NE	Semi-Annual	1/7/2022	6/16/2020	NA	NA
Municipal Water Area	411009401001	2051 MEEK DR NE	Annual	5/27/2022	4/22/2022	4/22/2022	NA
Municipal Water Area	411009401018	2060 MEEK DR NE	Semi-Annual	12/15/2021	11/19/2020	NA	NA
Municipal Water Area	411009251022	2066 MEEK DR NE	Semi-Annual	1/12/2022	8/5/2020	NA	NA
Municipal Water Area	411009251023	2072 MEEK DR NE	Semi-Annual	12/9/2021	8/12/2020	NA	NA
Municipal Water Area	411009251024	2086 MEEK DR NE	Semi-Annual	12/20/2021	8/21/2020	NA	NA
Municipal Water Area	411009251025	2100 MEEK DR NE	Semi-Annual	11/19/2021	5/21/2020	NA	NA
Municipal Water Area	411009251003	2141 MEEK DR NE	Quarterly	12/15/2021	12/9/2020	4/11/2022	NA
Municipal Water Area	411009251004	2147 MEEK DR NE	Quarterly	12/20/2021	4/21/2020	3/23/2022	NA
Municipal Water Area	411009251005	2153 MEEK DR NE	Semi-Annual	11/17/2021	8/27/2020	NA	NA
Municipal Water Area	411009251027	2154 MEEK DR NE	Quarterly	9/29/2021	6/23/2020	NA	NA
Municipal Water Area	410628452021	9286 NAGSHEAD CT NE	Semi-Annual	11/10/2022	8/13/2020	7/15/2022	NA
Municipal Water Area	410628452005	9253 NANTUCKET CT NE	Quarterly	11/28/2022	4/22/2020	3/30/2022	NA
Municipal Water Area	410628452006	9261 NANTUCKET CT NE	Quarterly	1/11/2023	6/17/2020	3/25/2022	NA
Municipal Water Area	410628452007	9269 NANTUCKET CT NE	Quarterly	8/8/2023	4/21/2020	4/5/2022	NA
Municipal Water Area	410628452008	9277 NANTUCKET CT NE	Quarterly	10/12/2022	5/15/2020	3/28/2022	NA
Municipal Water Area	410628452009	9285 NANTUCKET CT NE	Semi-Annual	10/28/2022	7/20/2020	4/11/2022	NA
Municipal Water Area	411015201026	6605 PACKER DR NE	Semi-Annual	1/26/2022	2/9/2021	NA	NA
Municipal Water Area	411010426012	7000 PACKER DR NE	Semi-Annual	12/14/2021	7/10/2020	NA	NA
Municipal Water Area	411010426019	7035 PACKER DR NE	Semi-Annual	12/14/2021	8/5/2020	NA	NA
Municipal Water Area	411010451016	7165 PACKER DR NE	Semi-Annual	9/16/2022	8/18/2020	2/1/2022	NA
Municipal Water Area	411010451017	7173 PACKER DR NE	Semi-Annual	6/13/2022	8/3/2020	NA	NA
Municipal Water Area	411010426010	7210 PACKER DR NE	Annual	12/9/2021	12/14/2020	NA	NA
Municipal Water Area	411010451023	7229 PACKER DR NE	Semi-Annual	6/15/2022	7/30/2020	2/22/2022	NA
Municipal Water Area	411010451014	7157 PACKER WOODS DR NE	Semi-Annual	1/6/2023	11/20/2020	3/16/2022	NA
Municipal Water Area	411010376023	7171 PACKER WOODS DR NE	Semi-Annual	6/16/2022	1/4/2021	3/18/2022	NA
Municipal Water Area	411010301015	7045 PINE HILL DR NE	Semi-Annual	11/15/2021	7/30/2020	NA	NA
Municipal Water Area	411010302012	7060 PINE HILL DR NE	Semi-Annual	11/11/2021	11/19/2020	NA	NA
Municipal Water Area	411010301014	7061 PINE HILL DR NE	Semi-Annual	9/1/2021	8/14/2020	NA	NA
Municipal Water Area	411010301012	7105 PINE HILL DR NE	Semi-Annual	12/28/2021	7/8/2020	2/9/2022	NA
Municipal Water Area	411010301011	7125 PINE HILL DR NE	Semi-Annual	10/21/2021	2/9/2021	NA	NA
Municipal Water Area	411010302010	7126 PINE HILL DR NE	Semi-Annual	9/15/2021	6/30/2020	NA	NA
Municipal Water Area	411010301027	7143 PINE HILL DR NE	Semi-Annual	1/24/2022	NA	NA	NA
Municipal Water Area	411010151025	7211 PINE HILL DR NE	Semi-Annual	1/7/2022	8/7/2020	NA	NA
Municipal Water Area	411010302001	7220 PINE HILL DR NE	Annual	12/13/2021	6/26/2020	NA	NA
Municipal Water Area	411010151021	7235 PINE HILL DR NE	Semi-Annual	12/14/2021	7/28/2020	NA	NA
Municipal Water Area	411005300041	7758 PINE ISLAND CT NE	Semi-Annual	11/22/2023	6/19/2020	1/24/2022	5/3/2023

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Municipal Water Area	411005300043	7800 PINE ISLAND CT NE	Semi-Annual	10/4/2023	5/3/2022	10/5/2023	NA
Municipal Water Area	411008200029	7450 PINE ISLAND DR NE	Semi-Annual	12/16/2020	8/13/2020	NA	NA
Municipal Water Area	411008200047	7546 PINE ISLAND DR NE	Semi-Annual	Pending	5/3/2022	Scheduled	NA
Municipal Water Area	411010352010	6817 PIXLEY AVE NE	Quarterly	12/13/2021	5/18/2020	NA	NA
Municipal Water Area	411010352009	6821 PIXLEY AVE NE	Quarterly	11/9/2021	5/12/2020	NA	NA
Municipal Water Area	411010353017	6858 PIXLEY AVE NE	Quarterly	5/12/2022	5/11/2020	3/22/2022	NA
Municipal Water Area	411010353016	6872 PIXLEY AVE NE	Semi-Annual	1/13/2022	2/2/2021	NA	NA
Municipal Water Area	411010352014	6881 PIXLEY AVE NE	Quarterly	10/26/2021	7/7/2020	NA	NA
Municipal Water Area	411010353015	6890 PIXLEY AVE NE	Semi-Annual	11/18/2021	8/31/2020	NA	NA
Municipal Water Area	411010353004	6918 PIXLEY AVE NE	Semi-Annual	10/26/2021	11/24/2020	NA	NA
Municipal Water Area	411010353003	6932 PIXLEY AVE NE	Semi-Annual	1/6/2022	8/10/2020	NA	NA
Municipal Water Area	411010353020	6950 PIXLEY AVE NE	Semi-Annual	1/4/2022	7/31/2020	3/2/2022	NA
Municipal Water Area	411010353019	6990 PIXLEY AVE NE	Semi-Annual	10/18/2021	7/8/2020	NA	NA
Municipal Water Area	411016276004	2345 POST DR NE	Semi-Annual	10/22/2020	9/1/2020	NA	NA
Municipal Water Area	411016279003	2374 POST DR NE	Semi-Annual	12/16/2020	6/18/2020	NA	NA
Municipal Water Area	411015451005	6170 ROGUE LN NE	Annual	11/29/2023	6/29/2020	2/4/2022	NA
Municipal Water Area	411015451030	6194 ROGUE LN NE	Semi-Annual	11/28/2023	8/4/2020	3/23/2022	Declined
Municipal Water Area	411016476021	2317 ROGUE RIVER RD NE	Semi-Annual	11/19/2020	6/22/2020	NA	NA
Municipal Water Area	411016476041	2345 ROGUE RIVER RD NE	Semi-Annual	11/2/2020	7/20/2020	NA	NA
Municipal Water Area	411016476052	2367 ROGUE RIVER RD NE	Semi-Annual	11/16/2020	5/21/2020	NA	NA
Municipal Water Area	411016476026	2377 ROGUE RIVER RD NE	Semi-Annual	10/30/2020	6/19/2020	NA	NA
Municipal Water Area	411015351044	2461 ROGUE RIVER RD NE	Semi-Annual	Pending	6/10/2020	4/26/2022	9/28/2023
Municipal Water Area	411015376069	2739 ROGUE RIVER RD NE	Semi-Annual	12/18/2020	6/10/2020	NA	NA
Municipal Water Area	411015376044	2791 ROGUE RIVER RD NE	Semi-Annual	11/2/2023	7/28/2020	3/1/2022	8/11/2023
Municipal Water Area	411015376047	2803 ROGUE RIVER RD NE	Semi-Annual	12/20/2023	6/26/2020	3/18/2022	8/11/2023
Municipal Water Area	411015376032	2805 ROGUE RIVER RD NE	Quarterly	11/8/2023	5/6/2020	3/18/2022	5/5/2023
Municipal Water Area	411015376050	2807 ROGUE RIVER RD NE	Semi-Annual	11/20/2023	1/18/2021	3/11/2022	NA
Municipal Water Area	411015376051	2809 ROGUE RIVER RD NE	Semi-Annual	11/13/2023	8/13/2020	2/11/2022	6/19/2023
Municipal Water Area	411015376029	2811 ROGUE RIVER RD NE	Semi-Annual	11/20/2023	5/21/2020	3/21/2022	NA
Municipal Water Area	410634227064	2960 ROYAL HANNAH DR NE	Quarterly	7/27/2020	5/11/2020	NA	NA
Municipal Water Area	410634227063	2963 ROYAL HANNAH DR NE	Monthly	7/16/2020	4/23/2020	NA	NA
Municipal Water Area	410634227065	2972 ROYAL HANNAH DR NE	Quarterly	7/15/2020	5/12/2020	NA	NA
Municipal Water Area	410634227062	2975 ROYAL HANNAH DR NE	Monthly	9/2/2020	4/15/2020	NA	NA
Municipal Water Area	410634227066	2988 ROYAL HANNAH DR NE	Quarterly	7/9/2020	5/8/2020	NA	NA
Municipal Water Area	410634227061	2989 ROYAL HANNAH DR NE	Weekly	7/22/2020	NA	NA	NA
Municipal Water Area	410634227067	3000 ROYAL HANNAH DR NE	Quarterly	7/9/2020	NA	NA	NA
Municipal Water Area	410634227060	3003 ROYAL HANNAH DR NE	Weekly	7/22/2020	4/8/2020	NA	NA
Municipal Water Area	410634227068	3016 ROYAL HANNAH DR NE	Quarterly	6/25/2020	4/23/2020	NA	NA
Municipal Water Area	410634227059	3019 ROYAL HANNAH DR NE	Weekly	7/16/2020	4/8/2020	NA	NA
Municipal Water Area	410634227069	3030 ROYAL HANNAH DR NE	Quarterly	7/16/2020	5/4/2020	NA	NA
Municipal Water Area	410634227058	3035 ROYAL HANNAH DR NE	Monthly	7/20/2020	4/15/2020	NA	NA
Municipal Water Area	410634227070	3042 ROYAL HANNAH DR NE	Monthly	7/22/2020	NA	NA	NA
Municipal Water Area	410634227071	3056 ROYAL HANNAH DR NE	Quarterly	7/15/2020	5/19/2020	NA	NA
Municipal Water Area	410634227072	3070 ROYAL HANNAH DR NE	Monthly	7/14/2020	4/28/2020	NA	NA
Municipal Water Area	410634227055	3081 ROYAL HANNAH DR NE	Monthly	5/20/2020	NA	NA	NA
Municipal Water Area	410634227054	3099 ROYAL HANNAH DR NE	Quarterly	8/24/2020	4/20/2020	NA	NA
Municipal Water Area	410628452029	9210 SAG HARBOR CT NE	Semi-Annual	10/5/2022	11/25/2020	3/29/2022	NA
Municipal Water Area	410628452025	9242 SAG HARBOR CT NE	Semi-Annual	11/1/2023	8/7/2020	4/21/2022	8/9/2023
Municipal Water Area	410634227033	2982 SIR CHARLES DR NE	Semi-Annual	7/21/2020	NA	NA	NA
Municipal Water Area	410634227034	2983 SIR CHARLES DR NE	Semi-Annual	6/24/2020	NA	NA	NA
Municipal Water Area	410634227035	2989 SIR CHARLES DR NE	Semi-Annual	7/27/2020	NA	NA	NA
Municipal Water Area	410634227029	3012 SIR CHARLES DR NE	Quarterly	7/21/2020	5/7/2020	NA	NA
Municipal Water Area	410634227028	3024 SIR CHARLES DR NE	Semi-Annual	7/27/2020	NA	NA	NA
Municipal Water Area	410634227026	3050 SIR CHARLES DR NE	Semi-Annual	10/5/2020	NA	NA	NA
Municipal Water Area	410634227025	3062 SIR CHARLES DR NE	Monthly	6/17/2020	4/15/2020	NA	NA
Municipal Water Area	411009428001	2241 SPRUCEWOOD CT NE	Semi-Annual	12/23/2021	7/27/2020	NA	NA
Municipal Water Area	411009428002	2250 SPRUCEWOOD CT NE	Semi-Annual	1/11/2022	6/24/2020	NA	NA
Municipal Water Area	411009428004	2265 SPRUCEWOOD CT NE	Semi-Annual	11/2/2021	6/24/2020	NA	NA
Municipal Water Area	411009429002	7079 SPRUCEWOOD DR NE	Semi-Annual	11/5/2021	7/10/2020	NA	NA
Municipal Water Area	411004127010	2020 SQUIREWOOD CT NE	Annual	7/25/2023	8/18/2020	3/30/2022	NA
Municipal Water Area	411004127013	2021 SQUIREWOOD CT NE	Semi-Annual	10/13/2023	Attempted to Schedule	Attempted to Schedule	NA
Municipal Water Area	411004127012	2045 SQUIREWOOD CT NE	Semi-Annual	8/25/2023	6/19/2020	1/21/2022	5/2/2023

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Municipal Water Area	411004127011	2050 SQUIREWOOD CT NE	Semi-Annual	7/31/2023	6/17/2020	1/28/2022	NA
Municipal Water Area	411004127008	8200 SQUIREWOOD DR NE	Semi-Annual	11/9/2023	7/14/2020	5/6/2022	10/2/2023
Municipal Water Area	411004127007	8215 SQUIREWOOD DR NE	Semi-Annual	9/27/2023	7/31/2020	3/2/2022	8/18/2023
Municipal Water Area	411004127006	8239 SQUIREWOOD DR NE	Semi-Annual	7/26/2023	1/13/2021	3/11/2022	NA
Municipal Water Area	411004127009	8250 SQUIREWOOD DR NE	Semi-Annual	8/22/2023	12/14/2020	3/1/2022	NA
Municipal Water Area	411004127005	8255 SQUIREWOOD DR NE	Semi-Annual	8/16/2023	8/27/2020	5/6/2022	NA
Municipal Water Area	411004127004	8281 SQUIREWOOD DR NE	Semi-Annual	7/26/2023	2/14/2022	NA	NA
Municipal Water Area	411004127003	8303 SQUIREWOOD DR NE	Semi-Annual	9/28/2023	6/24/2020	Attempted to Schedule	Attempted to Schedule
Municipal Water Area	411004127002	8359 SQUIREWOOD DR NE	Semi-Annual	7/7/2023	6/17/2020	1/21/2022	NA
Municipal Water Area	411004127001	8375 SQUIREWOOD DR NE	Annual	8/16/2023	7/1/2020	4/18/2022	NA
Municipal Water Area	410635351007	3221 STONERIDGE DR NE	Semi-Annual	6/25/2021	2/9/2021	NA	NA
Municipal Water Area	410635351008	3232 STONERIDGE DR NE	Quarterly	7/9/2021	5/13/2020	NA	NA
Municipal Water Area	410635351006	3233 STONERIDGE DR NE	Semi-Annual	7/16/2021	7/30/2020	NA	NA
Municipal Water Area	410635351009	3256 STONERIDGE DR NE	Quarterly	8/19/2021	5/14/2020	NA	NA
Municipal Water Area	410635351005	3261 STONERIDGE DR NE	Quarterly	8/4/2021	7/1/2020	NA	NA
Municipal Water Area	410635351010	3284 STONERIDGE DR NE	Semi-Annual	6/29/2021	12/14/2020	NA	NA
Municipal Water Area	410635351003	3313 STONERIDGE DR NE	Semi-Annual	6/29/2021	8/5/2020	NA	NA
Municipal Water Area	410635351002	3343 STONERIDGE DR NE	Semi-Annual	8/27/2021	7/15/2020	NA	NA
Municipal Water Area	410635351013	3380 STONERIDGE DR NE	Semi-Annual	7/1/2021	8/11/2020	NA	NA
Municipal Water Area	410635351001	3383 STONERIDGE DR NE	Semi-Annual	7/27/2021	8/20/2020	NA	NA
Municipal Water Area	411009251015	7299 TERRIE LYNN DR NE	Semi-Annual	12/10/2021	7/22/2020	NA	NA
Municipal Water Area	411009251006	7318 TERRIE LYNN DR NE	Quarterly	12/8/2021	4/22/2020	NA	NA
Municipal Water Area	411009251014	7325 TERRIE LYNN DR NE	Semi-Annual	12/9/2021	6/26/2020	NA	NA
Municipal Water Area	411009251007	7336 TERRIE LYNN DR NE	Quarterly	12/8/2021	4/16/2020	NA	NA
Municipal Water Area	411009251013	7339 TERRIE LYNN DR NE	Semi-Annual	12/7/2021	6/10/2020	NA	NA
Municipal Water Area	411009251012	7347 TERRIE LYNN DR NE	Quarterly	12/22/2021	6/18/2021	NA	NA
Municipal Water Area	411009251008	7354 TERRIE LYNN DR NE	Monthly	12/9/2021	4/24/2020	Declined	NA
Municipal Water Area	411009251011	7355 TERRIE LYNN DR NE	Quarterly	12/7/2021	5/22/2020	NA	NA
Municipal Water Area	411009251010	7371 TERRIE LYNN DR NE	Quarterly	9/28/2021	5/18/2020	NA	NA
Municipal Water Area	411010303007	2555 VAN DAM DR NE	Semi-Annual	12/6/2021	12/4/2020	NA	NA
Municipal Water Area	411010353002	2566 VAN DAM DR NE	Semi-Annual	2/7/2022	8/12/2020	3/15/2022	NA
Municipal Water Area	411010326002	2615 VAN DAM DR NE	Semi-Annual	10/25/2021	6/19/2020	NA	NA
Municipal Water Area	411010376003	2630 VAN DAM DR NE	Semi-Annual	6/14/2022	7/22/2020	2/9/2022	NA
Municipal Water Area	411010326003	2635 VAN DAM DR NE	Semi-Annual	10/25/2021	7/13/2020	NA	NA
Municipal Water Area	411010376009	2700 VAN DAM DR NE	Semi-Annual	5/12/2022	8/13/2020	NA	NA
Municipal Water Area	411010376011	2720 VAN DAM DR NE	Semi-Annual	5/2/2022	6/18/2020	NA	NA
Municipal Water Area	411010326024	2755 VAN DAM DR NE	Semi-Annual	12/9/2021	7/22/2020	NA	NA
Municipal Water Area	411010376015	2800 VAN DAM DR NE	Semi-Annual	12/14/2021	7/28/2020	NA	NA
Municipal Water Area	411010327001	2920 VAN DAM DR NE	Semi-Annual	12/2/2021	7/27/2020	NA	NA
Municipal Water Area	411015201024	6688 WILDWOOD CREEK DR NE	Quarterly	10/13/2021	5/12/2020	NA	NA
Municipal Water Area	411015201023	6724 WILDWOOD CREEK DR NE	Quarterly	11/18/2021	6/25/2020	NA	NA
Municipal Water Area	411015201017	6790 WILDWOOD CREEK DR NE	Semi-Annual	10/18/2021	8/12/2020	NA	NA
Municipal Water Area	411010376019	6800 WILDWOOD CREEK DR NE	Quarterly	10/11/2021	5/13/2020	NA	NA
Municipal Water Area	411010376024	6814 WILDWOOD CREEK DR NE	Quarterly	10/7/2021	5/14/2020	NA	NA
Municipal Water Area	411010376021	6815 WILDWOOD CREEK DR NE	Semi-Annual	1/11/2022	8/5/2020	NA	NA
Municipal Water Area	411010376022	6826 WILDWOOD CREEK DR NE	Quarterly	12/14/2021	5/28/2020	NA	NA
Municipal Water Area	411010377005	6833 WILDWOOD CREEK DR NE	Semi-Annual	12/16/2021	12/18/2020	NA	NA
Municipal Water Area	411010377004	6840 WILDWOOD CREEK DR NE	Quarterly	10/19/2021	5/12/2020	NA	NA
Municipal Water Area	411010377006	6859 WILDWOOD CREEK DR NE	Semi-Annual	10/6/2021	7/2/2020	NA	NA
Municipal Water Area	411010377003	6868 WILDWOOD CREEK DR NE	Semi-Annual	10/5/2021	6/19/2020	NA	NA
Municipal Water Area	411010377002	6884 WILDWOOD CREEK DR NE	Quarterly	10/19/2021	4/22/2020	NA	NA
Municipal Water Area	411010377001	6900 WILDWOOD CREEK DR NE	Quarterly	10/5/2021	5/14/2020	NA	NA
Municipal Water Area	410634152010	2540 WINDING RIDGE TRL NE	Semi-Annual	6/19/2023	7/22/2020	6/3/2022	NA
Municipal Water Area	410634152008	2580 WINDING RIDGE TRL NE	Semi-Annual	6/7/2023	6/10/2020	4/19/2022	NA
Municipal Water Area	410635353001	8415 WINDSTONE DR NE	Semi-Annual	7/1/2021	9/2/2020	NA	NA
Municipal Water Area	410635353008	8440 WINDSTONE DR NE	Semi-Annual	7/21/2021	7/23/2020	NA	NA
Municipal Water Area	410635353002	8443 WINDSTONE DR NE	Semi-Annual	7/12/2021	6/16/2020	NA	NA
Municipal Water Area	410635353003	8475 WINDSTONE DR NE	Quarterly	7/7/2021	12/14/2020	NA	NA
Municipal Water Area	410635353010	8496 WINDSTONE DR NE	Semi-Annual	7/13/2021	7/8/2020	NA	NA
Municipal Water Area	410635353004	8497 WINDSTONE DR NE	Quarterly	8/20/2021	5/19/2020	NA	NA
Municipal Water Area	410635353005	8500 WINDSTONE DR NE	Semi-Annual	10/29/2021	Attempted to Schedule	NA	NA

TABLE 1
POET FILTERS REQUIRING MONITORING
Operation and Maintenance of Filters Response Activity Plan

Area Type	PPN	Address	Former Monitoring Interval	Municipal Water Connection Date	First GAC Change Date	Second GAC Change Date	Third GAC Change Date
Municipal Water Area	410635354004	8435 WOLVEN AVE NE	Semi-Annual	7/7/2021	7/16/2020	NA	NA
Municipal Water Area	410635376004	8500 WOLVEN AVE NE	Semi-Annual	7/1/2021	5/26/2020	NA	NA
Municipal Water Area	410635354006	8515 WOLVEN AVE NE	Semi-Annual	7/6/2021	4/2/2020	NA	NA
Municipal Water Area	410635376002	8520 WOLVEN AVE NE	Semi-Annual	7/28/2021	5/12/2020	NA	NA
Municipal Water Area	410635354001	8535 WOLVEN AVE NE	Semi-Annual	12/8/2021	12/3/2020	NA	NA
Municipal Water Area	410635376003	8540 WOLVEN AVE NE	Semi-Annual	11/12/2021	8/3/2020	NA	NA
Municipal Water Area	410635326015	8600 WOLVEN AVE NE	Semi-Annual	8/17/2021	6/17/2020	NA	NA
Municipal Water Area	410635326014	8620 WOLVEN AVE NE	Semi-Annual	12/7/2021	7/2/2020	NA	NA
Municipal Water Area	410635301009	8655 WOLVEN AVE NE	Semi-Annual	7/2/2021	6/30/2020	NA	NA
Municipal Water Area	410635301003	8685 WOLVEN AVE NE	Semi-Annual	8/23/2021	6/22/2020	NA	NA
Municipal Water Area	410635301017	8767 WOLVEN AVE NE	Semi-Annual	7/14/2021	4/1/2020	NA	NA
Municipal Water Area	410635100015	8944 WOLVEN AVE NE	Semi-Annual	11/30/2021	7/2/2020	NA	NA
Filter Area	410626300021	3535 11 MILE RD NE	Semi-Annual	NA	8/11/2020	9/1/2022	Attempting to Schedule
Filter Area	410635201012	3616 11 MILE RD NE	Quarterly	NA	5/16/2021	1/31/2022	45205
Filter Area	411003351004	7619 BELMONT AVE NE	Semi-Annual	NA	8/17/2020	8/19/2022	45321
Filter Area	411003353001	7781 BELMONT AVE NE	Semi-Annual	NA	8/18/2020	2/21/2022	45085
Filter Area	411010101014	7530 CLOUDBERRY LN NE	Semi-Annual	NA	8/31/2020	6/8/2022	45218
Filter Area	411016103007	1650 CORNERSTONE CT NE	Semi-Annual	NA	8/10/2020	8/19/2022	Attempting to Schedule
Filter Area	411010151006	7305 HICKORY TRL NE	Semi-Annual	NA	7/1/2020	6/9/2022	Attempting to Schedule
Filter Area	411010151004	7307 HICKORY TRL NE	Semi-Annual	NA	9/21/2022	Attempting to Schedule	NA
Filter Area	411016201017	2153 POST DR NE	Semi-Annual	NA	8/17/2020	6/8/2022	45215
Filter Area	411010101008	2525 ROLLING MEADOW DR NE	Semi-Annual	NA	8/17/2020	8/24/2022	Attempting to Schedule
Filter Area	411010101009	7550 STEEPLEBUSH LN NE	Semi-Annual	NA	8/18/2020	6/29/2022	45217
Filter Area	411004427001	2242 STRAWBERRY FARMS ST NE	Semi-Annual	NA	9/8/2020	8/24/2022	45309
Filter Area	411003352006	2430 STRAWBERRY FARMS ST NE	Semi-Annual	NA	12/18/2020	4/25/2022	Attempting to Schedule
Filter Area	411003352007	2450 STRAWBERRY FARMS ST NE	Semi-Annual	NA	8/18/2020	5/24/2022	Attempting to Schedule
Filter Area	411003352003	2495 STRAWBERRY FARMS ST NE	Semi-Annual	NA	8/19/2022	Attempted to Schedule	Attempting to Schedule
Filter Area	411003352011	2560 STRAWBERRY FARMS ST NE	Semi-Annual	NA	8/26/2020	6/8/2022	Attempting to Schedule
Filter Area	411004427017	7857 STRAWBERRY LN NE	Semi-Annual	NA	8/17/2020	8/23/2023	NA
Filter Area	410625301040	3823 WHIRLWIND DR NE	Quarterly	NA	6/20/2022	10/16/2023	NA
Filter Area	410625301039	3826 WHIRLWIND DR NE	Quarterly	NA	5/20/2020	7/3/2023	Attempting to Schedule

Notes:
1) Addresses on this list are in Municipal Water Areas per the Consent Decree or are in the Filter Areas per the Consent Decree where known PFOS+PFOA.
concentrations were greater than 10 parts per trillion (ppt) and have POET filters installed.
2) Abbreviations Include:
"GAC" indicates granular activated carbon.
"NA" indicates not applicable.
"Bayes" indicates POET was provided by Bayes Water Treatment.
"Gordon" indicates POET was provided by Gordon Water Service.

TABLE 2
POU FILTERS REQUIRING MONITORING
Operation and Maintenance of Filters Response Activity Plan

Area Type	PPN	Address	Municipal Water Connection Date	2020 Filter Delivery Date	2021 Filter Delivery Date	2022 Filter Delivery Date	2023 Filter Delivery Date
Municipal Water Area	411005126009	1084 10 MILE RD NE	10/12/2023	9/4/2020 (Install)	4/9/2021	5/12/2022	4/24/2023
Municipal Water Area	411004101003	1700 10 MILE RD NE	10/11/2023	5/12/2020	4/9/2021	5/12/2022	4/24/2023
Municipal Water Area	411004103003	1840 10 MILE RD NE	9/29/2023	5/12/2020	4/9/2021	5/12/2022	4/24/2023
Municipal Water Area	410628451003	2029 11 MILE RD NE	12/12/2022	5/12/2020	4/9/2021	5/12/2022	NA
Municipal Water Area	410634226002	3060 11 MILE RD NE*	9/10/2021	5/12/2020	4/9/2021	NA	NA
Municipal Water Area	410634226003	3100 11 MILE RD NE	6/21/2021	5/12/2020	4/9/2021	NA	NA
Municipal Water Area	411014301009	3265 ANCLIFF ST NE	11/11/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411010303008	7124 BELMONT AVE NE	11/10/2021	5/18/2020	4/12/2021	NA	NA
Municipal Water Area	411004200058	2100 BRENT DR NE	12/22/2022	5/12/2020	4/9/2021	5/10/2022	NA
Municipal Water Area	411004200059	2150 BRENT DR NE	1/4/2023	5/12/2020	4/9/2021	5/10/2022	NA
Municipal Water Area	411004200056	2200 BRENT DR NE	12/20/2022	5/12/2020	4/9/2021	5/10/2022	NA
Municipal Water Area	411004200032	2109 BRITTANY DR NE	9/21/2022	5/12/2020	4/9/2021	5/10/2022	NA
Municipal Water Area	411004200033	2145 BRITTANY DR NE	11/21/2022	5/12/2020	4/9/2021	5/10/2022	NA
Municipal Water Area	411004200034	2179 BRITTANY DR NE	9/22/2022	5/12/2020	4/9/2021	5/10/2022	NA
Municipal Water Area	411009301008	7071 CHANDLER DR NE	1/12/2021	5/18/2020	NA	NA	NA
Municipal Water Area	411009100015	7415 CHANDLER DR NE	7/21/2020	No Longer Using as of 5/20/2020			
Municipal Water Area	411009100046	7422 CHANDLER DR NE	8/19/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411009100027	7425 CHANDLER DR NE	8/4/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411009100013	7485 CHANDLER DR NE	8/6/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411002200039	8293 CHILDSDALE AVE NE	11/8/2023	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Municipal Water Area	411002200013	8313 CHILDSDALE AVE NE	11/28/2023	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Municipal Water Area	411002200057	8339 CHILDSDALE AVE NE	11/16/2023	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Municipal Water Area	411002200064	8343 CHILDSDALE AVE NE	11/16/2023	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Municipal Water Area	411002200035	8371 CHILDSDALE AVE NE	2/8/2024	6/30/2020**	NA**	NA**	NA**
Municipal Water Area	411002200059	8395 CHILDSDALE AVE NE	9/5/2023	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Municipal Water Area	411022127019	5684 ETHELWIN AVE NE	12/9/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411022126019	5735 ETHELWIN AVE NE	Previously Connected	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Municipal Water Area	411022127038	5864 ETHELWIN AVE NE	10/30/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411005126051	8200 FRESKA LAKE DR NE	12/12/2023	5/12/2020	4/9/2021	5/12/2022	4/24/2023
Municipal Water Area	411009200007	7320 HERRINGTON AVE NE	8/11/2021	5/18/2020	4/12/2021	NA	NA
Municipal Water Area	411009200040	7415 HERRINGTON AVE NE	8/12/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411009200024	7601 HERRINGTON AVE NE	10/12/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411004451008	7641 HERRINGTON AVE NE	9/22/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411004451007	7651 HERRINGTON AVE NE	9/17/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411004451005	7661 HERRINGTON AVE NE	9/15/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411004451004	7667 HERRINGTON AVE NE	7/31/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411004476002	7720 HERRINGTON AVE NE	9/8/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411004451010	7747 HERRINGTON AVE NE	8/14/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411004451011	7757 HERRINGTON AVE NE	10/28/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411004200051	8025 HERRINGTON AVE NE	11/3/2022	5/12/2020	4/9/2021	5/10/2022	NA
Municipal Water Area	411004200035	8081 HERRINGTON AVE NE	5/1/2023	5/12/2020	4/12/2021	5/10/2022	4/25/2023
Municipal Water Area	411004200046	8092 HERRINGTON AVE NE*	10/21/2022	5/18/2020	4/9/2021	5/10/2022	NA
Municipal Water Area	411005400037	1339 HOUSE ST NE	11/19/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411008200036	1360 HOUSE ST NE	2/10/2021	5/12/2020	NA	NA	NA
Municipal Water Area	411005400024	1499 HOUSE ST NE	8/4/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411008200015	1500 HOUSE ST NE	9/9/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411005400025	1597 HOUSE ST NE	9/28/2020	No Longer Using as of 5/5/2020			
Municipal Water Area	411009100043	1600 HOUSE ST NE	8/21/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411005400030	1617 HOUSE ST NE	8/25/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411004300045	1620 HOUSE ST NE	8/25/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411004300060	1654 HOUSE ST NE	8/5/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411005400011	1655 HOUSE ST NE	9/23/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411004300049	1664 HOUSE ST NE	10/20/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411004300051	1682 HOUSE ST NE	10/1/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411004300052	1698 HOUSE ST NE	8/28/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411004300036	1850 HOUSE ST NE	9/21/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411004401001	2115 HOUSE ST NE	9/22/2020	5/18/2020	NA	NA	NA
Municipal Water Area	410633201006	9070 JEWELL AVE NE	9/30/2022	5/12/2020	4/9/2021	5/12/2022	NA
Municipal Water Area	410633201005	9090 JEWELL AVE NE	10/5/2022	5/12/2020	4/9/2021	5/12/2022	NA
Municipal Water Area	411009251017	2055 KORBEN WOODS CT NE	12/15/2021	5/18/2020	4/12/2021	5/12/2022	NA
Municipal Water Area	411009251021	2075 KORBEN WOODS CT NE	12/30/2021	5/18/2020	4/12/2021	NA	NA

Area Type	PPN	Address	Municipal Water Connection Date	2020 Filter Delivery Date	2021 Filter Delivery Date	2022 Filter Delivery Date	2023 Filter Delivery Date
Municipal Water Area	410634227045	8919 LADY LAUREN DR NE	6/8/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227040	8922 LADY LAUREN DR NE	7/13/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227047	8935 LADY LAUREN DR NE	7/16/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227004	9102 LADY LAUREN DR NE	6/29/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227005	9108 LADY LAUREN DR NE	7/7/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227006	9114 LADY LAUREN DR NE	8/3/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227021	9155 LADY LAUREN DR NE	6/5/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227017	9193 LADY LAUREN DR NE	6/29/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411009251023	2072 MEEK DR NE	12/9/2021	5/18/2020	4/12/2021	NA	NA
Municipal Water Area	411009251004	2147 MEEK DR NE	12/20/2021	5/18/2020	4/12/2021	NA	NA
Municipal Water Area	411014153010	6502 NUGGET AVE NE	9/24/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411014152008	6515 NUGGET AVE NE	10/22/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411014152007	6531 NUGGET AVE NE	11/20/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411010426012	7000 PACKER DR NE	12/14/2021	5/18/2020	4/12/2021	NA	NA
Municipal Water Area	411010451014	7157 PACKER WOODS DR NE	1/6/2023	5/18/2020	4/12/2021	5/9/2022	NA
Municipal Water Area	411010302012	7060 PINE HILL DR NE	11/11/2021	5/18/2020	4/12/2021	NA	NA
Municipal Water Area	411016276004	2345 POST DR NE	10/22/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411016279003	2374 POST DR NE	12/16/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411002200049	8230 ROGUE RIDGE NE	10/19/2023	5/18/2020	4/9/2021	5/12/2022	4/24/2023
Municipal Water Area	411021226037	2300 ROGUE RIVER RD NE	10/19/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411021226034	2332 ROGUE RIVER RD NE	11/11/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411021226035	2340 ROGUE RIVER RD NE	11/11/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411021226032	2364 ROGUE RIVER RD NE	11/11/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411022101024	2480 ROGUE RIVER RD NE	9/15/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411022101039	2560 ROGUE RIVER RD NE	10/7/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411022126036	2626 ROGUE RIVER RD NE	1/13/2021	5/18/2020	NA	NA	NA
Municipal Water Area	411022127069	2760 ROGUE RIVER RD NE	12/9/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411015428028	3093 ROGUE RIVER RD NE	1/25/2021	5/18/2020	NA	NA	NA
Municipal Water Area	411015429009	3191 ROGUE RIVER RD NE	12/10/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411023100007	3558 ROGUE RIVER RD NE	Previously Connected	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Municipal Water Area	410634227063	2963 ROYAL HANNAH DR NE	7/16/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227061	2989 ROYAL HANNAH DR NE	7/22/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227060	3003 ROYAL HANNAH DR NE	7/22/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227068	3016 ROYAL HANNAH DR NE	6/25/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227058	3035 ROYAL HANNAH DR NE	7/20/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227070	3042 ROYAL HANNAH DR NE	7/22/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227071	3056 ROYAL HANNAH DR NE	7/15/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227072	3070 ROYAL HANNAH DR NE	7/14/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227033	2982 SIR CHARLES DR NE	7/21/2020	5/12/2020	NA	NA	NA
Municipal Water Area	410634227032	2988 SIR CHARLES DR NE	7/14/2020	5/12/2020	NA	NA	NA
Municipal Water Area	411009428003	2260 SPRUCEWOOD CT NE	5/18/2022	5/18/2020	4/12/2021	5/12/2022	NA
Municipal Water Area	411004127007	8215 SQUIREWOOD DR NE	9/27/2023	5/12/2020	4/9/2021	5/12/2022	4/24/2023
Municipal Water Area	411004127009	8250 SQUIREWOOD DR NE	8/22/2023	No Longer Using as of 5/5/2020			
Municipal Water Area	410635351007	3221 STONERIDGE DR NE	6/25/2021	5/12/2020	4/9/2021	NA	NA
Municipal Water Area	410635351006	3233 STONERIDGE DR NE	7/16/2021	5/12/2020	4/9/2021	NA	NA
Municipal Water Area	410635351010	3284 STONERIDGE DR NE	6/29/2021	5/12/2020	4/9/2021	NA	NA
Municipal Water Area	410635351002	3343 STONERIDGE DR NE	8/27/2021	5/12/2020	4/9/2021	NA	NA
Municipal Water Area	410635351001	3383 STONERIDGE DR NE	7/27/2021	5/12/2020	4/9/2021	NA	NA
Municipal Water Area	411009251012	7347 TERRIE LYNN DR NE	12/22/2021	5/18/2020	4/12/2021	NA	NA
Municipal Water Area	411010353002	2566 VAN DAM DR NE	2/7/2022	5/18/2020	4/12/2021	NA	NA
Municipal Water Area	411022251001	5875 VERTA DR NE	10/26/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411005126063	8331 WATEREDGE DR NE	10/26/2023	5/12/2020	4/9/2021	5/12/2022	4/24/2023
Municipal Water Area	411005126045	8396 WATEREDGE DR NE	11/7/2023	5/12/2020	4/9/2021	5/12/2022	4/24/2023
Municipal Water Area	411022401004	6334 WEST RIVER DR NE	10/8/2020	No Longer Using as of 5/19/2020			
Municipal Water Area	411022276009	6419 WEST RIVER DR NE	10/8/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411023100028	6581 WEST RIVER DR NE	11/20/2020	5/18/2020	NA	NA	NA
Municipal Water Area	411023100029	6601 WEST RIVER DR NE	12/11/2020	5/18/2020	NA	NA	NA
Municipal Water Area	410635353003	8475 WINDSTONE DR NE	7/7/2021	5/12/2020	4/9/2021	NA	NA
Filter Area Over 10	410627300006	2445 11 MILE RD NE	NA	NA	NA	10/19/2022 (Install)	4/24/2023
Filter Area Over 10	410636101011	4080 11 MILE RD NE	NA	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410636101007	4170 11 MILE RD NE	NA	5/12/2020	4/9/2021	5/17/2022	4/24/2023

TABLE 2
POU FILTERS REQUIRING MONITORING
Operation and Maintenance of Filters Response Activity Plan

Area Type	PPN	Address	Municipal Water Connection Date	2020 Filter Delivery Date	2021 Filter Delivery Date	2022 Filter Delivery Date	2023 Filter Delivery Date
Filter Area Over 10	410625100022	4150 12 MILE RD NE	12/18/2023	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410626200024	9798 DEER TRL NE	NA	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	411002300016	3335 HOUSE ST NE*	NA	6/16/2020	4/12/2021	5/17/2022	4/25/2023
Filter Area Over 10	411002300028	3515 HOUSE ST NE	NA	1/22/2020	4/12/2021	5/17/2022	4/25/2023
Filter Area Over 10	411022426002	3104 INDIAN DR NE	7/27/2022	5/18/2020	4/12/2021	5/9/2022	NA
Filter Area Over 10	411023303013	3246 INDIAN DR NE	NA	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Filter Area Over 10	411023303009	3252 INDIAN DR NE	NA	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Filter Area Over 10	411001300021	7800 JERICHO AVE NE	NA	Removed***	4/12/2021 (Returned)	NA	NA
Filter Area Over 10	411022278007	5750 MALL AVE NE	6/29/2023	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Filter Area Over 10	411001151009	279 OAK ST NE	NA	NA****	4/9/2021	5/12/2022	4/25/2023
Filter Area Over 10	411015427006	3083 RAPIDFALL CT NE	1/13/2023	NA	6/22/2021 (Install)	1/4/2022	NA
Filter Area Over 10	411022279001	3150 RIPLEY ST NE	7/12/2023	NA	6/7/2021 (Install)	1/4/2022	4/25/2023
Filter Area Over 10	411022279003	3160 RIPLEY ST NE	7/13/2023	5/18/2020	4/12/2021	5/9/2022	4/25/2023
Filter Area Over 10	411022279004	3180 RIPLEY ST NE	7/28/2023	NA	6/11/2021 (Install)	1/4/2022	4/25/2023
Filter Area Over 10	411003352011	2560 STRAWBERRY FARMS ST NE	NA	5/18/2020	4/9/2021	5/12/2022	4/25/2023
Filter Area Over 10	411004427017	7857 STRAWBERRY LN NE	NA	5/18/2020	4/9/2021	5/12/2022	4/25/2023
Filter Area Over 10	410636101013	9105 SUMMIT AVE NE	NA	5/18/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410625376001	9350 SUMMIT AVE NE	1/19/2024	NA	6/11/2021 (Install)	10/12/2022	4/24/2023
Filter Area Over 10	410625315003	9489 SUMMIT AVE NE	1/17/2024	NA	6/11/2021 (Install)	9/27/2022	4/24/2023
Filter Area Over 10	410625326003	9552 SUMMIT AVE NE	12/12/2023	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410625100074	9605 SUMMIT AVE NE	12/15/2023	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410625100048	9630 SUMMIT AVE NE	2/20/2024	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410625100032	9737 SUMMIT AVE NE	12/14/2023	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410625100072	9800 SUMMIT AVE NE	2/1/2024	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410625100062	9958 SUMMIT AVE NE	12/6/2023	5/12/2020	4/9/2021	5/19/2022	4/24/2023
Filter Area Over 10	410625301011	4168 TRADEWIND DR NE	NA	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410625301002	4189 TRADEWIND DR NE	NA	5/12/2020	4/9/2021	Removed by Homeowner June 2021	
Filter Area Over 10	410625301001	4195 TRADEWIND DR NE	NA	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	411011126007	3531 WARWICK GLEN DR NE	9/6/2023	5/18/2020	4/12/2021	5/12/2022	4/25/2023
Filter Area Over 10	410625301038	3830 WHIRLWIND DR NE	NA	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	410625301033	3900 WHIRLWIND DR NE	NA	5/12/2020	4/9/2021	5/17/2022	4/24/2023
Filter Area Over 10	411015426026	6298 WOODWATER DR NE	11/16/2022	5/18/2020	4/12/2021	5/9/2022	NA
Filter Area Over 10	411015427019	6399 WOODWATER DR NE	12/27/2022	NA****	NA****	1/6/2022	NA

Notes:
1) Addresses on this list are in Municipal Water Areas per the Consent Decree with POU filters installed or are in the Filter Areas per the Consent Decree where known PFOS+PFOA concentrations were greater than 10 parts per trillion (ppt).
2) "*" indicates more than one POU is installed at this address and replacement cartridges were provided for each POU.
3) "**" indicates the POU was deilvered to the homeowner for self install on the date listed; however, no response was provided on install date or use.
4) "***" indicates POU was scheduled to be removed before Michigan Part 201 groundwater drinking water criteria was established. Results were not greater than 10 ppt for PFOS+PFOA; however, results were greater than PFOA for the Part 201 groundwater drinking water criteria. There has been no response to a POU re-install offer.
5) "****" indicates was originally in the Filter Areas where PFOS+PFOA concentrations were less than 10 ppt but Wolverine resumed operation and maintenance of the filters after resampling results were greater than 10 ppt PFOS+PFOA.
6) Abbreviations Include:
"POU" indicates point-of-use filter.
"NA" indiates not applicable.

PPN	Address	Municipal Water Connection Date	POET Status	POU Status
411005126009	1084 10 MILE RD NE	10/12/2023	NA	Removed
411005126062	1172 10 MILE RD NE	10/9/2023	Removed	NA
411005200041	1310 10 MILE RD NE	10/16/2023	Installed	NA
411005200001	1332 10 MILE RD NE	9/18/2023	Installed	NA
411005200002	1344 10 MILE RD NE	9/18/2023	Installed	NA
411005200027	1380 10 MILE RD NE	10/19/2023	Installed	NA
411005200028	1456 10 MILE RD NE	10/9/2023	Removed	NA
411005200029	1460 10 MILE RD NE	10/18/2023	Installed	NA
411005200034	1530 10 MILE RD NE	12/29/2023	Installed	NA
411005200024	1538 10 MILE RD NE	11/2/2023	Installed	NA
411005200025	1542 10 MILE RD NE	10/25/2023	Installed	NA
411005200026	1546 10 MILE RD NE	9/25/2023	Installed	NA
411005200038	1550 10 MILE RD NE	11/30/2023	Installed	NA
411005200039	1590 10 MILE RD NE	12/21/2023	Installed	NA
411005200032	1602 10 MILE RD NE	9/6/2023	Installed	NA
411005200042	1622 10 MILE RD NE	9/19/2023	Removed	NA
411005200043	1656 10 MILE RD NE	7/31/2023	Removed	NA
411004101002	1672 10 MILE RD NE	10/12/2023	Removed	NA
411004101003	1700 10 MILE RD NE	10/11/2023	NA	Installed
411004104002	1736 10 MILE RD NE	12/20/2023	Installed	NA
411004103003	1840 10 MILE RD NE	9/29/2023	NA	Installed
411004126005	1866 10 MILE RD NE	9/14/2023	Removed	NA
411004126007	1884 10 MILE RD NE	8/17/2023	Removed	NA
411004126002	1918 10 MILE RD NE	9/20/2023	Installed	NA
411004126003	1940 10 MILE RD NE	8/28/2023	Installed	NA
411004128001	2034 10 MILE RD NE	9/23/2022	Installed	NA
411004200012	2070 10 MILE RD NE	10/21/2022	Installed	NA
411004200015	2186 10 MILE RD NE	8/4/2022	Installed	NA
410628300011	1981 11 MILE RD NE	10/3/2022	Installed	NA
410628451002	2011 11 MILE RD NE	9/27/2022	Installed	NA
410628451003	2029 11 MILE RD NE	12/12/2022	Installed	Installed
410633201002	2050 11 MILE RD NE	9/29/2022	Installed	NA
410633226001	2202 11 MILE RD NE	12/8/2022	Installed	NA
410628478003	2211 11 MILE RD NE	9/19/2022	Installed	NA
410628478004	2215 11 MILE RD NE	5/17/2023	Installed	NA
410628478002	2251 11 MILE RD NE	6/7/2023	Removed	NA
410633226004	2286 11 MILE RD NE	2/13/2023	Removed	NA
410634226002	3060 11 MILE RD NE	9/10/2021	Installed	Installed
410634226003	3100 11 MILE RD NE	6/21/2021	Installed	Installed
410627400046	3155 11 MILE RD NE	8/10/2021	Removed	NA
410635100020	3246 11 MILE RD NE	8/30/2021	Installed	NA
410634300016	8500 ALGOMA AVE NE	11/7/2022	Installed	NA
410633426019	8641 ALGOMA AVE NE	1/5/2023	Installed	NA
410634300029	8720 ALGOMA AVE NE	7/13/2023	Removed	NA
410633276001	9001 ALGOMA AVE NE	8/8/2023	Removed	NA
410633226009	9045 ALGOMA AVE NE	7/10/2023	Removed	NA
410633226008	9049 ALGOMA AVE NE	5/25/2023	Removed	NA
410633226012	9051 ALGOMA AVE NE	7/5/2023	Removed	NA
410633226013	9053 ALGOMA AVE NE	12/1/2023	Installed	NA
410633226006	9057 ALGOMA AVE NE	7/10/2023	Removed	NA
410633226007	9059 ALGOMA AVE NE	11/7/2023	Installed	NA
410633226014	9063 ALGOMA AVE NE	6/8/2023	Removed	NA
410628477004	9247 ALGOMA AVE NE	7/25/2023	Removed	NA
410633426013	2300 ALGOMA WOODS DR NE	6/2/2023	Removed	NA

PPN	Address	Municipal Water Connection Date	POET Status	POU Status
410633426014	2324 ALGOMA WOODS DR NE	6/6/2023	Removed	NA
411014301009	3265 ANCLIFF ST NE	11/11/2020	NA	Installed
411016276009	6517 BELMONT AVE NE	11/10/2021	Removed	NA
411015102003	6790 BELMONT AVE NE	9/15/2021	Installed	NA
411009476001	6813 BELMONT AVE NE	1/31/2022	Removal Scheduled	NA
411010352012	6824 BELMONT AVE NE	11/8/2021	Removed	NA
411010352007	6830 BELMONT AVE NE	4/29/2022	Installed	NA
411010351006	6935 BELMONT AVE NE	1/13/2022	Removed	NA
411010303008	7124 BELMONT AVE NE	11/10/2021	Installed	Installed
411010302009	7143 BELMONT AVE NE	12/21/2021	Installed	NA
411010326027	7190 BELMONT AVE NE	12/15/2021	Installed	NA
411010176021	7220 BELMONT AVE NE	11/15/2021	Removed	NA
411003152004	8139 BELMONT AVE NE	11/2/2020	Removed	NA
411015376017	6072 BELSHIRE AVE NE	10/16/2020	Installed	NA
411015352017	6175 BELSHIRE AVE NE	1/7/2021	Installed	NA
410635301015	3232 BENT TREE RIDGE DR NE	7/27/2021	Removed	NA
410635301006	3235 BENT TREE RIDGE DR NE	6/29/2021	Installed	NA
410635301016	3260 BENT TREE RIDGE DR NE	7/1/2021	Removed	NA
410635301007	3275 BENT TREE RIDGE DR NE	6/23/2021	Installed	NA
410635301011	3290 BENT TREE RIDGE DR NE	7/7/2021	Installed	NA
410635301008	3325 BENT TREE RIDGE DR NE	6/22/2021	Installed	NA
410635301012	3330 BENT TREE RIDGE DR NE	8/3/2021	Installed	NA
410628452001	9207 BOOTH BAY CT NE	8/7/2023	Removed	NA
410628452002	9215 BOOTH BAY CT NE	11/23/2022	Installed	NA
410628452003	9227 BOOTH BAY CT NE	11/18/2022	Installed	NA
410628452004	9239 BOOTH BAY CT NE	6/28/2023	Installed	NA
411004200058	2100 BRENT DR NE	12/22/2022	Installed	Installed
411004200059	2150 BRENT DR NE	1/4/2023	Removed	Installed
411004200056	2200 BRENT DR NE	12/20/2022	Installed	Installed
411004200032	2109 BRITTANY DR NE	9/21/2022	Installed	Installed
411004200033	2145 BRITTANY DR NE	11/21/2022	Installed	Installed
411004200034	2179 BRITTANY DR NE	9/22/2022	Installed	Installed
411009340001	7042 CHANDLER DR NE	9/30/2020	Installed	NA
411009301008	7071 CHANDLER DR NE	1/12/2021	Installed	Installed
411009301002	7081 CHANDLER DR NE	9/2/2020	Removed	NA
411009301003	7129 CHANDLER DR NE	7/29/2020	Removed	NA
411009301001	7169 CHANDLER DR NE	7/8/2020	Removed	NA
411009326009	7184 CHANDLER DR NE	8/10/2020	Removed	NA
411009100010	7200 CHANDLER DR NE	7/23/2020	Removed	NA
411009100005	7249 CHANDLER DR NE	9/30/2020	Removed	NA
411009100035	7300 CHANDLER DR NE	8/13/2020	Removed	NA
411009100039	7343 CHANDLER DR NE	9/29/2020	Installed	NA
411009100038	7367 CHANDLER DR NE	7/31/2020	Removed	NA
411009100044	7370 CHANDLER DR NE	8/24/2020	Installed	NA
411009100011	7401 CHANDLER DR NE	8/3/2020	Installed	NA
411009100045	7410 CHANDLER DR NE	7/20/2020	Removed	NA
411009100015	7415 CHANDLER DR NE	7/21/2020	Removed	No Longer Using
411009100026	7419 CHANDLER DR NE	8/11/2020	Removed	NA
411009100046	7422 CHANDLER DR NE	8/19/2020	Removed	Installed
411009100027	7425 CHANDLER DR NE	8/4/2020	Removed	Installed
411009100030	7428 CHANDLER DR NE	7/8/2020	Removed	NA
411009100036	7480 CHANDLER DR NE	8/25/2020	Removed	NA
411009100013	7485 CHANDLER DR NE	8/6/2020	Removed	Installed
411009200025	7501 CHANDLER DR NE	8/24/2020	Installed	No Longer Using

PPN	Address	Municipal Water Connection Date	POET Status	POU Status
411009200022	7555 CHANDLER DR NE	6/30/2020	Installed	NA
411009200037	7557 CHANDLER DR NE	7/15/2020	Removed	NA
411009200023	7565 CHANDLER DR NE	4/22/2021	Removed	NA
411002200039	8293 CHILDSDALE AVE NE	11/8/2023	NA	Installed
411002200013	8313 CHILDSDALE AVE NE	11/28/2023	NA	Installed
411002200057	8339 CHILDSDALE AVE NE	11/16/2023	NA	Installed
411002200053	8341 CHILDSDALE AVE NE	11/10/2023	Installed	NA
411002200064	8343 CHILDSDALE AVE NE	11/16/2023	NA	Installed
411002200035	8371 CHILDSDALE AVE NE	2/8/2024	NA	Installed
411002200059	8395 CHILDSDALE AVE NE	9/5/2023	NA	Installed
410635100038	8850 ELSTNER AVE NE	8/25/2021	Removed	NA
410635100029	8870 ELSTNER AVE NE	8/27/2021	Removal Scheduled	NA
410635100028	8894 ELSTNER AVE NE	8/12/2021	Installed	NA
410635100027	8922 ELSTNER AVE NE	9/3/2021	Removed	No Longer Using
410635100026	8948 ELSTNER AVE NE	9/3/2021	Installed	NA
410634228004	9047 ELSTNER AVE NE	9/5/2023	Installed	NA
410634228002	9145 ELSTNER AVE NE	11/12/2021	Installed	NA
410627400045	9311 ELSTNER AVE NE	7/29/2021	Removal Scheduled	NA
411010326038	7077 EMERALD FOREST DR NE	1/18/2022	Removed	NA
411022127019	5684 ETHELWIN AVE NE	12/9/2020	NA	Installed
411022127038	5864 ETHELWIN AVE NE	10/30/2020	NA	Installed
411005126051	8200 FRESKA LAKE DR NE	12/12/2023	NA	Installed
411010351003	2466 FROND ST NE	11/3/2021	Removed	NA
410628476018	9285 GARDEN GATE DR NE	5/17/2023	Removed	NA
410628476017	9305 GARDEN GATE DR NE	5/18/2023	Installed	NA
410628476013	9370 GARDEN GATE DR NE	6/19/2023	Installed	NA
411010351004	6975 HERRINGTON AVE NE	12/22/2021	Removed	NA
411010301022	6997 HERRINGTON AVE NE	11/8/2021	Removed	NA
411010301028	7019 HERRINGTON AVE NE	12/17/2021	Installed	No Longer Using
411009429006	7029 HERRINGTON AVE NE	10/27/2021	Installed	NA
411010301026	7034 HERRINGTON AVE NE	12/23/2021	Installed	NA
411009429002	7079 HERRINGTON AVE NE	11/5/2021	Installed	NA
411009429001	7157 HERRINGTON AVE NE	9/20/2021	Installed	NA
411009426001	7193 HERRINGTON AVE NE	9/10/2021	Removed	NA
411009200047	7210 HERRINGTON AVE NE	9/10/2021	Removed	NA
411009200013	7211 HERRINGTON AVE NE	11/1/2021	Installed	NA
411009200046	7220 HERRINGTON AVE NE	12/9/2021	Removed	NA
411009200007	7320 HERRINGTON AVE NE	8/11/2021	Installed	Installed
411009251029	7373 HERRINGTON AVE NE	9/15/2021	Removed	NA
411009200036	7400 HERRINGTON AVE NE	8/19/2020	Removed	NA
411009200040	7415 HERRINGTON AVE NE	8/12/2020	Installed	Installed
411009200029	7426 HERRINGTON AVE NE	8/27/2020	Removed	NA
411009200039	7435 HERRINGTON AVE NE	7/24/2020	Removed	NA
411009200041	7460 HERRINGTON AVE NE	8/25/2020	Removed	NA
411009200032	7500 HERRINGTON AVE NE	8/18/2020	Removed	NA
411009200018	7509 HERRINGTON AVE NE	8/17/2020	Removed	NA
411009200014	7531 HERRINGTON AVE NE	8/31/2020	Removed	NA
411009200027	7550 HERRINGTON AVE NE	8/24/2020	Removed	NA
411009200045	7580 HERRINGTON AVE NE	9/2/2020	Removed	NA
411009200002	7585 HERRINGTON AVE NE	8/11/2020	Removed	NA
411009200024	7601 HERRINGTON AVE NE	10/12/2020	NA	Installed
411009200043	7608 HERRINGTON AVE NE	10/27/2020	Removed	NA
411004477002	7630 HERRINGTON AVE NE	8/25/2020	Removed	NA
411004451008	7641 HERRINGTON AVE NE	9/22/2020	NA	Installed

PPN	Address	Municipal Water Connection Date	POET Status	POU Status
411004451006	7649 HERRINGTON AVE NE	8/27/2020	Removed	NA
411004451007	7651 HERRINGTON AVE NE	9/17/2020	Removed	Removed
411004451005	7661 HERRINGTON AVE NE	9/15/2020	Removed	Removed
411004451004	7667 HERRINGTON AVE NE	7/31/2020	Removed	Removed
411004476004	7680 HERRINGTON AVE NE	8/3/2020	Removed	NA
411004476003	7712 HERRINGTON AVE NE	8/14/2020	Removed	NA
411004476002	7720 HERRINGTON AVE NE	9/8/2020	Removed	Installed
411009200019	7733 HERRINGTON AVE NE	9/25/2020	Removed	NA
411004451003	7737 HERRINGTON AVE NE	7/30/2020	Removed	NA
411004451010	7747 HERRINGTON AVE NE	8/14/2020	Removed	Installed
411004451011	7757 HERRINGTON AVE NE	10/28/2020	Removed	Installed
411004451012	7777 HERRINGTON AVE NE	10/27/2020	Removed	NA
411004426003	7830 HERRINGTON AVE NE	8/13/2020	Removed	NA
411004451001	7863 HERRINGTON AVE NE	7/30/2020	Removed	Removed
411004426002	7864 HERRINGTON AVE NE	8/27/2020	Removed	NA
411004200048	8004 HERRINGTON AVE NE	8/22/2022	Installed	NA
411004200051	8025 HERRINGTON AVE NE	11/3/2022	Installed	Installed
411004200035	8081 HERRINGTON AVE NE	5/1/2023	NA	Installed
411004200046	8092 HERRINGTON AVE NE	10/21/2022	Installed	Installed
411004200045	8100 HERRINGTON AVE NE	7/22/2022	Installed	NA
411004200021	8138 HERRINGTON AVE NE	7/29/2022	Installed	No Longer Using
411004200044	8180 HERRINGTON AVE NE	7/22/2022	Installed	NA
411004200029	8265 HERRINGTON AVE NE	7/28/2022	Installed	NA
411004200025	8273 HERRINGTON AVE NE	6/28/2022	Installed	NA
411004200028	8281 HERRINGTON AVE NE	9/26/2022	Installed	NA
411004200040	8301 HERRINGTON AVE NE	8/10/2022	Installed	NA
411004200053	8315 HERRINGTON AVE NE	8/29/2023	Installed	NA
411004200052	8327 HERRINGTON AVE NE	10/9/2023	Installed	NA
411004200020	8333 HERRINGTON AVE NE	8/4/2022	Installed	NA
411004200017	8377 HERRINGTON AVE NE	11/16/2022	Installed	NA
411004200037	8386 HERRINGTON AVE NE	11/16/2022	Installed	NA
411004200019	8431 HERRINGTON AVE NE	9/26/2022	Installed	NA
410635120025	8910 HOPEWELL DR NE	6/14/2021	Installed	NA
411005400043	1265 HOUSE ST NE	12/3/2020	Installed	NA
411005400042	1271 HOUSE ST NE	12/3/2020	Installed	NA
411008200040	1300 HOUSE ST NE	1/11/2021	Installed	NA
411008200045	1310 HOUSE ST NE	8/19/2020	Installed	NA
411005400037	1339 HOUSE ST NE	11/19/2020	Removed	Installed
411008200036	1360 HOUSE ST NE	2/10/2021	Installed	No Longer Using
411008200049	1430 HOUSE ST NE	8/20/2020	Installed	NA
411008200019	1440 HOUSE ST NE	9/28/2020	Installed	No Longer Using
411005400045	1447 HOUSE ST NE	9/15/2020	Installed	NA
411008200011	1460 HOUSE ST NE	10/14/2020	Removed	NA
411005400018	1475 HOUSE ST NE	9/1/2020	Removed	NA
411008200012	1480 HOUSE ST NE	9/30/2020	Removed	No Longer Using
411005400019	1495 HOUSE ST NE	9/9/2020	Removed	NA
411005400024	1499 HOUSE ST NE	8/4/2020	NA	Installed
411008200015	1500 HOUSE ST NE	9/9/2020	Removed	Installed
411009100041	1580 HOUSE ST NE	9/14/2020	Removed	No Longer Using
411009100042	1584 HOUSE ST NE	1/21/2021	Removed	No Longer Using
411005400025	1597 HOUSE ST NE	9/28/2020	Removed	No Longer Using
411009100043	1600 HOUSE ST NE	8/21/2020	Removed	Installed
411005400008	1601 HOUSE ST NE	8/21/2020	Installed	NA
411005400030	1617 HOUSE ST NE	8/25/2020	Installed	Installed

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411004300045	1620 HOUSE ST NE	8/25/2020	Removed	Installed
411005400031	1625 HOUSE ST NE	8/18/2020	Removed	NA
411004300047	1650 HOUSE ST NE	1/14/2021	Removed	NA
411004300060	1654 HOUSE ST NE	8/5/2020	Removed	Installed
411005400011	1655 HOUSE ST NE	9/23/2020	Removed	Removed
411004300049	1664 HOUSE ST NE	10/20/2020	Removed	Installed
411004300050	1676 HOUSE ST NE	10/20/2020	Installed	No Longer Using
411004300051	1682 HOUSE ST NE	10/1/2020	Removed	Installed
411004300052	1698 HOUSE ST NE	8/28/2020	Removed	Removed
411004300022	1711 HOUSE ST NE	10/21/2020	Removed	NA
411004300023	1767 HOUSE ST NE	9/24/2020	Removed	NA
411004300057	1778 HOUSE ST NE	10/15/2020	Installed	No Longer Using
411004300010	1781 HOUSE ST NE	7/6/2020	Removed	No Longer Using
411004300054	1786 HOUSE ST NE	12/9/2020	Removed	No Longer Using
411004300036	1850 HOUSE ST NE	9/21/2020	Removed	Installed
411004401001	2115 HOUSE ST NE	9/22/2020	Installed	Installed
411015351036	6107 IDAHO AVE NE	11/2/2020	Removed	NA
411015351035	6121 IDAHO AVE NE	2/24/2021	Installed	NA
411015352042	6126 IDAHO AVE NE	9/23/2020	Removed	NA
411004300042	7853 IMPERIAL PINE DR NE	1/28/2021	Installed	NA
411004300041	7879 IMPERIAL PINE DR NE	11/23/2020	Installed	No Longer Using
411004300063	7885 IMPERIAL PINE DR NE	11/23/2020	Installed	No Longer Using
410633251006	8980 JEWELL AVE NE	10/20/2022	Installed	NA
410633201008	9000 JEWELL AVE NE	9/29/2022	Installed	NA
410633100076	9011 JEWELL AVE NE	1/4/2023	Installed	NA
410633201006	9070 JEWELL AVE NE	9/30/2022	Installed	Installed
410633201005	9090 JEWELL AVE NE	10/5/2022	Installed	Installed
410633100011	9101 JEWELL AVE NE	8/30/2022	Removed	NA
410633201001	9150 JEWELL AVE NE	9/12/2022	Installed	NA
410633100033	9165 JEWELL AVE NE	1/18/2023	Removed	NA
410633100032	9171 JEWELL AVE NE	11/11/2022	Removal Scheduled	NA
411009251019	2020 KORBEN WOODS CT NE	12/3/2021	Removed	NA
411009251018	2039 KORBEN WOODS CT NE	12/16/2021	Removed	NA
411009251020	2042 KORBEN WOODS CT NE	9/29/2021	Installed	NA
411009251017	2055 KORBEN WOODS CT NE	12/15/2021	Installed	Installed
411009251021	2075 KORBEN WOODS CT NE	12/30/2021	Installed	Installed
411009251016	2077 KORBEN WOODS CT NE	12/15/2021	Removed	NA
410634227042	8900 LADY LAUREN DR NE	7/1/2020	Removed	NA
410634227043	8903 LADY LAUREN DR NE	6/10/2020	Removed	NA
410634227041	8914 LADY LAUREN DR NE	6/24/2020	Removed	NA
410634227045	8919 LADY LAUREN DR NE	6/8/2020	Removed	Installed
410634227040	8922 LADY LAUREN DR NE	7/13/2020	Removed	Installed
410634227046	8927 LADY LAUREN DR NE	6/18/2020	Removed	NA
410634227039	8930 LADY LAUREN DR NE	7/28/2020	Removed	NA
410634227047	8935 LADY LAUREN DR NE	7/16/2020	Removed	Installed
410634227048	8941 LADY LAUREN DR NE	7/27/2020	Removed	NA
410634227038	8942 LADY LAUREN DR NE	6/4/2020	Removed	NA
410634227049	8947 LADY LAUREN DR NE	7/13/2020	Removed	NA
410634227037	8954 LADY LAUREN DR NE	6/4/2020	Removed	NA
410634227001	9070 LADY LAUREN DR NE	7/20/2020	Removed	NA
410634227004	9102 LADY LAUREN DR NE	6/29/2020	NA	Installed
410634227005	9108 LADY LAUREN DR NE	7/7/2020	NA	Installed
410634227006	9114 LADY LAUREN DR NE	8/3/2020	NA	Installed
410634227007	9120 LADY LAUREN DR NE	7/22/2020	Removed	NA

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410634227008	9128 LADY LAUREN DR NE	6/26/2020	Installed	NA
410634227010	9152 LADY LAUREN DR NE	8/13/2020	Removed	NA
410634227021	9155 LADY LAUREN DR NE	6/5/2020	Removed	Installed
410634227011	9164 LADY LAUREN DR NE	6/23/2020	Removed	NA
410634227020	9169 LADY LAUREN DR NE	10/5/2020	Removed	NA
410634227019	9175 LADY LAUREN DR NE	7/7/2020	Installed	NA
410634227012	9178 LADY LAUREN DR NE	7/9/2020	Installed	NA
410634227018	9187 LADY LAUREN DR NE	6/16/2020	Removed	NA
410634227013	9190 LADY LAUREN DR NE	7/8/2020	Removed	NA
410634227017	9193 LADY LAUREN DR NE	6/29/2020	Installed	Installed
410634227016	9195 LADY LAUREN DR NE	9/3/2020	Removed	NA
410634227015	9200 LADY LAUREN DR NE	10/5/2020	Installed	NA
410634227014	9202 LADY LAUREN DR NE	6/24/2020	Removed	NA
411009401007	2001 MEEK DR NE	1/20/2022	Installed	NA
411009401006	2023 MEEK DR NE	1/31/2022	Installed	NA
411009401010	2024 MEEK DR NE	1/19/2022	Installed	NA
411009401014	2036 MEEK DR NE	5/27/2022	Installed	NA
411009401005	2039 MEEK DR NE	1/7/2022	Removed	NA
411009401001	2051 MEEK DR NE	5/27/2022	Installed	NA
411009401018	2060 MEEK DR NE	12/15/2021	Removed	NA
411009251022	2066 MEEK DR NE	1/12/2022	Removed	NA
411009251023	2072 MEEK DR NE	12/9/2021	Installed	Installed
411009251024	2086 MEEK DR NE	12/20/2021	Removed	NA
411009251025	2100 MEEK DR NE	11/19/2021	Removed	NA
411009251003	2141 MEEK DR NE	12/15/2021	Installed	NA
411009251004	2147 MEEK DR NE	12/20/2021	Installed	Installed
411009251005	2153 MEEK DR NE	11/17/2021	Installed	NA
411009251027	2154 MEEK DR NE	9/29/2021	Installed	NA
410628452021	9286 NAGSHEAD CT NE	11/10/2022	Installed	NA
410628452005	9253 NANTUCKET CT NE	11/28/2022	Installed	NA
410628452006	9261 NANTUCKET CT NE	1/11/2023	Removed	NA
410628452007	9269 NANTUCKET CT NE	8/8/2023	Removed	NA
410628452008	9277 NANTUCKET CT NE	10/12/2022	Installed	NA
410628452009	9285 NANTUCKET CT NE	10/28/2022	Installed	NA
411014153010	6502 NUGGET AVE NE	9/24/2020	NA	Installed
411014152008	6515 NUGGET AVE NE	10/22/2020	NA	Installed
411014152007	6531 NUGGET AVE NE	11/20/2020	NA	Installed
411015201026	6605 PACKER DR NE	1/26/2022	Removed	NA
411010426012	7000 PACKER DR NE	12/14/2021	Installed	Installed
411010426019	7035 PACKER DR NE	12/14/2021	Installed	NA
411010451016	7165 PACKER DR NE	9/16/2022	Installed	NA
411010451017	7173 PACKER DR NE	6/13/2022	Installed	NA
411010426010	7210 PACKER DR NE	12/9/2021	Installed	NA
411010451023	7229 PACKER DR NE	6/15/2022	Installed	NA
411010451014	7157 PACKER WOODS DR NE	1/6/2023	Installed	Installed
411010376023	7171 PACKER WOODS DR NE	6/16/2022	Installed	NA
411010301015	7045 PINE HILL DR NE	11/15/2021	Removed	NA
411010302012	7060 PINE HILL DR NE	11/11/2021	Installed	Installed
411010301014	7061 PINE HILL DR NE	9/1/2021	Removed	NA
411010301012	7105 PINE HILL DR NE	12/28/2021	Installed	NA
411010301011	7125 PINE HILL DR NE	10/21/2021	Installed	NA
411010302010	7126 PINE HILL DR NE	9/15/2021	Removed	NA
411010301027	7143 PINE HILL DR NE	1/24/2022	Installed	NA
411010151025	7211 PINE HILL DR NE	1/7/2022	Installed	NA

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411010302001	7220 PINE HILL DR NE	12/13/2021	Installed	NA
411010151021	7235 PINE HILL DR NE	12/14/2021	Removed	NA
411005300041	7758 PINE ISLAND CT NE	11/22/2023	Installed	NA
411005300043	7800 PINE ISLAND CT NE	10/4/2023	Installed	NA
411008200029	7450 PINE ISLAND DR NE	12/16/2020	Installed	NA
411010352010	6817 PIXLEY AVE NE	12/13/2021	Installed	NA
411010352009	6821 PIXLEY AVE NE	11/9/2021	Removed	NA
411010353017	6858 PIXLEY AVE NE	5/12/2022	Installed	NA
411010353016	6872 PIXLEY AVE NE	1/13/2022	Installed	NA
411010352014	6881 PIXLEY AVE NE	10/26/2021	Removed	NA
411010353015	6890 PIXLEY AVE NE	11/18/2021	Installed	NA
411010353004	6918 PIXLEY AVE NE	10/26/2021	Installed	NA
411010353003	6932 PIXLEY AVE NE	1/6/2022	Removed	NA
411010353020	6950 PIXLEY AVE NE	1/4/2022	Installed	NA
411010353019	6990 PIXLEY AVE NE	10/18/2021	Removed	NA
411016276004	2345 POST DR NE	10/22/2020	Installed	Installed
411016279003	2374 POST DR NE	12/16/2020	Removed	Installed
411015451005	6170 ROGUE LN NE	11/29/2023	Installed	NA
411015451030	6194 ROGUE LN NE	11/28/2023	Installed	NA
411002200049	8230 ROGUE RIDGE NE	10/19/2023	NA	Installed
411021226037	2300 ROGUE RIVER RD NE	10/19/2020	NA	Installed
411016476021	2317 ROGUE RIVER RD NE	11/19/2020	Removed	NA
411021226034	2332 ROGUE RIVER RD NE	11/11/2020	NA	Installed
411021226035	2340 ROGUE RIVER RD NE	11/11/2020	NA	Installed
411016476041	2345 ROGUE RIVER RD NE	11/2/2020	Removed	NA
411021226032	2364 ROGUE RIVER RD NE	11/11/2020	NA	Installed
411016476052	2367 ROGUE RIVER RD NE	11/16/2020	Installed	NA
411016476026	2377 ROGUE RIVER RD NE	10/30/2020	Removed	NA
411022101024	2480 ROGUE RIVER RD NE	9/15/2020	NA	Installed
411022101039	2560 ROGUE RIVER RD NE	10/7/2020	NA	Installed
411022126036	2626 ROGUE RIVER RD NE	1/13/2021	NA	Installed
411015376069	2739 ROGUE RIVER RD NE	12/18/2020	Removed	NA
411022127069	2760 ROGUE RIVER RD NE	12/9/2020	NA	Installed
411015376044	2791 ROGUE RIVER RD NE	11/2/2023	Removal Scheduled	NA
411015376047	2803 ROGUE RIVER RD NE	12/20/2023	Installed	NA
411015376032	2805 ROGUE RIVER RD NE	11/8/2023	Installed	NA
411015376050	2807 ROGUE RIVER RD NE	11/20/2023	Installed	NA
411015376051	2809 ROGUE RIVER RD NE	11/13/2023	Installed	NA
411015376029	2811 ROGUE RIVER RD NE	11/20/2023	Installed	NA
411015428028	3093 ROGUE RIVER RD NE	1/25/2021	NA	Installed
411015429009	3191 ROGUE RIVER RD NE	12/10/2020	NA	Installed
410634227064	2960 ROYAL HANNAH DR NE	7/27/2020	Removed	NA
410634227063	2963 ROYAL HANNAH DR NE	7/16/2020	Installed	Installed
410634227065	2972 ROYAL HANNAH DR NE	7/15/2020	Installed	NA
410634227062	2975 ROYAL HANNAH DR NE	9/2/2020	Installed	No Longer Using
410634227066	2988 ROYAL HANNAH DR NE	7/9/2020	Removed	NA
410634227061	2989 ROYAL HANNAH DR NE	7/22/2020	Removed	Installed
410634227067	3000 ROYAL HANNAH DR NE	7/9/2020	Removed	NA
410634227060	3003 ROYAL HANNAH DR NE	7/22/2020	Removed	Installed
410634227068	3016 ROYAL HANNAH DR NE	6/25/2020	Removed	Installed
410634227059	3019 ROYAL HANNAH DR NE	7/16/2020	Removed	No Longer Using
410634227069	3030 ROYAL HANNAH DR NE	7/16/2020	Removed	NA
410634227058	3035 ROYAL HANNAH DR NE	7/20/2020	Removed	Installed
410634227070	3042 ROYAL HANNAH DR NE	7/22/2020	Removed	Installed

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410634227071	3056 ROYAL HANNAH DR NE	7/15/2020	Removed	Installed
410634227072	3070 ROYAL HANNAH DR NE	7/14/2020	Removed	Installed
410634227055	3081 ROYAL HANNAH DR NE	5/20/2020	Removed	NA
410634227054	3099 ROYAL HANNAH DR NE	8/24/2020	Removed	NA
410628452029	9210 SAG HARBOR CT NE	10/5/2022	Installed	NA
410628452025	9242 SAG HARBOR CT NE	11/1/2023	Installed	NA
410634227033	2982 SIR CHARLES DR NE	7/21/2020	Installed	Installed
410634227034	2983 SIR CHARLES DR NE	6/24/2020	Removed	NA
410634227032	2988 SIR CHARLES DR NE	7/14/2020	NA	Installed
410634227035	2989 SIR CHARLES DR NE	7/27/2020	Removed	NA
410634227029	3012 SIR CHARLES DR NE	7/21/2020	Removed	NA
410634227028	3024 SIR CHARLES DR NE	7/27/2020	Removed	NA
410634227026	3050 SIR CHARLES DR NE	10/5/2020	Installed	NA
410634227025	3062 SIR CHARLES DR NE	6/17/2020	Removed	NA
411009428001	2241 SPRUCEWOOD CT NE	12/23/2021	Installed	NA
411009428002	2250 SPRUCEWOOD CT NE	1/11/2022	Installed	NA
411009428003	2260 SPRUCEWOOD CT NE	5/18/2022	NA	Installed
411009428004	2265 SPRUCEWOOD CT NE	11/2/2021	Removed	NA
411004127010	2020 SQUIREWOOD CT NE	7/25/2023	Removed	NA
411004127013	2021 SQUIREWOOD CT NE	10/13/2023	Removed	NA
411004127012	2045 SQUIREWOOD CT NE	8/25/2023	Installed	NA
411004127011	2050 SQUIREWOOD CT NE	7/31/2023	Removed	NA
411004127008	8200 SQUIREWOOD DR NE	11/9/2023	Installed	NA
411004127007	8215 SQUIREWOOD DR NE	9/27/2023	Installed	Installed
411004127006	8239 SQUIREWOOD DR NE	7/26/2023	Removed	No Longer Using
411004127009	8250 SQUIREWOOD DR NE	8/22/2023	Removed	No Longer Using
411004127005	8255 SQUIREWOOD DR NE	8/16/2023	Removal Scheduled	NA
411004127004	8281 SQUIREWOOD DR NE	7/26/2023	Removed	NA
411004127003	8303 SQUIREWOOD DR NE	9/28/2023	Installed	NA
411004127002	8359 SQUIREWOOD DR NE	7/7/2023	Removed	NA
411004127001	8375 SQUIREWOOD DR NE	8/16/2023	Installed	NA
410635351007	3221 STONERIDGE DR NE	6/25/2021	Installed	Installed
410635351008	3232 STONERIDGE DR NE	7/9/2021	Installed	NA
410635351006	3233 STONERIDGE DR NE	7/16/2021	Removal Scheduled	Installed
410635351009	3256 STONERIDGE DR NE	8/19/2021	Installed	NA
410635351005	3261 STONERIDGE DR NE	8/4/2021	Installed	NA
410635351010	3284 STONERIDGE DR NE	6/29/2021	Installed	Removed
410635351003	3313 STONERIDGE DR NE	6/29/2021	Installed	NA
410635351002	3343 STONERIDGE DR NE	8/27/2021	Installed	Installed
410635351013	3380 STONERIDGE DR NE	7/1/2021	Removed	NA
410635351001	3383 STONERIDGE DR NE	7/27/2021	Installed	Installed
411009251015	7299 TERRIE LYNN DR NE	12/10/2021	Installed	NA
411009251006	7318 TERRIE LYNN DR NE	12/8/2021	Installed	NA
411009251014	7325 TERRIE LYNN DR NE	12/9/2021	Installed	NA
411009251007	7336 TERRIE LYNN DR NE	12/8/2021	Installed	NA
411009251013	7339 TERRIE LYNN DR NE	12/7/2021	Removed	NA
411009251012	7347 TERRIE LYNN DR NE	12/22/2021	Installed	Installed
411009251008	7354 TERRIE LYNN DR NE	12/9/2021	Removed	NA
411009251011	7355 TERRIE LYNN DR NE	12/7/2021	Removed	NA
411009251010	7371 TERRIE LYNN DR NE	9/28/2021	Installed	NA
411010303007	2555 VAN DAM DR NE	12/6/2021	Removal Scheduled	NA
411010353002	2566 VAN DAM DR NE	2/7/2022	Installed	Installed
411010326002	2615 VAN DAM DR NE	10/25/2021	Removed	NA
411010376003	2630 VAN DAM DR NE	6/14/2022	Installed	NA

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411010326003	2635 VAN DAM DR NE	10/25/2021	Removed	NA
411010376009	2700 VAN DAM DR NE	5/12/2022	Installed	NA
411010376011	2720 VAN DAM DR NE	5/2/2022	Installed	NA
411010326024	2755 VAN DAM DR NE	12/9/2021	Installed	NA
411010376015	2800 VAN DAM DR NE	12/14/2021	Removed	NA
411010327001	2920 VAN DAM DR NE	12/2/2021	Installed	NA
411022251001	5875 VERTA DR NE	10/26/2020	NA	Installed
411005126063	8331 WATEREDGE DR NE	10/26/2023	NA	Installed
411005126045	8396 WATEREDGE DR NE	11/7/2023	NA	Installed
411022401004	6334 WEST RIVER DR NE	10/8/2020	NA	No Longer Using
411022276009	6419 WEST RIVER DR NE	10/8/2020	NA	Installed
411023100028	6581 WEST RIVER DR NE	11/20/2020	NA	Installed
411023100029	6601 WEST RIVER DR NE	12/11/2020	NA	Installed
411015201024	6688 WILDWOOD CREEK DR NE	10/13/2021	Installed	NA
411015201023	6724 WILDWOOD CREEK DR NE	11/18/2021	Installed	NA
411015201017	6790 WILDWOOD CREEK DR NE	10/18/2021	Installed	NA
411010376019	6800 WILDWOOD CREEK DR NE	10/11/2021	Removed	NA
411010376024	6814 WILDWOOD CREEK DR NE	10/7/2021	Installed	NA
411010376021	6815 WILDWOOD CREEK DR NE	1/11/2022	Installed	NA
411010376022	6826 WILDWOOD CREEK DR NE	12/14/2021	Removed	NA
411010377005	6833 WILDWOOD CREEK DR NE	12/16/2021	Removed	NA
411010377004	6840 WILDWOOD CREEK DR NE	10/19/2021	Removed	NA
411010377006	6859 WILDWOOD CREEK DR NE	10/6/2021	Removed	NA
411010377003	6868 WILDWOOD CREEK DR NE	10/5/2021	Installed	NA
411010377002	6884 WILDWOOD CREEK DR NE	10/19/2021	Removed	NA
411010377001	6900 WILDWOOD CREEK DR NE	10/5/2021	Installed	NA
410634152010	2540 WINDING RIDGE TRL NE	6/19/2023	Removed	NA
410634152008	2580 WINDING RIDGE TRL NE	6/7/2023	Removed	NA
410635353001	8415 WINDSTONE DR NE	7/1/2021	Installed	NA
410635353008	8440 WINDSTONE DR NE	7/21/2021	Removed	NA
410635353002	8443 WINDSTONE DR NE	7/12/2021	Removed	NA
410635353003	8475 WINDSTONE DR NE	7/7/2021	Installed	Installed
410635353010	8496 WINDSTONE DR NE	7/13/2021	Removed	NA
410635353004	8497 WINDSTONE DR NE	8/20/2021	Removed	NA
410635353005	8500 WINDSTONE DR NE	10/29/2021	Installed	NA
410635354004	8435 WOLVEN AVE NE	7/7/2021	Installed	NA
410635376004	8500 WOLVEN AVE NE	7/1/2021	Removed	NA
410635354006	8515 WOLVEN AVE NE	7/6/2021	Removed	NA
410635376002	8520 WOLVEN AVE NE	7/28/2021	Removed	NA
410635354001	8535 WOLVEN AVE NE	12/8/2021	Installed	NA
410635376003	8540 WOLVEN AVE NE	11/12/2021	Installed	NA
410635326015	8600 WOLVEN AVE NE	8/17/2021	Installed	NA
410635326014	8620 WOLVEN AVE NE	12/7/2021	Installed	NA
410635301009	8655 WOLVEN AVE NE	7/2/2021	Removal Scheduled	NA
410635301003	8685 WOLVEN AVE NE	8/23/2021	Installed	NA
410635301017	8767 WOLVEN AVE NE	7/14/2021	Installed	NA
410635100015	8944 WOLVEN AVE NE	11/30/2021	Removed	NA

Notes:
1) Addresses on this list are in Municipal Water Areas per the Consent Decree and have been connected.
2) Abbreviations Include:
"POET" indicates point-of-entry treatment filter.
"POU" indicates point-of-use filter.
"NA" indicates not applicable.

PPN	Address	POET Status	POU Status
410636101010	4010 11 MILE RD NE	NA	Installed
411010151009	7275 BELMONT AVE NE	Installed	NA
411010151007	7319 BELMONT AVE NE	Installed	NA
411010151012	7335 BELMONT AVE NE	Installed	NA
411010151011	7363 BELMONT AVE NE	Installed	NA
411010151003	7385 BELMONT AVE NE	Installed	NA
411003351006	7675 BELMONT AVE NE	Installed	NA
411003351005	7685 BELMONT AVE NE	Installed	NA
411003353002	7757 BELMONT AVE NE	Removed	NA
411003301004	7815 BELMONT AVE NE	Installed	NA
411003301003	7877 BELMONT AVE NE	Installed	NA
411003301002	7923 BELMONT AVE NE	Installed	NA
411003301001	7965 BELMONT AVE NE	Removed	NA
411016126017	6701 BLUE RIDGE DR NE	Installed	NA
411009376011	6801 BLUE RIDGE DR NE	Installed	NA
411010101026	7447 CLOUDBERRY LN NE	Installed	NA
411010101027	7485 CLOUDBERRY LN NE	Installed	NA
411010101028	7525 CLOUDBERRY LN NE	Installed	NA
411010101029	7555 CLOUDBERRY LN NE	Installed	NA
411010151018	7296 HICKORY TRL NE	Installed	NA
411010151022	7303 HICKORY TRL NE	Installed	NA
411010151017	7304 HICKORY TRL NE	Installed	NA
411010151023	7309 HICKORY TRL NE	Installed	Installed
411010151024	7311 HICKORY TRL NE	Installed	NA
411002300033	3310 HOUSE ST NE	NA	Installed
411002300053	3344 HOUSE ST NE	NA	Installed
411016376022	6175 MAKSIMOWSKI AVE NE	Installed	NA
411001276002	8144 NORTHLAND DR NE	NA	Removed
411001251006	8159 NORTHLAND DR NE	NA	Installed
411001251003	8215 NORTHLAND DR NE	NA	Installed
411010176015	7349 PACKER DR NE	Installed	NA
411010101025	2430 PERSIMMON PL NE	Installed	NA
411010101016	2455 PERSIMMON PL NE	Installed	NA
411010101024	2460 PERSIMMON PL NE	Installed	NA
411010101022	2530 PERSIMMON PL NE	Installed	NA
411010101021	2570 PERSIMMON PL NE	Installed	NA
411016126026	1939 POST DR NE	Removed	NA
411016201011	2101 POST DR NE	Installed	NA
411016201007	2141 POST DR NE	Installed	NA
411011151001	3361 RIO ROGUE LN NE	NA	Installed
411010200017	7550 ROGUEWOOD DR NE	NA	Removed
411010101032	2250 ROLLING MEADOW DR NE	Installed	NA
411010101001	2255 ROLLING MEADOW DR NE	Removed	NA
411010101031	2280 ROLLING MEADOW DR NE	Installed	Installed
411010101002	2285 ROLLING MEADOW DR NE	Installed	NA
411010101003	2313 ROLLING MEADOW DR NE	Installed	No Longer Using
411010101030	2320 ROLLING MEADOW DR NE	Removed	NA
411010101004	2355 ROLLING MEADOW DR NE	Installed	Installed
411010101005	2435 ROLLING MEADOW DR NE	Removed	NA
411010101006	2465 ROLLING MEADOW DR NE	Installed	NA
411010101013	2480 ROLLING MEADOW DR NE	Installed	NA
411010101007	2495 ROLLING MEADOW DR NE	Removed	NA
411010101012	7460 STEEPLEBUSH LN NE	Installed	NA
411010101020	7465 STEEPLEBUSH LN NE	Installed	NA
411010101011	7490 STEEPLEBUSH LN NE	Installed	NA
411010101019	7495 STEEPLEBUSH LN NE	Removed	NA
411010101010	7520 STEEPLEBUSH LN NE	Installed	NA
411010101017	7545 STEEPLEBUSH LN NE	Removed	NA

TABLE 4
POET AND POU FILTERS NO LONGER MAINTAINED - FILTER AREAS
Operation and Maintenance of Filters Response Activity Plan

PPN	Address	POET Status	POU Status
411004427023	2263 STRAWBERRY FARMS ST NE	Installed	Removed
411004427002	2270 STRAWBERRY FARMS ST NE	Installed	NA
411004427022	2323 STRAWBERRY FARMS ST NE	Installed	Installed
411004427004	2330 STRAWBERRY FARMS ST NE	Installed	NA
411004427005	2360 STRAWBERRY FARMS ST NE	Installed	NA
411004427006	2390 STRAWBERRY FARMS ST NE	Installed	NA
411003352005	2400 STRAWBERRY FARMS ST NE	Installed	NA
411003352001	2405 STRAWBERRY FARMS ST NE	Installed	NA
411003352002	2469 STRAWBERRY FARMS ST NE	Installed	NA
411003352008	2470 STRAWBERRY FARMS ST NE	Installed	Installed
411003352009	2500 STRAWBERRY FARMS ST NE	Installed	NA
411003352010	2530 STRAWBERRY FARMS ST NE	Installed	Installed
411003352004	2555 STRAWBERRY FARMS ST NE	Installed	NA
411004427021	7777 STRAWBERRY LN NE	Installed	Installed
411004427007	7778 STRAWBERRY LN NE	Installed	NA
411004427008	7800 STRAWBERRY LN NE	Installed	NA
411004427020	7803 STRAWBERRY LN NE	Installed	Installed
411004427019	7817 STRAWBERRY LN NE	Installed	Installed
411004427009	7834 STRAWBERRY LN NE	Installed	NA
411004427018	7835 STRAWBERRY LN NE	Installed	No Longer Using
411004427010	7876 STRAWBERRY LN NE	Installed	NA
411004427011	7900 STRAWBERRY LN NE	Installed	NA
411004427016	7909 STRAWBERRY LN NE	Installed	Installed
411004427015	7917 STRAWBERRY LN NE	Installed	Installed
411004427014	7925 STRAWBERRY LN NE	Installed	Installed
411004427013	7933 STRAWBERRY LN NE	Installed	Installed
411004427012	7936 STRAWBERRY LN NE	Installed	NA
411004427024	7969 STRAWBERRY LN NE	Installed	NA
411004427028	7970 STRAWBERRY LN NE	Installed	NA
411004427025	7985 STRAWBERRY LN NE	Installed	NA
411004427027	7988 STRAWBERRY LN NE	Installed	NA
411004427026	8000 STRAWBERRY LN NE	Installed	Installed
410625326005	9490 SUMMIT AVE NE	NA	Removed
410625301014	4184 TRADEWIND DR NE	NA	Installed
410626200009	3640 VERSCHEL DR NE	NA	Installed
410625301037	3848 WHIRLWIND DR NE	NA	No Longer Using
410625301058	4117 WHIRLWIND DR NE	NA	Installed
410625301060	4139 WHIRLWIND DR NE	NA	Installed
410625301061	4155 WHIRLWIND DR NE	NA	Installed
410625301015	4168 WHIRLWIND DR NE	NA	Installed
410626300014	9524 WOLVEN AVE NE	NA	Installed
411015426017	6370 WOODWATER DR NE	NA	Installed

Notes:
1) Addresses on this list are in Filter Areas per the Consent Decree where known PFOS+PFOA concentrations were less than 10 parts per trillion and have not been connected to municipal water through a Consolidation and Contamination Risk Reduction (C2R2) grant.
2) Abbreviations Include:
"POET" indicates point-of-entry treatment filter.
"POU" indicates point-of-use filter.
"NA" indicates not applicable.

TABLE 5

POU FILTERS NO LONGER MAINTAINED - FILTER AREAS CONNECTED TO MUNICIPAL WATER

Operation and Maintenance of Filters Response Activity Plan

PPN	Address	Municipal Water Connection Date	POU Status
410625100022	4150 12 MILE RD NE	12/18/2023	Installed
411022426002	3104 INDIAN DR NE	7/27/2022	Installed
411022278007	5750 MALL AVE NE	6/29/2023	Installed
411015427006	3083 RAPIDFALL CT NE	1/13/2023	Installed
411022279001	3150 RIPLEY ST NE	7/12/2023	Installed
411022279003	3160 RIPLEY ST NE	7/13/2023	Installed
411022279004	3180 RIPLEY ST NE	7/28/2023	Installed
410625376001	9350 SUMMIT AVE NE	1/19/2024	Installed
410625315003	9489 SUMMIT AVE NE	1/17/2024	Installed
410625326003	9552 SUMMIT AVE NE	12/12/2023	Installed
410625100074	9605 SUMMIT AVE NE	12/15/2023	Installed
410625100048	9630 SUMMIT AVE NE	2/20/2024	Installed
410625100032	9737 SUMMIT AVE NE	12/14/2023	Installed
410625100072	9800 SUMMIT AVE NE	2/1/2024	Installed
410625100062	9958 SUMMIT AVE NE	12/6/2023	Installed
411011126007	3531 WARWICK GLEN DR NE	9/6/2023	Installed
411015426026	6298 WOODWATER DR NE	11/16/2022	Installed
411015427019	6399 WOODWATER DR NE	12/27/2022	Installed

Notes:

1) Addresses on this list are in Filter Areas per the Consent Decree where known PFOS+PFOA concentrations were greater than 10 parts per trillion and have been connected to municipal water through a Consolidation and Contamination Risk Reduction (C2R2) grant.
2) Abbreviation Includes:
   "POU" indicates point-of-use filter.

TABLE 6
POET AND POU FILTERS MAINTAINED - FILTER AREAS
Operation and Maintenance of Filters Response Activity Plan

PPN	Address	POET Status	POU Status
410627300006	2445 11 MILE RD NE	NA	Installed
410626300021	3535 11 MILE RD NE	Installed	NA
410635201012	3616 11 MILE RD NE	Installed	NA
410636101011	4080 11 MILE RD NE	NA	Installed
410636101007	4170 11 MILE RD NE	NA	Installed
411003351004	7619 BELMONT AVE NE	Installed	NA
411003353001	7781 BELMONT AVE NE	Installed	NA
411010101014	7530 CLOUDBERRY LN NE	Installed	NA
411016103007	1650 CORNERSTONE CT NE	Installed	NA
410626200024	9798 DEER TRL NE	NA	Installed
411010151006	7305 HICKORY TRL NE	Installed	NA
411010151004	7307 HICKORY TRL NE	Installed	NA
411002300016	3335 HOUSE ST NE	NA	Installed
411002300028	3515 HOUSE ST NE	NA	Installed
411023303013	3246 INDIAN DR NE	NA	Installed
411023303009	3252 INDIAN DR NE	NA	Installed
411001151009	279 OAK ST NE	NA	Installed
411016201017	2153 POST DR NE	Installed	NA
411010101008	2525 ROLLING MEADOW DR NE	Installed	NA
411010101009	7550 STEEPLEBUSH LN NE	Installed	NA
411004427001	2242 STRAWBERRY FARMS ST NE	Installed	NA
411003352006	2430 STRAWBERRY FARMS ST NE	Installed	NA
411003352007	2450 STRAWBERRY FARMS ST NE	Installed	NA
411003352003	2495 STRAWBERRY FARMS ST NE	Installed	NA
411003352011	2560 STRAWBERRY FARMS ST NE	Installed	Installed
411004427017	7857 STRAWBERRY LN NE	Installed	Installed
410636101013	9105 SUMMIT AVE NE	NA	Installed
410625301011	4168 TRADEWIND DR NE	NA	Installed
410625301001	4195 TRADEWIND DR NE	NA	Installed
410625301040	3823 WHIRLWIND DR NE	Installed	NA
410625301039	3826 WHIRLWIND DR NE	Installed	NA
410625301038	3830 WHIRLWIND DR NE	NA	Installed
410625301033	3900 WHIRLWIND DR NE	NA	Installed

Notes:
1) Addresses on this list are in Filter Areas per the Consent Decree where known PFOS+PFOA concentrations were greater than 10 parts per trillion and have not been connected to municipal water through a Consolidation and Contamination Risk Reduction (C2R2) grant.
2) Abbreviations Include:
"POET" indicates point-of-entry treatment filter.
"POU" indicates point-of-use filter.
"NA" indicates not applicable.

APPENDIX A
2020 POET and POU O&M Work Plan

Rose & Westra
A Division of GZA

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REVISION TO POET AND POU O&M WORK PLAN

Kent County, Michigan

January 6, 2020
File No. 16.0062335.60

PREPARED FOR:
Wolverine World Wide, Inc.
Rockford, Michigan

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1.0 INTRODUCTION

On behalf of Wolverine World Wide, Inc. (Wolverine), Rose & Westra, a Division of GZA GeoEnvironmental, Inc. (R&W/GZA), prepared this Work Plan (WP) summarizing the approach and rationale for proposed revisions to the existing March 2019 *Alternate Water Supply Management Plan Point-of-Entry Treatment Systems* (POET O&M) and associated supplemental documentation as well as the May 2018 memo, *Aquasana 5300+ Point-of-Use Filtration Maintenance* (POU O&M). The purpose of this Work Plan is to propose changes to the POET O&M and POU O&M and delineate the changes. This WP will serve as an addendum to those existing documents.

2.0 GENERAL APPROACH & PROPOSED CHANGES

Revisions to the filter O&M plans are proposed because there is significant data on the effectiveness of the filters, the remedial investigations in the North Kent study areas have better defined the extent of PFAS, and municipal water is slated for numerous homes in the study areas having POETs or POUs.

Nearly five thousand monitoring samples have been collected from the mid-point and effluent ports of the POET systems operating over 22 months. The filters have been proven to be highly effective in the removal of PFAS. Additionally, the operation and use has demonstrated that the carbon use on these systems is at least 18 months and/or at least 120,000 gallons even for homes with the highest PFAS concentrations and water use. This is further outlined in the November 2019 memo, *POET Post-Installation Performance Monitoring Sampling Protocol*.

Based on the continued effectiveness of the filter systems, the continued efforts to delineate the extent(s) of contamination, the well-established minimum carbon life for the POETs, and the pending municipal water installation, the following is proposed:

<u>POUS</u>

- In municipal water areas and filter areas at residences where influent concentrations are above 10 ppt for PFOS+PFOA, WWW will continue to provide replacement cartridges for the NSF-certified POUs, as specified in the existing POU O&M Plan and the manufacturer's suggestion. Two sets of replacement cartridges will be mailed each year to each residence, WWW will stop providing POU replacement cartridges when an individual residence is connected to municipal water.

<u>POETS</u>

- The existing maintenance and monitoring program will be modified as follows after the effective date of the Consent Decree until the first carbon change out at each individual residence, whichever is earlier, for (a) POETs in municipal water areas, and (b) POETs in filter areas where influent concentrations are above 10 ppt for PFOS+PFOA:

Current Monitoring Interval	**Proposed Monitoring after effective date of the Consent Decree until the first Carbon Change Out at Each Individual Residence**	**Proposed Carbon Change Out Intervals***
Weekly	Monthly	6 months

Current Monitoring Interval	Proposed Monitoring after effective date of the Consent Decree until the first Carbon Change Out at Each Individual Residence	Proposed Carbon Change Out Intervals*
Monthly	Quarterly	12 months
Quarterly	Semi-Annual	16 months
Semi-Annual	None, if sampled since July 1, 2019. If not sampled since July 1, 2019, one additional sample will be collected within the first eight months after Consent Degree is effective.	16 months
Annual	None, if sampled since July 1, 2019. If not sampled since July 1, 2019, one additional sample will be collected within the first eight months after the consent decree is effective.	20 months**

*Carbon change out is removing the lead carbon vessel(s) and replacing with the lag vessel(s), then installing a new vessel(s) in the lag position(s). On a case-by-case basis carbon change outs may occur off-schedule when unique issues such as unexpected pressure drop occurs across the POET system. If a POET has been installed or a carbon change out has occurred at an individual address within six months prior to the effective date of the Consent Decree, that POET system will automatically be put on the carbon change out schedule and monitoring will cease.

**The change out will occur earlier than 20 months if there is a demonstrated reduction in flow rate or increased pressure drop across the POET prior to the expiration of 20 months (i.e. evidence of physical clogging rather than carbon exhaustion due to PFAS burden).

- The initial round of carbon change outs will be completed in an approximately 4 to 8-month period after the effective date of the Consent Decree. The change outs will be prioritized by PFAS concentrations, with the current weekly intervals being the first group. Once a carbon change out has occurred at an individual system, the specified carbon change out schedule will begin for that particular address (i.e. if a current weekly system is changed March 1, 2020 as part of the initial change out, the six month schedule will be triggered with the next scheduled change on September 1, 2020 and so on.

- UV lamp and sediment filter maintenance will continue on annual and thrice yearly basis, respectively.

- WWW will stop providing POET monitoring and/or carbon changeout (as specified above) when the individual residence is connected to municipal water.

- At the locations with Type II water supplies (i.e. Armory and Convent), the POET systems will be maintained and monitored within their permit requirements until municipal water connections are provided.

This WP will be modified, as needed, if and when new criteria are adopted for PFAS compounds.

3.0 ANTICIPATED SCHEDULE

The schedule for implementation of these changes will commence upon entry of the Consent Decree.

GZA GeoEnvironmental, Inc.

APPENDIX B
2020 Alternate Water Supply Management Plan Point-of-Entry Treatment Systems

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Alternate Water Supply Management Plan Point-of-Entry Treatment Systems

Wolverine World Wide, Inc.

January 16, 2018
Revisions: May 15, 2018, October 10, 2018, March 6, 2019, April 6, 2020, and September 16, 2020

File No. 16.0062335.51/16.0062961.60

PREPARED BY:

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APPENDICES

1.0 INTRODUCTION

This Alternate Water Supply Management Plan provides a description of the design, installation, operation, and maintenance related to Point-of-Entry Treatment (POET) systems offered to property owners in Plainfield and Algoma Townships, Michigan. Rose & Westra, a Division of GZA (R&W/GZA), has prepared this plan on behalf of Wolverine World Wide, Inc. (Wolverine) for use by Wolverine and its consultants and contractors. This plan, along with the appendices, presents information related to the operation and maintenance (O&M) of the POET systems.

This April 6, 2020 update presents changes pursuant to Consent Decree (CD) No. 1:18-cv-00039-JTM-ESC, effective February 19, 2020. The changes made to the POET O&M are established in Section 7.5 and Appendix L of the CD. The changes are primarily establishing a routine carbon change-out schedule and routine monitoring.

1.1 PROJECT BACKGROUND

In July 2017, Per- and Polyfluoroalkyl Substances (PFAS) were detected in water from a well in the House Street area, and since then, Wolverine has worked with the Michigan Department of Environment, Great Lakes, and Energy (EGLE), the Michigan Department of Health and Human Services (MDHHS), and the Kent County Health Department (KCHD) to sample private wells in the area. Wolverine immediately provided bottled water to potentially affected residences and available results have been shared with individual property owners and will continue to be shared as additional sampling takes place. Wolverine has provided and installed point-of-use (POU) and whole house POET systems. A separate maintenance memorandum has been completed for the POU filters. This is included as **Appendix A**. Since 2017, Wolverine has sampled over 1500 homes and installed and maintained over 530 POET systems. In addition, Wolverine has collected thousands of performance samples for the POET systems.

1.2 PLAN ORGANIZATION

This plan includes the following sections:

- Section 1 – Introduction: Provides an overview and background of the project objectives.
- Section 2 – Residential Well Identification, Monitoring, and Bottled Water Service: Provides an overview of the search areas, and past and future sampling plans.
- Section 3 – Communications with Affected Property Owners: Provides a description of communications with affected property owners.
- Section 4 – POET Systems: Presents a description of the POET systems and operation overview.
- Section 5 – O&M: Summarizes the O&M plans for the POET systems.
- Section 6 – Monitoring: Presents a description of work of the sampling and analysis plan for the POET systems.
- Section 7 – Cessation: Presents a description of the cessation of the POET system O&M as provided by Wolverine.

2.0 RESIDENTIAL WELL IDENTIFICATION, MONITORING, AND BOTTLED WATER SERVICE

2.1 INITIAL ACTIVITIES

Following the detection of PFAS in the House Street area, Wolverine began working with EGLE and MDHHS/KCHD to sample wells in the area. Wolverine offered to sample wells within the various sampling areas associated with

House Street as well as those in Wolven/Jewell, and provided bottled water while the laboratory results were pending.

2.2 PRIVATE WELL SAMPLING

If a drinking-water well was present on the property, permission to collect a groundwater sample for laboratory analysis was requested by R&W/GZA. R&W/GZA has maintained a list of locations where private wells have or have not been sampled. Additional residential drinking water well resampling will be conducted as part of the CD implementation (per Residential Well Resampling RAP, draft submitted May 2020). However, that sampling will be completed under a separate work plan.

3.0 COMMUNICATIONS WITH AFFECTED PROPERTIES

All members of the public can access the following websites to learn about the groundwater investigation and communications:

- Wolverine groundwater project website http://www.WeAreWolverine.com/
- KCHD website https://www.accesskent.com/Health/PFAS/belmont.htm
- MDHHS https://www.michigan.gov/mdhhs/
- Plainfield Charter Township https://www.plainfieldmi.org
- Algoma Township https://www.algomatwp.org
- MPART Michigan PFAS Action Response Team https://www.michigan.gov/pfasresponse

Additionally, each residence with a POET system installed was provided a reference card with contact information. A copy of the current reference card is included in **Appendix B**. A copy of the card has been provided to POET owners for which Wolverine currently maintains O&M responsibility.

Wolverine provides regular communication to the residents, including routine sample results, changes to the monitoring schedule, the above-mentioned reference card, and correspondence about general O&M. This communication is completed via email, mail, and telephone.

4.0 POET SYSTEMS

4.1 TREATMENT SYSTEM DESCRIPTION

POET systems were installed to treat water as it enters the building from the private well. Generally, the system was installed following the softener for wells with concentrations of PFOS+PFOA less than 70 parts per trillion (ppt). When the well concentration exceeds 70 ppt for PFOS+PFOA, the system was installed prior to the softener, thus treating all of the water. POET systems were typically installed where the existing water utilities were located, if space was available. Based on this installation, POET systems are designed to provide treated water to all fixtures such as sinks, showers/baths, and toilet and outside spigots when the concentration of PFOS+PFOA exceeds 70 ppt. If sample results find that the concentrations of PFOS+PFOA increases from below 70 ppt to above 70 ppt, the POET system will be re-piped to perform treatment prior to water softening.

Although the foregoing is a general rule regarding the installation, it should not be inferred that an installation following the softener will provide treatment for all Drinking Water Fixture Units (DFUs) in the home/building.

Pre-softener branch service lines are common for drinking water taps and automatic-ice makers. As such, multiple inspections were performed to locate and treat all interior DFUs. An initial inspection (pre-installation) was performed by Culligan, the installer. Following installation, an initial sampling event was scheduled. The R&W/GZA sampling team reviewed and completed a checklist of the installation. One of the checklist items was to check for interior lines that were not piped to the influent of the POET systems.

The POET systems remove PFAS compounds through adsorption to granulated activated carbon (GAC). GAC is used in common household filters and POET systems, and have a proven track record for many applications, including for treatment of PFAS at multiple sites across the U.S. Additional information about GAC is provide in **Appendices D and E**. The POET systems connect to the existing water supply and distribution within the house. For commercial properties and high-water use residences, Wolverine has modified the typical installation to address additional requirements (as applicable). Multiple GAC columns have been installed in some situations.

The Culligan O&M Manual is included as **Appendix C** for reference/informational purposes only. A schematic of a typical POET system is also included in **Appendix C**. Provided below is a description of the major components of the POET system:

- Pre-filter:
  - Removes sand and sediment from the well water.
- Lead GAC:
  - Removes PFAS and other constituents that sorb to GAC. The GAC vessels are filled with Calgon F600 AW GAC. A typical POET system utilizes a 2-cubic-foot GAC vessel; however, in locations with the highest concentrations or high flows, multiple 2-cubic-foot vessels are utilized.
- Lag GAC:
  - Redundant vessel in case breakthrough occurs on the lead GAC.
- Post-filter:
  - Removes sand and sediment from treated water.
- Flow meter:
  - Monitors the volume of water treated/used.
- Ultra-Violet (UV) Lamp:
  - Removes bacteria that may be in the well water or present within the GAC vessels.

The nominal Empty Bed Contact Time (EBCT) is 4 minutes. This is controlled by restricting the maximum flow through the system to 8 gallons per minute (gpm). If it is determined that the user requires more than 8 gpm, a four column GAC system was installed to allow for a “high flow” water use of 16 gpm. There is no set protocol for installing the “high-flow” four-column system. In each building, its drinking water supply and needs was reviewed individually. The review may have included, but was not necessarily limited to, inlet water pressure, pressure loss with flow, DFU’s, number of occupants, and size of home. A second criterion for the installation of multiple GAC columns was PFOS+PFOA concentration. Installations with total PFAS concentrations that exceed 7,500 ppt were identified as “high concentration” installations. The nominal EBCT for high concentration installations is 8 minutes.

4.2 OPERATION OVERVIEW

The POET systems operate using the existing water supply and pressurized flow from the existing pressure tank (or well pump if a pressure tank is not present) within the house. No additional pumps are needed as the water flows through the POET system and the PFAS are filtered out. The UV lamp is connected to household electrical service, but everything else is operated through hydraulic pressure provided by the existing pressure tank (or well pump). Once the water passes through the POET system, it enters the existing piping network within the house.

Sampling ports were installed prior to the POET systems, between the lead and lag GAC units, and after the POET systems to monitor performance (Section 6.0). Routine maintenance (Section 5.0) is completed by Culligan and monitoring is completed by R&W/GZA. The maintenance and monitoring are performed at Wolverine's expense.

All maintenance is pre-scheduled and does not require significant downtime (i.e., more than several hours). Residents are notified by the service representative before the water supply is temporarily interrupted so they may fill containers with water if needed during the service call. While it is unlikely a circumstance would occur that a POET system is down for maintenance other than a brief period during service, Wolverine will offer bottled water to residents in the event a long-term down period occurs.

In filter areas, if a parcel is resampled and the PFOS+PFOA is greater than 10 ppt or other applicable PFAS criterion is identified as defined in the CD, that resident will be offered a POU filter which Wolverine will maintain as outlined in the POU O&M memo.

4.3 POET SYSTEM STARTUP

An initial site visit was completed by Culligan to assess the existing water system and to select the optimal location for installation of the POET system. The basement has generally been identified as the optimal location for the POET system; however, if there is insufficient space, an alternative location may need to be identified.

Culligan then installed the system(s) as shown in **Appendix C** and in accordance with applicable plumbing codes. Approximately 200 gallons of water was flushed through the system to check piping connections, sampling ports, and flowmeter performance. Following the system flush, samples were collected as indicated in Section 6.0.

If the POET system remains dormant for more than three weeks, water should be flushed for a minimum of 25 minutes or 200 gallons or more prior to any use. This information is provided in the resident reference card (**Appendix B**).

4.4 POET SYSTEM SHUTDOWN

In the event that one of the conditions in Section 7 of the CD and the O&M Plan statement of work (SOW) applies to a residence with a POET system, this system may be disconnected and can be removed. This is further discussed in Section 7.0.

Refer to informational **Appendix C** for the procedures for GAC management by Culligan and Calgon. In brief, the GAC will be managed to minimize and control any release of PFAS. The spent carbon will either be transported to Calgon where it will be reactivated and the PFAS will be destroyed or it will be disposed of in an approved landfill facility.

5.0 OPERATION AND MAINTENANCE (O&M)

O&M of the POET systems will be conducted by Culligan in coordination with each homeowner. Monitoring will be completed by R&W/GZA. The maintenance and monitoring will be performed at Wolverine's expense until one of the conditions in Section 7.5(b)-(f) of the CD, and the POET and POU O&M Plan SOW is met for that residence. Culligan contact information was supplied to the homeowner at the time of POET system installation. Routine maintenance for POET systems is well understood given their long-established use but vary for each POET depending on water usage and water chemistry. O&M will be tailored to each POET system based on monitoring (Section 6.0) to be protective of human health and to minimize interruptions for the homeowners once system performance and maintenance requirements have been established.

Homeowners are able to contact Wolverine, R&W/GZA, and/or Culligan directly to request assistance with their POET systems or to ask any questions regarding the system use and O&M.

5.1 PRESSURE/FLOW ISSUES

Reports of low pressure/flow are addressed in several ways; however, in general, the following protocol is used:

- Culligan performs an inspection of the system with the homeowners. The pressure gauges are read with demand. In addition, Culligan performs an informal assessment of the DFU and occupancy to determine if a high-flow system is required.
- If the Culligan review indicates the reported pressure/flow issue relates to the size of the POET system, a high-flow system is installed.
- If the Culligan review finds the influent pressure readings are low, a licensed well contractor will be scheduled to review the system and make adjustments if appropriate. Appropriate adjustments include replacing defective pressure switches and adjusting the pressure switches.
- If the licensed well contractor identifies other causes of pressure or flow issues, these are individually addressed, and corrections are made to resolve the homeowners pressure/flow issues.

5.2 SCHEDULE OF ACTIVITIES

Routine maintenance will be conducted at the following schedule:

- Pre- and post-filter replacement – every 4 months;
- A site inspection is completed during filter replacement to assess the condition of the POET system components (the UV quartz sleeve is cleaned, if needed, during these visits);
- UV quartz sleeve and lamp replacement – every 12 months; and
- GAC canister replacement – based on performance monitoring and as agreed upon in the CD and Section 5.5 of this plan.

The schedule for routine maintenance was established after performance monitoring data was gathered for over 24 months. Homeowners were notified via mail or email of revisions to the O&M schedule. Copies of these notifications have been provided to EGLE.

5.3 WATER USAGE MONITORING

The flow meter volume will be documented at each property during the maintenance and performance monitoring events.

5.4 SEDIMENT FILTER CHANGE OUT

The pre- and post-sediment filter cartridges will be replaced every four months while in the O&M program provided by Wolverine.

The differential pressures across the POET systems will be documented at each property during each maintenance monitoring event. Section 5.0 includes responses to reports of low flow. If pressure readings by Culligan confirm an excessive pressure drop at any point in the system (sediment filter, GAC filter, etc.) that is the cause of a low flow, a correction will be made. These evaluations will be on-going and are specific for each system. Each instance is evaluated and addressed, as applicable.

5.5 GAC VESSEL CHANGE OUT

The frequency of change out of the GAC vessels is established in the February 19, 2020 CD. These change out frequencies are established below:

Monitoring Interval prior to CD	Proposed Carbon Change Out Intervals*
Weekly	6 months
Monthly	12 months
Quarterly	16 months
Semi-Annual	16 months
Annual	20 months**

* Carbon change out is removing the lead carbon vessel(s) and moving the lag vessel(s) into the lead position and installing a new vessel(s) in the lag position(s). This is detailed below. On a case-by-case basis, carbon change outs may occur off-schedule when unique issues such as unexpected pressure drop occurs across the POET system. If a POET system has been installed or a carbon change out has occurred at an individual address within six months prior to the Effective Date of the CD, that POET system will automatically be put on the carbon change-out schedule and monitoring will cease. Wolverine, after consultation with and approval from EGLE, may agree to postpone or cancel a scheduled change out to accommodate the scheduled installation of municipal water for the home. For example, if a carbon change out is scheduled 3 months or less prior to the scheduled municipal connection, the change out may be cancelled.

** The change out will occur earlier than 20 months if there is a demonstrated reduction in flow rate or increased pressure drop across the POET system prior to the expiration of 20 months (i.e., evidence of physical clogging rather than carbon exhaustion due to PFAS burden).

Additionally, if during performance monitoring, a carbon change out will be completed when total PFOS+PFOA concentrations in a sample from the mid-point port (after the lead GAC vessel but prior to the lag GAC vessel) are greater than 35 nanogram per liter (ng/L). If a detection is found in a mid-point sample between the most restrictive, applicable PFAS drinking water criteria and 35 ppt, if an effluent sample was not collected at the same time as that mid-point sample the resident will be contacted as soon as possible to schedule an effluent sampling. The effluent sample will be compared to the trigger levels described in this section.

In addition, the GAC vessels may also be changed out due to reduced water delivery performance resulting from iron/carbonate build-up in the GAC. Pressure drop across the GAC vessels will be assessed during the routine O&M visits.

Routine GAC vessel change out will be conducted as follows:

- Remove the lead GAC vessel;
- Disconnect the lag GAC vessel and install in the lead position; and
- Install a replacement GAC vessel in the lag position.

Consistent with the American Water Works Association Standard 8604, the new media must soak in water for 24 to 48 hours before operation. With the exception of the Armory and Consolata Sisters installations, Culligan prepares a GAC vessel and performs the soak in their shop prior to delivery and installation. By this method, the GAC columns can be delivered and immediately placed into service.

A detection of PFOS+PFOA in a POET system effluent will be reviewed promptly. If the concentration is less than 10 ppt PFOS+PFOA and found on start-up, subsequent sampling will be evaluated. If the result is greater than 10 ppt PFOS+PFOA (or applicable criteria) and rising, the response will include changing out the lead vessel, moving the former lag vessels to the lead position and resampling. Following the receipt of resampling results, water chemistry and water usage data will be reviewed; the system performance will be evaluated; and adjustments will be made to the system as necessary.

For the Armory and Consolata Sisters installations, the systems are designed to allow for the operation of one filter while the replaced carbon is allowed to soak for 24 to 48 hours. If possible, the media in only one filter at a time will be replaced to provide PFAS free water for the 24 to 48 hours needed to soak new media for the Armory and Consolata Sisters installations. Since the performance monitoring of these systems will not change, the above protocol for carbon change out will remain (i.e., based on performance monitoring; not a routine, scheduled interval).

The initial round of carbon change outs will be completed over an approximately four-to-eight month period after the Effective Date of the CD. The change outs will be prioritized by PFAS concentrations, with the pre-CD weekly intervals being the first group. Once a carbon change out has occurred at an individual system, the specified carbon change-out schedule will begin for that particular address (i.e., if a current weekly system is changed March 1, 2020 as part of the initial change out, the six-month schedule will be triggered with the next scheduled change on September 1, 2020 and so on).

5.6 UV SYSTEM MAINTENANCE AND CHANGE OUT

The UV lamp will be replaced on a 12-month basis as indicated by the manufacturer's recommendation.

Cleaning of the UV quartz sleeve is dependent on water hardness. The quartz sleeve will be inspected every four months and, if required, cleaned.

A brightly colored label was placed on the UV units with "Fluorescent Lamp: Do Not Disturb." In addition, this sticker includes "Warning: May contain scalding water."

6.0 MONITORING

The monitoring program was developed to verify POET system performance, inform O&M activities (Section 5.0), and communicate conditions and results to the affected private well owners. The monitoring program includes the sampling and analyses plan, data management, and reporting.

6.1 SAMPLING AND ANALYSIS PLAN

This section provides a sampling and analysis plan (SAP) for monitoring POET systems installed in residences or commercial buildings.

The SAP covers:

- Objectives of sampling;
- Sampling schedules;
- Preparation;
- Collection of samples and documentation;
- Sample shipment; and
- Analytical procedures and parameters.

The sampling methods summarized herein will be performed by R&W/GZA on behalf, and under the direction, of Wolverine. The monitoring will be performed at Wolverine's expense.

6.1.1 Objective

The goal of the SAP is to verify that POET systems are operated and maintained in a manner that reduces PFOS+PFOA to concentrations below 10 ng/l or applicable criteria.

6.2 ANALYTICAL METHOD AND PARAMETERS

PFAS will be analyzed using U.S. Environmental Protection Agency (EPA) Method 537 (rev. 1.1). The analytical parameters presented in Table 1 represent the 14 PFAS compounds and reporting limits used to evaluate the POET systems. A baseline water profile was developed for each POET system by analyzing the following parameters at startup: hardness and iron.

6.3 SAMPLING SCHEDULE

Sampling was conducted in three phases: startup, performance, and routine monitoring. Startup monitoring was intended to assess system integrity immediately following installation. Performance monitoring was intended to establish O&M schedules necessary to achieve water quality objective based on site-specific operating conditions. Routine monitoring is designed to monitor system performance on an ongoing basis, once site-specific O&M parameters are defined.

6.3.1 Startup Monitoring

After quality control inspections are complete, but before startup sample collection takes place, approximately 200 gallons were processed through the system by the installer. The treated water was discharged into the homeowner's drain(s) and septic system. Startup samples were collected as follows:

- Homes with previous non-detect well sample: influent only;
- Homes with 1 – 1,000 ppt total PFOS+PFOA: influent and mid-point sample; and
- Homes with higher than 1,000 ppt total PFOS+PFOA: influent, mid-point, and effluent sample.

6.3.2 Performance Monitoring Schedule

Performance monitoring was conducted to establish lead canister breakthrough time (and an associated treated water volume) to establish an appropriate schedule for routine monitoring and carbon change out. Initial performance sampling was conducted as follows:

- Homes with previous non-detect well sample: annual sampling of the influent. If low level PFOS+PFOA was observed in the influent, the home was placed into the 1 – 70 ppt group;
- Homes with 1 – 70 ppt total PFOS+PFOA: semi-annual sampling (influent and mid-point). If changes to the influent concentration fell into a different concentration range, the sampling frequency was adjusted accordingly;
- Homes with 71 – 1,000 ppt total PFOS+PFOA: Quarterly sampling (influent, mid-point);
- Homes with 1,001 – 30,000 ppt total PFOS+PFOA: Monthly sampling (influent, mid-point, and effluent); and
- Homes with 30,001+ ppt total PFAS: Weekly sampling (influent, mid-point, effluent).

6.3.3 Routine Monitoring Schedule

A routine monitoring schedule was to be established after a lead vessel breakthrough frequency is established for each system (defined as total PFOS+PFOA > 35 ppt). However, breakthrough was not established prior to the effective date of the CD.

The CD establishes a new routine sampling protocol for the POET systems, summarized in the following.

After the Effective Date of the CD, until the first carbon change out at each individual residence for (a) POET systems in municipal water areas, and (b) POET systems in filter areas where influent concentrations are above 10 ppt for PFOS+PFOA (or any applicable criteria), the following routine monitoring will be performed:

Influent Concentration Range Interval (PFOS+PFOA ppt)	**Monitoring Interval Prior to CD**	**Proposed Monitoring after Effective Date of the CD until the first Carbon Change Out at Each Individual Residence**
30,000+ (total PFAS)	Weekly	Monthly
1,001 - 30,000	Monthly	Quarterly
71 - 1,000	Quarterly	Semi-Annual
1 - 70	Semi-Annual	None, if sampled since July 1, 2019. If not sampled since July 1, 2019, one additional sample will be collected within the first eight months after CD is effective.
Non-Detect	Annual	None, if sampled since July 1, 2019. If not sampled since July 1, 2019, one additional sample will be collected within the first eight months after the CD is effective.

The notification process and GAC change-out triggers are discussed in Section 6.10.1.

After each carbon change out, R&W/GZA will schedule a site visit to confirm configuration and operation of the POET systems.

Once the presumptive carbon change outs begin, the following routine monitoring will be conducted. The sampling will be completed approximately 2 -4 weeks after the individual carbon change out occurs.

Influent Concentration Range Interval (PFOS+PFOA ppt)	Monitoring Interval Prior to CD	Proposed Carbon Change Out Intervals	Percentage of Random Systems Sampled after GAC Change Out (CO)*	Ports Sampled for Performance Monitoring**
30,000+ (total PFAS)	Weekly	6 months	100% first GAC CO and 25% subsequent GAC COs	IN-MP-EF
1,001 - 30,000	Monthly	12 months	100% first GAC CO and 12% subsequent GAC COs	IN-MP-EF
71 - 1,000	Quarterly	16 months	10%	IN-MP
1 - 70	Semi-Annual	16 months	5%	IN-MP
Non-Detect	Annual	20 months	5%	IN

*For the three POET systems installed in the filter areas with known influent concentrations over 70 ppt PFOS+PFOA, influent and mid-point monitoring samples will be collected one time between each carbon change out.

**IN= Influent, MP = Midpoint, and EF = Effluent

At the locations with Type II water supplies (i.e., Armory and Convent), the POET systems will be maintained and monitored within their permit requirements until municipal water connections are provided.

6.4 PREPARATION FOR SAMPLING

A monitoring checklist will be completed for water sample collection at each private well, which also includes information on project contacts and required equipment and supplies. All equipment and supplies, including bottle ware, should be PFAS free.

6.4.1 Bottle Ware

New bottle ware will be used to transport samples for laboratory analyses and will be provided by the laboratory performing the analyses. The bottles will be prepared by the laboratory according to the analytical method and certified as clean. The bottles will not be opened until immediately before sample collection.

6.4.2 Field QA/QC

The following field quality control samples will be collected at a rate of one per 20 samples collected in accordance with the Project Quality Assurance Project Plan (QAPP): Field blanks, field duplicates, and matrix spike/matrix spike duplicates.

- Field blanks will be collected by pouring laboratory-supplied certified PFAS-free water into a sample container at the point of sample collection. The purpose of field blanks is to assess potential cross-contamination at the sample point.
- Field duplicates will be collected by filling one additional sample container with water from the sample point. The purpose of field duplicates is to assess variability in sample composition. Field duplicates are not intended to be blind duplicates.
- Matrix spike/matrix spike duplicate (MS/MSD) will be collected by filling two additional sets of sample bottles with water from the sample point. MS/MSD analyses are conducted by the analytical laboratory after samples have been collected and submitted. Analysis of known concentrations of analytes spiked in the MS/MSD samples indicate if matrix interference effects are occurring.

- QA/QC samples will be collected using the methods described in Section 6.7 and labeled as described in Section 6.63 The location of QA/QC samples will be entered into the Monitoring Checklist. QA/QC samples will be analyzed using the same analytical methods used for the primary sample.

6.4.3 Sample Naming and Labels

Sample numbers will consist of identification numbers that include the unique property identification (ID) and the sample port, (e.g., AA-influent, AF-mid-point, CM-effluent, etc.). Sample numbers for each POET system will be repeated for each sampling event with consistent spelling, with the two-digit sample date added to the end (i.e., AA-influent-day/month).

To prevent misidentification of samples, legible labels will be affixed to each sample container. The labels will be sufficiently durable to remain legible even when wet and contain the following information:

- Property ID;
- Sampling port location (i.e., influent, mid-point or effluent as shown on Figure 3);
- Name or initials of collector; and
- Date and time of collection.

6.4.4 Sample Collection Methods

Each POET system treats water at the point where it enters a residence and downstream of any equipment such as pressure tanks. Treatment system components are installed in series and include: two, 2-cubic-foot carbon vessels.

POET systems include three separate sample ports: influent, mid-point, and effluent. The influent port is situated between the pre-filter and lead carbon vessel. The mid-point sample port is situated between carbon vessels. The effluent sample port is situated after the totalizing meter.

6.4.5 Sample Collection

Field personnel will assess whether or not the treatment system has undergone regular use by checking the volume of water processed through the treatment system since the last visit. The field personnel will then check the system for leaks or damage and report any leaks or damage to the R&W/GZA project manager.

Samples will be collected from the effluent, mid-point, and then influent ports using the R&W/GZA Sampling Procedure for PFAS as specified in Standard Operating Procedure B-1 of the project-specific QAPP. Samples will be labeled according to Section 6.3.3, preserved according to Section 6.6.6, and a chain-of-custody (COC) filled out per Section 6.6.7. All samples will be shipped to the laboratory for analysis; the analyte list and reporting limits presented in Table 1 will be followed.

The Project Specific QAPP for PFAS prepared for EGLE by R&W/GZA outlines the sampling procedures. This was submitted to EGLE separate from this management plan.

6.4.6 Sample Preservation and Handling

Samples will be preserved in the field by placing the samples into an insulated cooler containing double-bagged wet ice immediately after sample collection. Upon receipt of the samples, authorized laboratory personnel will store and/or prepare the samples for analysis, taking into consideration the sample holding time.

6.4.7 Chain-of-Custody

Custody of samples, sample collection details (e.g., date, time, ID, requested analyses), shipment information, laboratory receipt, and laboratory custody until completion of analyses will be documented on a COC form. The COC will include the signature of the individuals collecting, shipping, and receiving each sample. Each sample will be entered on the COC. The COC will accompany each set of samples shipped to the laboratory. Each time sample custody changes, the receiving and relinquishing parties will sign, date, and add the time to the COC.

Upon receipt at the laboratory, the contents of the cooler will be compared with the COC. Any discrepancies will be noted on the COC or the laboratory's sample receipt form. If discrepancies occur, the samples in question will be segregated from normal sample storage and the field personnel notified for clarification. COC records will be maintained as part of the project records.

6.5 PURGE WATER

Buckets or other suitable containers will be used to collect purge water from each POET port prior to sample collection. The collected water then will be disposed into the nearest sink or drain at each residence. Discharge of the purge water to the septic system or ground surface is consistent with EGLE interoffice communication regarding purge water disposal from well sampling and development (EGLE, 1999).

6.6 SAMPLE SHIPPING

Sample bottles will be placed into the cooler and packed with double-bagged wet ice immediately following collection. Packing material will be used as necessary. A temperature blank will be placed in the cooler prior to shipment. The cooler shall be addressed to the appropriate laboratory and dispatched as soon as practical to ensure timely arrival.

6.6.1 Custody Seals

In cases where samples are to be shipped to the laboratory by a commercial carrier (e.g., FedEx), a custody seal will be placed on the sample shipping container to ensure the samples have not been disturbed during transport. One seal will be placed on the front of the cooler, across the opening. The seals will be signed and dated by the sampling personnel.

6.7 DATA MANAGEMENT

The objectives of data management include:

- Review of data quality, also known as data validation; and
- Data processing, or tracking and organizing the data using a database management system to facilitate reporting and prevent processing errors.

6.7.1 Preparation for Sampling

A monitoring checklist will be completed for water sample collection at each private well, which also includes information on project contacts and required equipment and supplies. All equipment and supplies, including bottle ware, should be PFAS free.

6.7.2 Data Validation

Data validation will be conducted in accordance with The National Functional Guidelines for Organic and Inorganic Data Review (NFG; EPA, 2008 and 2010) and the revised Project Specific QAPP. A Level 2a review for verification and validation based on completeness and compliance checks of sample receipt conditions and sample-related quality control results. A brief overview of procedures for data validation includes:

- Holding Times: Compare the time and date the sample was collected (on the COC) to the date analyzed in the laboratory report. Verify the dates are within the recommended holding times for the particular method;
- Blank Data (Method, Field, Trip): Verify through blank sample data results that no significant contamination issues exist from sampling activities, sample transport, storage at the sampling site, or laboratory analyses (where applicable);
- Laboratory Control Sample Data, Matrix Spike Data, and/or Surrogate Data: Verify the percent recovery of the spiked compounds is within acceptable laboratory criteria included in each laboratory report;
- Duplicate Analysis Data: Calculate the relative percent difference (RPD) of target compounds where both the native and field duplicate sample concentrations are greater than five times the reporting limit to demonstrate acceptable precision and reproducibility of the laboratory and/or field procedures. Laboratory duplicate RPD values will be compared to laboratory criteria. Field duplicate RPD values will be compared to a criterion of 30 percent for this project; and
- Overall Data Assessment: Examine the data package as a whole and compare it to (1) the COC to verify completeness, (2) the historical data to verify representativeness, and (3) the other Site data to verify comparability is being achieved.

Qualification of the data may result if the evaluation criteria are not met. Data qualification(s) will be presented in the sampling report.

6.7.3 Data Processing/Management

R&W/GZA maintains a database to house information relevant to the POET system monitoring.

6.8 REPORTING

R&W/GZA will call homeowners within approximately two weeks of receipt of the analytical results to report the results to individual property owners served by a POET system. Results are also provided via mail or email. R&W/GZA will provide data to the EGLE as required for their database, as outlined in Section 7.13 of the CD. EGLE will be provided periodic updates regarding progress and notifications of POET system changes.

6.8.1 POET System Reporting

A detection of PFOS+PFOA in the POET effluent will be reviewed promptly. If the concentration is less than 10 ppt PFOS+PFOA (or any applicable criteria) and found on start-up, subsequent sampling will be completed. If an effluent sampling result is greater than 10 ppt PFOS+PFOA (or greater than any applicable criteria), the response will include changing out the lead and lag GAC vessels, and resampling. Following the receipt of resampling results, water chemistry and water usage data will be reviewed, the system performance will be evaluated, and adjustments made to the system as necessary.

The results of each monitoring event for each POET system will be communicated by R&W/GZA to the property owner served by a POET system. The reporting methods are listed in Section 6.8.

If a mid-point sample exceeds 35 ppt for PFOS+PFOA, EGLE will be notified as soon as possible. If an effluent sample concentration is greater than 10 ppt, EGLE will be notified. These notifications will be made within 24 hours of receipt of the analytical data.

6.8.2 Periodic Reporting

Per Section 7.15 of the CD, Wolverine will provide EGLE with quarterly progress reports which will include the information pertaining to filters as outlined in Section 7.15(e)I, ii, iii, iv, and v. Additionally, sampling data will be shared with EGLE as outlined in Section 7.13(b)(ii), on at least a monthly basis.

7.0 CESSATION

Under the CD, the following cessation plan was established.

- Wolverine will stop providing POET system monitoring and/or carbon changeout (as specified above) when the individual residence is connected to municipal water. Wolverine will offer the POET to the homeowner if they wish to continue the O&M. In accordance with 7.5(g) of the CD, Wolverine will remove the POETs, as applicable. In the case of a POET system with known concentrations above 10 ppt PFOS+PFOA, the lead GAC vessel will be removed prior to the continued use of the POET system by the owner.

- At the locations with Type II water supplies (i.e. Armory and Convent), the POET systems will be maintained and monitored within their permit requirements until municipal water connections are provided.

- After the Effective Date of the CD, in filter areas (as established in the CD), if a parcel has not had influent/raw water PFOS+PFOA concentrations exceeding 10 ppt (or other applicable criteria for PFAS), Wolverine will offer to remove the POET system at Wolverine's expense, or the resident may choose to keep the POET system if they assume operation and maintenance.

Wolverine will continue notifying homeowners in writing of the changes to the POET system O&M regarding the offers to remove or retain POETs. Owners may indicate their choice to remove or retain the POET via either a provided form, email, or verbally. These will be tracked by R&W/GZA.

TABLE 1
PFAS ANALYTICAL PARAMETERS AND REPORTING LIMITS

PFAS by EPA Method 537 (rev. 1.1)	CAS	Approximate Reporting Limit
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	4
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	4
Perfluoro-1-butane sulfonic acid (PFBS)	375-73-5	4
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	4
Perfluoro-n-decanoic acid (PFDA)	335-76-2	4
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	4
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	4
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	4
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	4
Perfluoro-n-octanoic acid (PFOA)	335-67-1	4
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	4
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	4
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	4
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	4

APPENDIX A – POINT-OF-USE FILTER MAINTENANCE MEMORANDUM

Rose & Westra
A Division of GZA

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MEMORANDUM

To: Karen Vorce, EGLE

From: Loretta Powers, R&W/GZA

Date: May 15, 2018, Revised April 6, 2020 and September 16, 2020

File No.: 16.0062335.51/16.0062961.60

Re: Aquasana 5300+ Point-of-Use Filtration Maintenance (POET O&M Appendix)

This memorandum pertains to Aquasana 5300+ point-of-use (POU) filters installed in the North Kent Study Area (NKSA) at residences by Wolverine World Wide, Inc. (Wolverine). This memorandum was updated April 6, 2020 to address changes established in the Consent Decree No. 1:18-cv-00039-JTM-ESC (CD), effective February 19, 2020. The changes made to the POU filter Operation and Maintenance (O&M) are established in Section 7.5 and Appendix L of the CD. The CD establishes both filter and municipal water areas within the NKSA. Refer to the CD for additional definition of these areas.

Aquasana 5300+ POU filters are an activated carbon-based filtration system with NSF International certification for the reduction of perfluoro-n-octanoic acid and perfluorooctane sulfonic acid (PFOA+PFOS) to below 70 parts per trillion (ppt) for influent concentrations up to 1,500 ppt. The POUs installed at locations with over 1,500 ppt influent PFOS+PFOA are installed after a point-of-entry treatment filter system. POU systems are not the stand-alone filtration for locations with influent concentrations above 1,500 ppt PFOS+PFOA.

The POU filter life is 800 gallons (approximately six months of typical use). There is a meter in the POU filter that alerts (via either auditory beep, flashing light, or mobile app) when it is time to replace the filter cartridges if the 800-gallon flow occurs before the six-month life expectancy.

R&W/GZA tracked POU filter installation dates. Prior to the effective date of the CD, approximately two weeks prior to the six-month mark, R&W/GZA contacted residents to provide the replacement cartridges. If a filter replacement was needed prior to the six-month schedule (i.e., usage tracking alerts the residents), the residents were instructed to contact R&W/GZA or Wolverine and replacement cartridges were dropped off.

As of the effective date of the CD, the following POU protocol will be implemented and followed:

- In filter areas at residences where influent concentrations are above 10 ppt for PFOS+PFOA (unless and until new applicable criteria for PFAS compounds become effective) as well as in municipal water areas, Wolverine will continue to provide replacement cartridges for the POU filters, as specified by manufacturer. Two sets of replacement cartridges will be provided each year to each residence. Wolverine will stop providing POU replacement cartridges when an individual residence is connected to municipal water. Additionally, if connected to municipal water,

Wolverine will offer to remove the POU filter at Wolverine's expense, or the resident may choose to keep it if they assume O&M.

- In filter areas, if a parcel has not had PFOS+PFOA concentrations exceeding 10 ppt, Wolverine will offer to remove the POU filter at Wolverine's expense, or the resident may choose to keep it if they assume O&M.

- In filter areas, if a parcel is resampled and the PFOS+PFOA is greater than 10 ppt or other applicable PFAS criterion is identified as defined in the CD, that resident will be offered a POU filter which Wolverine will maintain as stated above.

According to the EGLE's December 5, 2017 Fact Sheet: PFAS In-Home Filtration Systems, the POU granular activated carbon filters are general household refuse and can be disposed of as such in the resident's refuse to be removed and disposed in a licensed landfill. If a resident does not have refuse service, they may request removal of the spent filters.

Consistent with procedures used by EGLE/MDHHS/County health departments in areas of Michigan where they have provided POU filters, Wolverine will not be conducting performance monitoring of the POUs. Based on the NSF certification, the manufacturer recommended maintenance, and understood operating protocols at other locations in Michigan where these POU filters are being used. This POU maintenance program is sufficient for the Wolverine-installed POU filter systems.

R&W/GZA will continue to provide POU filter installation addresses and dates to EGLE through GIS data updates to AECOM. R&W/GZA will also continue to track replacement cartridge distribution and provide that information to EGLE via the GIS updates as well. This will be completed monthly as outlined in Section 7.13 of the CD.

APPENDIX B – SAMPLE RESIDENT INFORMATION CARD

POET FILTER INFORMATION CARD

Helpful Websites

- Wolverine groundwater project website http://www.WeAreWolverine.com/
- KCHD website https://www.accesskent.com/Health/PFAS/belmont.htm
- MDHHS https://www.michigan.gov/mdhhs/
- Plainfield Charter Township https://www.plainfieldmi.org
- Algoma Township https://www.algomatwp.org
- MPART Michigan PFAS Action Response Team https://www.michigan.gov/pfasresponse

Contact Numbers

Wolverine – 616-866-5627 - HouseStreet@wwwinc.com

GZA GeoEnvironmental, Inc. – 616-956-6123 - House.Street@gza.com

Kaat's Culligan – 616-791-7150

Greenville Culligan – 616-754-3858

Bayes Water Treatment – 616-887-9378

Gordon Water Systems – 616-776-3800

If the POET filter system remains dormant for more than three weeks, water should be flushed for a minimum of 25 minutes or 200 gallons or more prior to use.

APPENDIX C - CULLIGAN OWNER'S MANUAL

(INCLUDED FOR REFERENCE/INFORMATION ONLY)

Installation and Operation Manual

Exchange Carbon Filter System

Contents

Overview

This Portable Exchange Carbon Filtration System is designed to be installed in residential applications for the reduction of traces of organic chemical contamination from well water supplies. The system provides maximum flow rate of up to 8 GPM and includes a cartridge type sediment pre-filter (Dual Gradient 50-5 micron), a dual Carbon Filter system containing a total of 4 Ft^3 of a Filtrasorb F600AW Bituminous Coal Acid Washed Granular Activated Carbon (Culligan Cullar F600AW), cartridge type sediment post-filter (Dual Gradient 50-5 micron) and a final UV Light Water Sterilizer rated at 8 GPM flow rate. The system incorporates test ports in the inlet, in between the two carbon vessels and at the outlet of the system for monitoring the system efficiency. Also, a water totalizing meter is included in the outlet of the system to record water usage and facilitate service monitoring.

System Design – Typical Operation

System is installed on the main water line of the residence after the well pressure tank as indicated in the system flow diagram (Fig. 1) below. The first sediment filter is used for the removal of sediments and suspended matter. Then water flows through two (2) 10"x54" vessels in series each containing 2.0 Ft^3 of the Cullar F600AW (#SPC10776) Granular Activated Carbon media for the adsorption of traces of organic contaminants. The dual filter approach provides for a continuous back contingency. Following the carbon filter vessels a secondary cartridge type sediment filter is utilized to provide clean water to the residence. Finally, a UV light water sterilization unit is providing microbiological control prior to distribution of the water to the household.

The system operation is designed to be simple and maintenance free. Periodic exchange of the carbon filters is performed by your local Culligan dealer. Sampling ports are included during the installation to facilitate testing the system efficacy and determine when the carbon filter(s) need to be replaced. The spent carbon should be disposed according to applicable local and federal requirements as it may contain the contaminants being removed in the process and has to be treated accordingly.

Refer to this manual for further details and instructions for the system components.

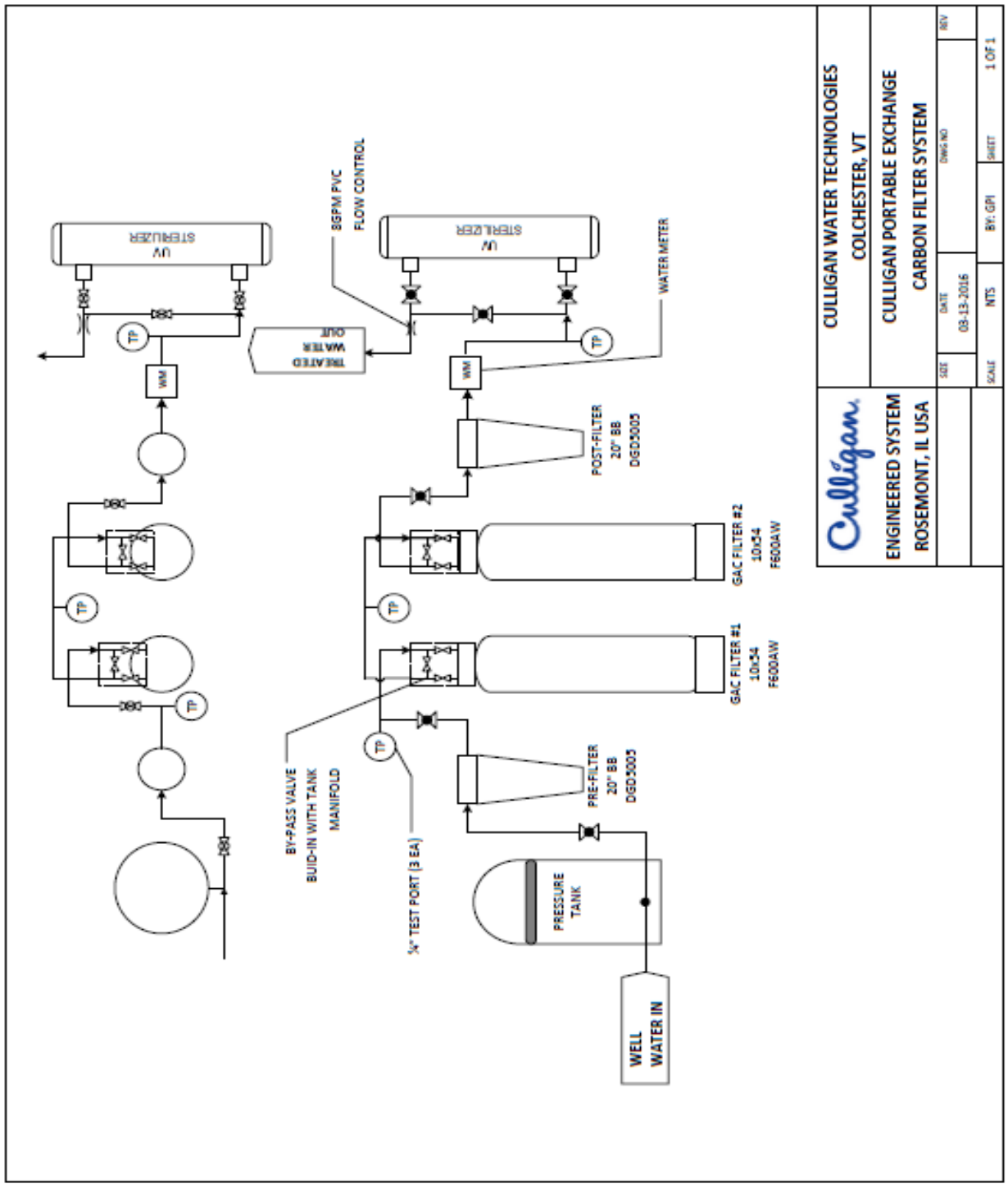


Figure 1: System Flow Diagram

PORTABLE EXCHANGE CARBON FILTERS

FILLING AND START UP PROCEEDURES

The following procedures should be followed every time a new Portable Exchange carbon filter is installed or exchange for an application. Every filter needs to be prepared according to the following instructions before it is placed in service.

I. FILLING PROCEEDURES:

1. Insert the Outlet distributor manifold in the tank and make sure it is properly centered
2. Cover the opening of the manifold with a clean rag.
3. Place a wide-mouth funnel in the tank opening.
4. Open one (1) 55 lbs. bag of Filtrasorb F600AW carbon. Slowly pour the carbon into the tank via the funnel. Fill the carbon within 2" – 3" from the top. Each tank depending on the size used should take 2 Ft^3 of carbon.
5. Fill the tank with water and allow the media to soak for 24-48 hours. The water level in the tank will decrease as the media soaks up water. Add water to the tank to keep the media submerged so all the media gets saturated.
6. Thread the tank closure with the inlet strainer into the tank; be careful not to miss thread.

II. RECOMMENDED START UP PROCEDURE:

1. It is advisable that every new filter is backwashed for 10 - 15 minutes at a flow rate of 5 – 8 GPM.
2. Easiest way to backwash the PE Carbon Tanks is utilizing a backwash funnel assembly, usually installed in a Culligan dealership. Backwash the media in the funnel for 10-15 minutes to make sure water is clean and all carbon fines are washed out.
3. Drop media back in the tank, drain excess water. Unit is ready to set in service.
4. If a backwash funnel is not available reverse the flow of the water on the tank manifold. Flow backwards to drain for 10-15 minutes at a flow rate no more than 5 GPM. If flow starts diminishing is because media is lifted around the top manifold. After 10-15 minutes make sure that the water to drain comes out clear. Reverse the flow and run to drain for another 5 min at 5 GPM to settle the bed.
5. You are ready to place the unit to service.
6. When installing the unit make sure that the Inlet & Outlet are hooked up correctly.

For servicing of the system contact the Culligan Dealer in your area.

Portable Exchange Carbon Filtration
Specifications and Operating Data

Cullar Portable Exchange Carbon Unit – 10x54 FRP Tank, 2.0 Ft^3

The 10"x54"-CARB FRP 1" will Provide:

Superior Quality Flow, gpm	: 3.1 @ 2 psi loss
High Quality Flow, gpm	: 4.7 @ 4 psi loss
Utility Quality Flow, gpm	: 6.3 @ 6 psi loss
Carbon Volume, ft^3	: 2.0

Miscellaneous Design Data:

Tank Size, in.	: 10x54
Tank Area, ft^2	: 0.54
Operating Pressure, psi	: 0-150
Oper. Temperature, °F	: 33-120

The 10"-CARB FRP 1" System Requirements:

Voltage	: None*
Pipe Conn, in NPT...	
Inlet	: 1.0
Outlet	: 1.0
Weight per tank, lbs...	
Shipping	: 132.0
Operating	: 195.0
Overall Dimensions, in....	
Width	: 11.0
Depth	: 12.0
Height	: 56.0

* Note: Voltage may be required for water quality instruments.

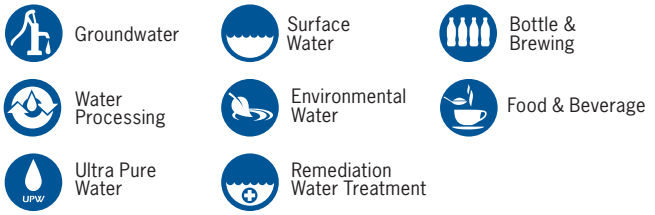
Cullar – Filtrasorb F600AW Activated Carbon Media:

The Filtrasorb F600AW media is a granular activated carbon for the removal of dissolved organic compounds from water. Such contaminants include taste and odor compounds, organic color, Total organic Carbon (TOC), and industrial organic compounds such as TCE, PCE and others. The F600AW is made of selected grades of bituminous coal and it is acid wash to provide cleanliness. See attached factory data sheet for more details.

FILTRASORB® 600

Granular Activated Carbon

Applications



With its enhanced high energy pore structure, FILTRASORB 600 is ideally suited for trace removal applications and offers a significant performance advantage over traditional activated carbon products used in these types of applications.

Specific applications include:

- Removal of MTBE
- Removal of DBCP
- Removal of THMs
- Removal of pesticides and herbicides
- Removal of other organics at concentrations < 1 ppm
- Potable water treatment
- Groundwater treatment
- Ultrapure water treatment

Description

FILTRASORB 600 is a granular activated carbon for the removal of dissolved organic compounds from water and wastewater as well as industrial and food processing streams. These contaminants include taste and odor compounds, organic color, total organic carbon (TOC), and industrial organic compounds such as TCE and PCE.

This activated carbon is made from select grades of bituminous coal through a process known as reagglomeration to produce a high activity, durable, granular product capable of withstanding the abrasion associated with repeated backwashing, hydraulic transport, and reactivation for reuse. Activation is carefully controlled to produce a significant volume of both low and high energy pores for effective adsorption of a broad range of high and low molecular weight organic contaminants.

FILTRASORB 600 is formulated to comply with all the applicable provisions of the AWWA Standard for Granular Activated Carbon (B604) and Food Chemicals Codex. This product may also be certified to the requirements of ANSI/NSF Standard 61 for use in municipal water treatment facilities. Only products bearing the NSF Mark are certified to the NSF/ANSI 61 - Drinking Water System Components - Health Effects standard. Certified Products will bear the NSF Mark on packaging or documentation shipped with the product.

Features / Benefits

- Produced from a pulverized blend of high quality bituminous coals resulting in a consistent, high quality product.
- Carbon granules are uniformly activated through the whole granule, not just the outside, resulting in excellent adsorption properties and constant adsorption kinetics.
- The reagglomerated structure ensures proper wetting while also eliminating floating material.
- High mechanical strength relative to other raw materials, thereby reducing the generation of fines during backwashing and hydraulic transport.
- Carbon bed segregation is retained after repeated backwashing, ensuring the adsorption profile remains unchanged and therefore maximizing the bed life.
- Reagglomerated with a high abrasion resistance, which provides excellent reactivation performance.
- High density carbon resulting in a greater adsorption capacity per unit volume.

Specifications[1]	FILTRASORB 600
Iodine Number, mg/g	850 (min)
Moisture by Weight	2% (max)
Abrasion Number	80 (min)
Trace Capacity Number, mg/g	16 (min)
Screen Size by Weight, US Sieve Series	
On 12 mesh	5% (max)
Through 40 mesh	4% (max)

[1]Calgon Carbon test method

Typical Properties*	FILTRASORB 600
Apparent Density (tamped)	0.62 g/cc
Water Extractables	<1%
Non-Wettable	<1%

*For general information only, not to be used as purchase specifications.

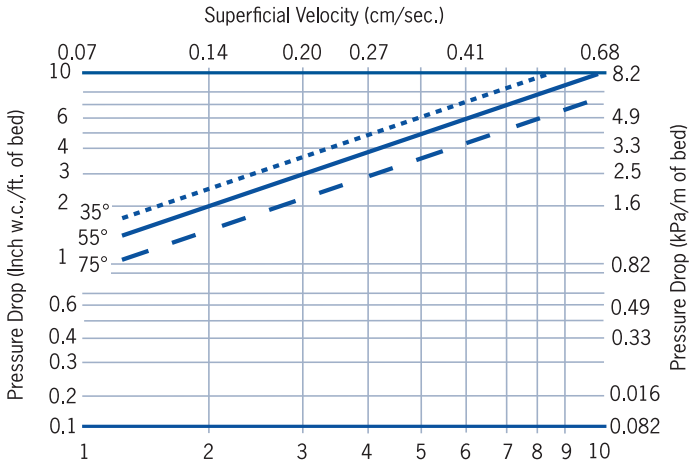
Safety Message

Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

DS-FILTRA60015-EIN-E1

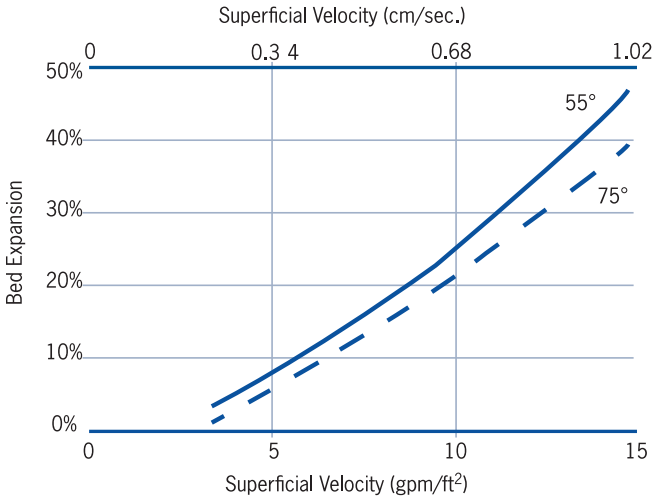
Typical Pressure Drop

Based on a backwashed and segregated bed



Typical Bed Expansion During Backwash

Based on a backwashed and segregated bed



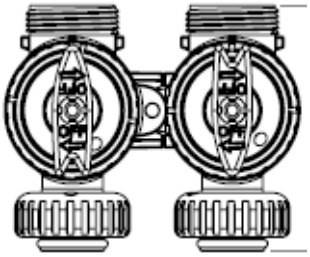
Safety Message

Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

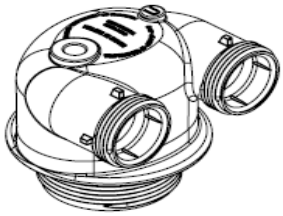
1.800.4CARBON calgoncarbon.com

DS-FILTRA60015-EIN-E1

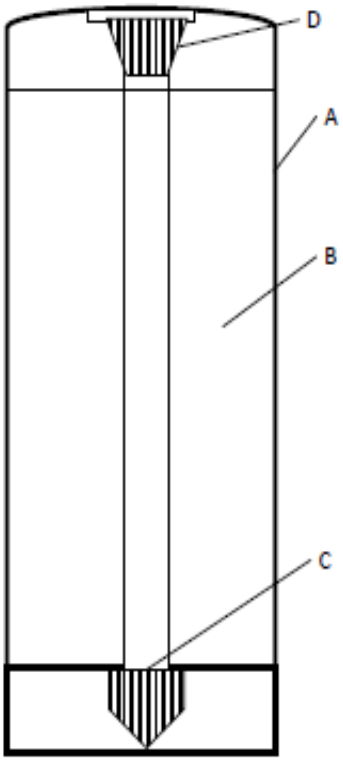
Carbon Filter Component Parts:



By-Pass Valve WS1 (#SPC10762)



In & Out Tank Head (#SPC10761)



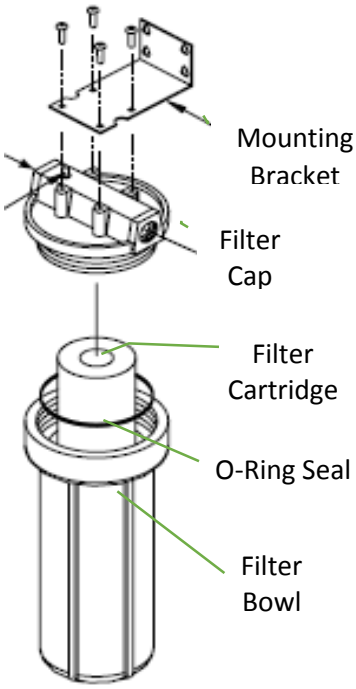
A. Filter Tank, FRP, 10”x54” (#SPC10770)

B. Carbon Media, 2 Ft^3, Cullar F600AW (#SPC10776)

C. Distributor Manifold (#SPC10773)

D. Top Distributor Basket (#SPC10765)

Filter Cartridge Replacement Procedures



The pre and post filter cartridges need to be replaced when a significant pressure drop across the filter increases, or in a regular intervals as determine by local water conditions.

1. Turn off water supply to filter. Depress red pressure-relief button to relief the pressure from the filter.
2. Using the filter wrench provided (#MS010522), unscrew the filter bowl.
3. Remove and discard old filter cartridge.
4. Clean the filter bowl with a damp cloth and rinse thoroughly.
5. Remove the wrapper from the new cartridge (#MS004512). Install the cartridge in the bowl, making sure it seals in the bottom of the bowl.
6. Check the O-ring seal (#MS404498) for dryness and cuts. Replace the seal if necessary and use silicone lube as needed.

   CAUTION! Do not use petroleum-based lubricants, which destroy the synthetic rubber seal.

7. Screw the filter bowl onto the filter cap and hand tighten. DO NOT OVER-TIGHTEN.
8. Slowly turn on the water supply to allow filter to fill with water and then press the red pressure-relief button on top of the filter cap to release trapped air.

UV Sterilizer # S8Q-PA-C (#D1022214)

Models:

S2Q-PA, S5Q-PA, S8Q-PA, S2Q-P/12VDC, S5Q-P/12VDC

NSF Standard 55 Class B Validated Models:

SV5Q-PA, SV8Q-PA

Powered by Sterilight

425 Clair Rd. W, Guelph, Ontario, Canada N1L 1R1
t. (+1) 519.763.1032 • tf. (+1) 800.265.7246 (US and Canada only)
t. (+31) 73 747 0144 (Europe only) • f. (+1) 519.763.5069
e-mail: info@viqua.com
www.viqua.com

System Tested and Certified by NSF International against CSA B483.1 and NSF/ANSI 55 for Disinfection Performance, Class B

MEMBER Water Quality Association

Section 1 Safety Information

These are the original instructions. Please read this entire manual before operating this equipment. Pay attention to all danger, warning, and caution statements in this manual. Failure to do so could result in serious personal injury or damage to the equipment.

Make sure that the protection provided by this equipment is not impaired. DO NOT use or install this equipment in any manner other than that specified in the installation manual.

1.1 Potential Hazards:

Read all labels and tags attached to the system. Personal injury or damage to the system could occur if not observed.

	Waste electrical and electronic equipment (WEEE). This symbol indicates that you should not discard wasted electrical or electronic equipment (WEEE) in the trash. For proper disposal, contact your local recycling/reuse or hazardous waste center.		This symbol indicates not to store any combustible or flammable material close to the system.
	This symbol indicates there is Mercury present.		This symbol indicates that the contents of the transport package are fragile and the package should be handled with care.
	This is the safety alert symbol. Obey all safety messages that follow this symbol to avoid potential injury. When on the equipment, refer to the Operational and Maintenance manual for additional safety information.		This symbol indicates safety glasses with side protection is required for protection against UV exposure.
	This symbol indicates a risk of electrical shock and/or electrocution exists.		This symbol indicates gloves must be worn.
	This symbol indicates the marked equipment may contain a component that can eject forcibly. Obey all procedures to safely depressurize.		This symbol indicates safety boots must be worn.
	This symbol indicates the system is under pressure.		This symbol indicates the operator must read all available documentation to perform required procedures.
	This symbol indicates there is a potential UV hazard. Proper protection must be worn.		This symbol indicates the plumber must use copper piping.
	This symbol indicates the marked item could be hot and should not be touched without care.		This symbol indicates that the system should only be connected to a properly grounded, grounding-type controller receptacle that is protected by a Ground Fault Circuit Interrupter (GFCI).
	This symbol indicates there is a potential for VERY hot water when flow is started.		

Warning: This product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

1.2 Safety Precautions:

⚠DANGER

Failure to follow these instructions will result in serious injury or death.

- **Electric Shock:** To avoid possible electric shock, special care should be taken since water is present near the electrical equipment. Unless a situation is encountered that is explicitly addressed by the provided maintenance and troubleshooting sections, DO NOT attempt repairs yourself, refer to an authorized service facility.
- **GROUNDING:** This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electrical shock. This system is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. Improper connection of the equipment-grounding conductor can result in a risk of electrocution. Check with a qualified electrician or service personnel if you are in doubt as to whether the outlet is properly grounded. DO NOT modify the plug provided with this system – if it does not fit in the outlet, have a proper outlet installed by a qualified electrician. DO NOT use any type of adapter with this system.
- **GROUND FAULT CIRCUIT INTERRUPTER PROTECTION**: To comply with the National Electrical Code (NFPA 70) and to provide additional protection from the risk of electric shock, this system should only be connected to a properly grounded, grounding-type controller receptacle that is protected by a Ground Fault Circuit Interrupter (GFCI) or to a residual current device (RCD) having a rated residual operating current not exceeding 30 mA. Inspect operation of GFCI as per manufacturer's suggested maintenance schedule.
- DO NOT operate the disinfection system if it has a damaged cord or plug, if it is malfunctioning or if it has been dropped or damaged in any manner.
- DO NOT use this disinfection system for other than intended use (potable water applications). The use of attachments not recommended or sold by the manufacturer / distributor may cause an unsafe condition.
- DO NOT install this disinfection system where it will be exposed to the weather or to temperatures below freezing.
- DO NOT store this disinfection system where it will be exposed to the weather.
- DO NOT store this disinfection system where it will be exposed to temperatures below freezing unless all water has been drained from it and the water supply has been disconnected.

⚠WARNING

- During extended periods of no water flow, the water in your chamber can become very hot (Approx. 60 °C) and potentially lead to scalding. It is recommended to run your water until this hot water has been purged from your chamber. Do not allow water to contact your skin during this time. To eliminate this condition, a temperature management valve can be installed at the outlet of your UV system.
- This system contains a UV Lamp. Do not operate the UV Lamp when it is removed from the chamber. Unintended use or damage of the system may result in the exposure of dangerous UV radiation. UV radiation may, even in little doses, cause harm to the eyes and skin.
- Changes or modifications made to this system without the consent of the manufacturer could render the system unsafe for operation and may void the manufacturer's warranty.

⚠CAUTION

Failure to follow these instructions could result in minor or moderate injury.

- Carefully examine the disinfection system after installation. It should not be plugged in if there is water on parts not intended to be wet such as, the controller or lamp connector.
- Due to thermal expansion concerns and potential material degradation due to UV exposure, it is recommended to use metal fittings and at least 10" of copper pipe on the outlet of your UV chamber.
- **Hg EXPOSURE**: The UV lamp contains mercury. If the lamp breaks, then avoid inhalation or ingestion of the debris and avoid exposure to eyes and skin. Never use a vacuum cleaner to clean up a broken lamp as this may scatter the spilled mercury. Obey local regulations and guidelines for the removal and disposal of mercury waste.

NOTICE

- The UV lamp inside the disinfection system is rated at an effective life of approximately 9000 hours. To ensure continuous protection, replace the UV lamp annually.
- The UV system is not to be used or played with by children. Persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, are also not to handle the UV system unless they have been given supervision or instruction.
- This system is intended to be permanently connected to the water lines.
- This system is not intended to be used in or above water or outdoors or used in swimming pools when persons are in the pool.
- **EXTENSION CORDS**: If an extension cord is necessary, use only 3-wire extension cords that have 3-prong grounding-type plugs and 3-pole cord connectors that accept the plug from this system. Use only extension cords that are intended for outdoor use. Use only extension cords having an electrical rating not less than the rating of the system. A cord rated for less amperes or watts than this system rating may overheat. Exercise caution when arranging the cord so that it will not be tripped over or pulled. DO NOT use damaged extension cords. Examine extension cord before using and replace if damaged. DO NOT abuse extension cord. Keep extension cord away from heat and sharp edges. Always disconnect the extension cord from the receptacle before disconnecting this system from the extension cord. Never yank cord to pull plug from outlet. Always grasp the plug and pull to disconnect.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.
- **SYSTEM PROTECTION:** To protect your Controller, a UL1449 certified (or equivalent) transient voltage surge suppressor is strongly recommended.
- The UV lamp in this system conforms to the applicable provisions of the Code of Federal Regulations (CFR) requirements including, Title 21, Chapter 1, Subchapter J, Radiological Health.
- Read and understand the Owner's Manual before operating and performing any maintenance on this equipment.

1.3 Water Chemistry

Water quality is extremely important for the optimum performance of your UV system. The following levels are recommended for installation:

Water Quality and Minerals	Level
Iron	< 0.3 ppm (0.3 mg/L)
Hardness*	< 7 gpg (120 mg/L)
Turbidity	< 1 NTU
Manganese	< 0.05 ppm (0.05 mg/L)
Tannins	< 0.1 ppm (0.1 mg/L)
UV Transmittance	> 75% (call factory for recommendations on applications where UVT < 75%)

* Where total hardness is less than 7 gpg, the UV unit should operate efficiently provided the quartz sleeve is cleaned periodically. If total hardness exceeds 7 gpg, the water should be softened. If your water chemistry contains levels in excess of those mentioned above, proper pre-treatment is recommended to correct these water problems prior to the installation of your UV disinfection system. These water quality parameters can be tested by your local dealer, or by most private analytical laboratories. *Proper pre-treatment is essential for the UV disinfection system to operate as intended*.

Section 2 General Information

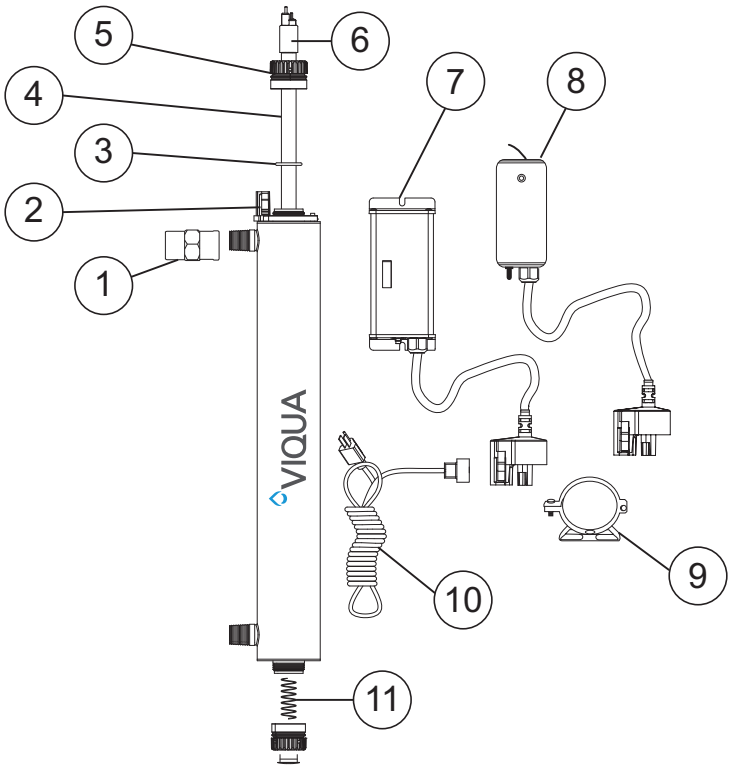


Figure 1 System Components

Item	Description	Part Number	UV Systems
1	Flow restrictor (Only for certified models)	440263-R	SV5Q-PA
		440264-R	SV8Q-PA
2	Lamp connector base	270276-R	Used on all systems
3	O-ring	410867	Used on all systems
4	Open-ended, 214 fused quartz sleeves with fire polished ends	QS-001	S1Q-PA
		QS-330	S2Q-PA
		QS-463	S5Q-PA, SV5Q-PA
		QS-810	S8Q-PA, SV8Q-PA
5	Retaining nut	RN-001	Used on all systems
6	Hard glass, coated Sterilumze®-EX UV lamps for long, consistent life (9000 hours)	S330RL	S2Q-PA
		S463RL	S5Q-PA, SV5Q-PA
		S810RL	S8Q-PA, SV8Q-PA
7	Controller (for 100-240V models only)	BA-ICE-S	S5Q-PA, S8Q-PA, SV5Q-PA, SV8Q-PA
8	Controller (for 12VDC models only)	BA-RO/P/12	S2Q-P/12VDC, S5Q-P/12VDC
9	2.5” Mounting brackets	410958-R	Used on all systems
10	IEC replacement power cords for VIQUA ICE Controller (sold separately)	260010	NORTH AMERICAN (NEMA 5-15P), 3-PRONG GROUNDED
		602637	CONTINENTAL EUROPEAN (CEE 7/7) 2-PIN WITH GROUND, “SCHUKO”
		260012	UK VERSION (BS 1363) 3-PRONG GROUNDED (5 AMP FUSE)
		260013	AUSTRALIAN VERSION (AS 3112) 3-PRONG GROUNDED
		260019	NO CONNECTOR, 3-WIRE, BARE LEADS
11	Spring	SP008	Used on all systems

Section 3 Installation

3.1 UV Disinfection System

⚠CAUTION

⚠ Electronic controller must be connected to a Ground Fault Protected Circuit (GFCI) receptacle. Ensure green ground wire ring terminal is securely fastened to ground stud on UV chamber.

The disinfection system is designed to be mounted either horizontally or vertically at the point-of-use or point-of-entry depending on the specific flow rate of the unit.

Note: *The ideal installation is vertical with the lamp connector on top. This is to prevent water damage from occurring on the lamp pins and lamp connector.*

- The controller should be mounted either above or beside the UV chamber. Always mount controller horizontally to prevent moisture from running down cordage and causing a potential fire hazard. Drip loops in all cordage connected to controller is highly recommended. Refer to Figure 5.
- The complete water system, including any pressure or hot water tanks, must be sterilized before start up by flushing with chlorine (household bleach) to destroy any residual contamination. Refer to Section 3.2.
- The disinfection system is intended for indoor use only. DO NOT install disinfection system where it may be exposed to the weather.
- Install the disinfection system on cold water line only, before any branched lines.
- A 5 micron sediment filter must precede the disinfection system. Ideally, the disinfection system should be the last treatment the water receives before it reaches the faucet.

Procedure:

1. Figure 2 shows the installation of a typical disinfection system and the related components that may be used for the installation. The use of a by-pass assembly is recommended in case the system requires “off-line” maintenance. In this case, note the system requires supplementary disinfection for the distribution system if any water is used during by-pass condition. In addition, during by-pass, the water will NOT be disinfected and a “DO NOT CONSUME THE WATER” tag should be physically installed on the by-pass assembly until such time as the system is sanitized and returned to service. For more information, refer to Section 3.2. If the water is to be consumed while the system is off-line, the water must be boiled for two minutes prior to consumption.

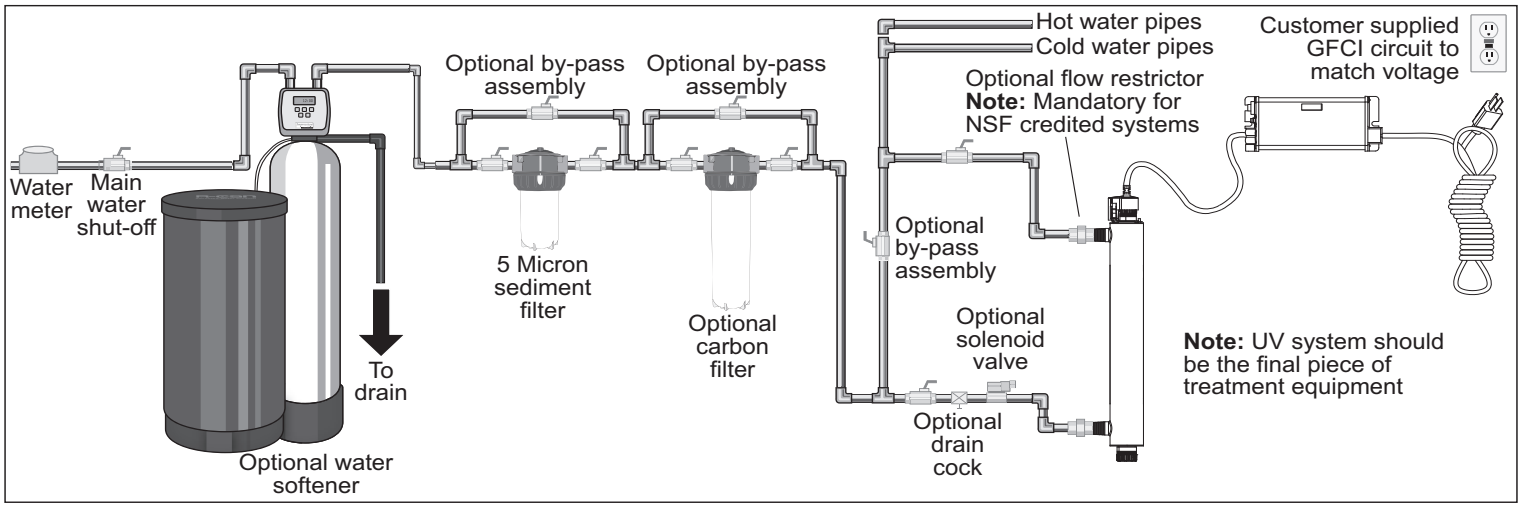


Figure 2 Disinfection System

2. Select a suitable location for the disinfection system and its related components. As it is recommended to install a GFCI, make sure that this is taken into consideration prior to any installation. The system can either be installed vertically (inlet port at the bottom) as shown in Figure 3 A, or horizontally as shown in Figure 3 B. However, the vertical installation is the most preferred method. When selecting a mounting location, leave enough space to allow the removal of the UV lamp and/or quartz sleeve (typically leave a space equal to the size of the UV chamber itself).

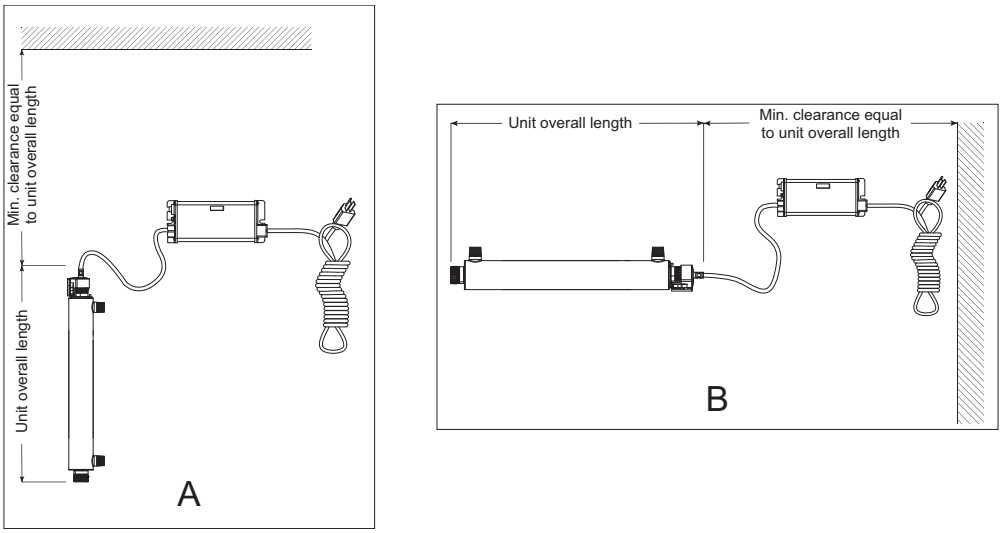


Figure 3 Disinfection Installation - Vertical and Horizontal

3. Mount the system to the wall using the supplied clamps. Various connection methods can be used to connect the water source to the system, however union type connectors are recommended. The use of a flow restrictor device will help to maintain the manufacturers rated flow. The flow restrictor should be installed on the outlet port and is designed to be installed in one direction only. Ensure that the flow of the water matches the flow direction as indicated on the flow restrictor. Refer to Figure 4.

   Note: *DO NOT solder connections while attached to the system as this could damage the O-ring seals.*

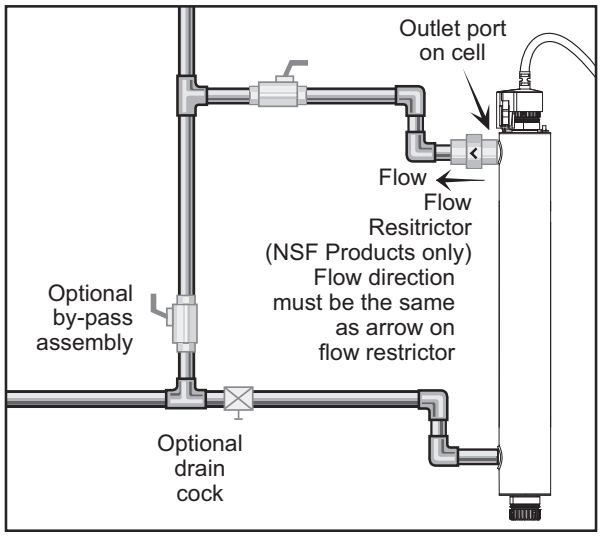


Figure 4 Flow Restrictor

4. Mount the VIQUA ICE controller horizontally to the wall, near the UV chamber. Ideally place the controller above the chamber and away from any water connection point, to prevent any water from potentially leaking onto the controller by means of a leak at a connection point or a “sweating” system. Make sure you allow for a “drip-loop” as shown in Figure 5 on the UV lamp, UV sensor, and power cord, again, to prevent any water from potentially entering the controller.

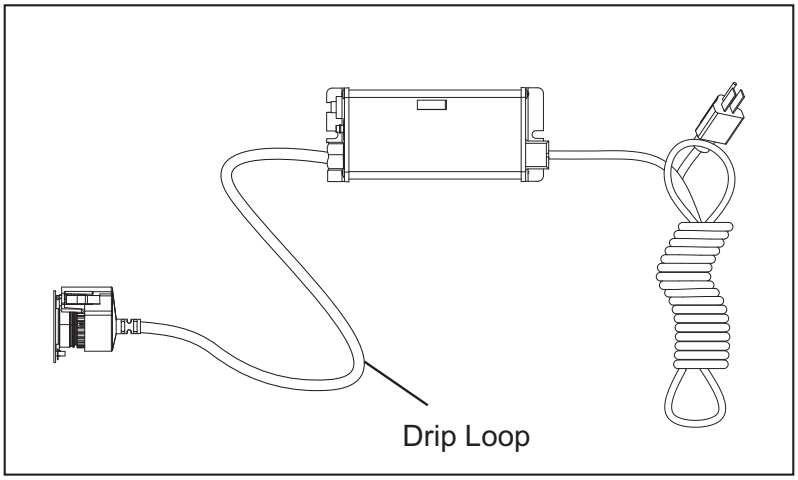


Figure 5 Drip Loop

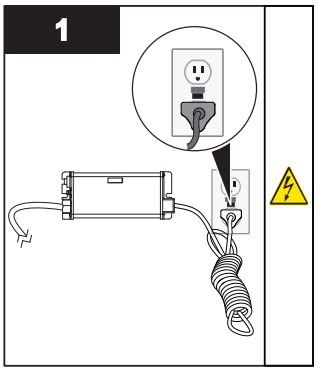
5. Install the UV lamp. Refer to Section 4.1.
6. When all plumbing connections are complete, slowly turn on the water supply and check for leaks. The most likely cause of leaks is from the O-ring seal. In case of a leak, shut water off, drain cell, remove the retaining nut, wipe the O-ring and threads. Clean and re-install.
7. Once it is determined that there are no leaks, plug the system into the ground fault interrupter and check controller to ensure the system is operating properly. The controller should illuminate without any alarms.

   Note: *DO NOT look directly at the glowing UV lamp.*
8. Allow the water to run for a few minutes to clear any air or dust that may be in the UV chamber.

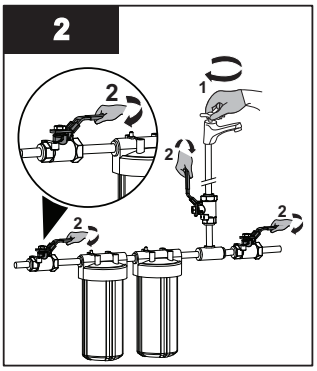
   Note: *When there is no flow, the water in the cell will become warm, as the UV lamp is always on. To remedy this, run a cold water tap anywhere in the house for a minute to flush out the warm water.*

3.2 Disinfection Procedure

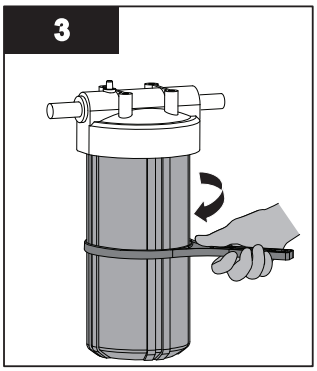
UV disinfection is a physical disinfection process and does not add any potentially harmful chemicals to the water. As UV does not provide a disinfection residual, it is imperative that the entire distribution system located after the UV be chemically disinfected to ensure that the plumbing system is free from any bacteriological contaminants. The disinfection process must be performed immediately after the UV unit is installed and repeated thereafter whenever the UV is shut down for service, without power, or inoperative for any reason. The procedure for sanitizing the plumbing system is readily accomplished as follows:



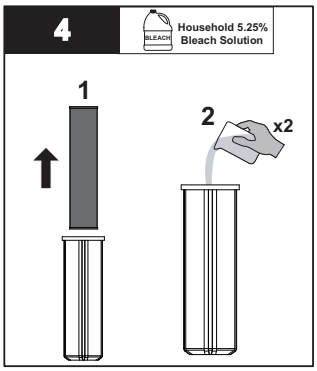
- Ensure the controller is plugged in for entire disinfection process.



- Shut off the water supply.
- Close each faucet.

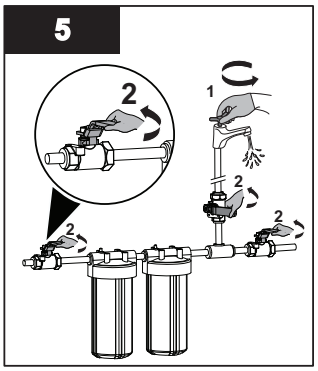


- Remove filter cartridge(s).

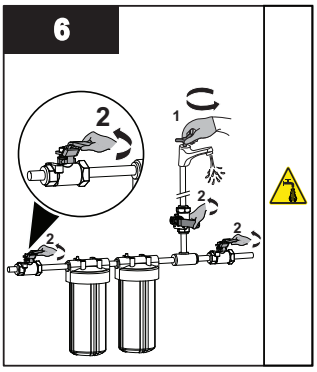


- Pour 2 cups of household bleach solution into the filter housing(s).

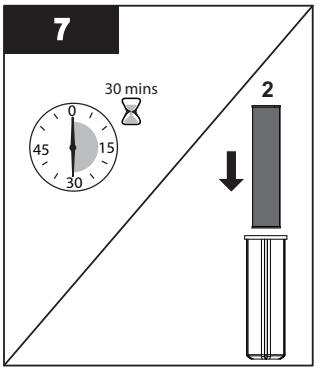
  Note: *DO NOT use Hydrogen Peroxide.*



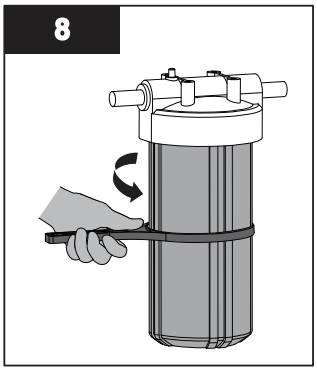
- Re-install the housings.
- Turn on the cold water supply.
- Open each faucet and all water openings until you smell the bleach and then close the faucets.



- Turn on the hot water supply.
- Open each faucet and all water openings until you smell the bleach and then close the faucets.



- DO NOT use water for 30 minutes.
- Flush the system until no chlorine smell is detectable and reinstall the filters.



- Reinstall filter housing(s).

Notes: *1) The addition of chlorine (bleach) to a hot water tank that has in the past been fed with untreated raw water with high levels of other contaminants (iron, manganese, hydrogen sulphide, organics, etc.) will result in oxidation of these contaminants and may require repeated flushing of the hot water tank. This contingency must be dealt with independently under the start-up procedure for any other conditioners that may form a part of the pre-treatment for the UV unit.*

2) The above disinfection procedure will result in a massive chlorine residual far in excess of the 0.5 to 1.0 mg/L typically present in municipally chlorinated water and of a magnitude consistent with the minimum 50 mg/L chlorine solution recommended for the disinfection of distribution systems known to be contaminated. DO NOT consume water until complete system has been flushed.

Section 4 Maintenance

⚠WARNING

- Always disconnect power before performing any work on the disinfection system.
- Always shut-off water flow and release water pressure before servicing.
- Regularly inspect your disinfection system to ensure that the power indicators are on and no alarms are present.
- Replace the UV lamp annually (or biennially if seasonal home use) to ensure maximum disinfection.
- Always drain the chamber when closing a seasonal home or leaving the unit in an area subject to freezing temperatures.

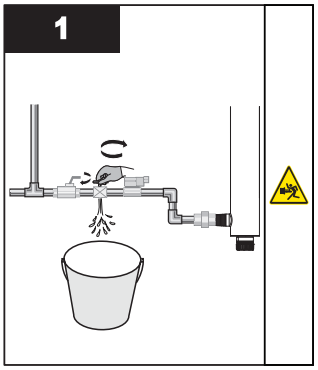
4.1 Replacing UV Lamp

NOTICE

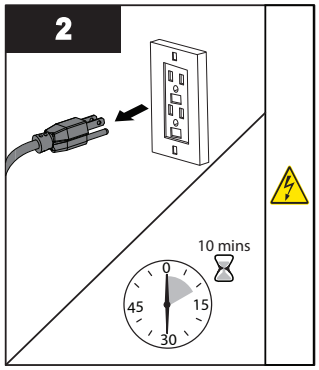
- Reset UV lamp life timer after UV lamp replacement. Refer to Section 5.1.3. Refer to www.lamprecycle.org for UV lamp disposal.
- DO NOT use water during replacement of UV lamp.

UV lamp replacement is a quick and simple procedure requiring no special tools. The UV lamp must be replaced after 9000 hours of continuous operation (approximately one year) in order to ensure adequate disinfection.

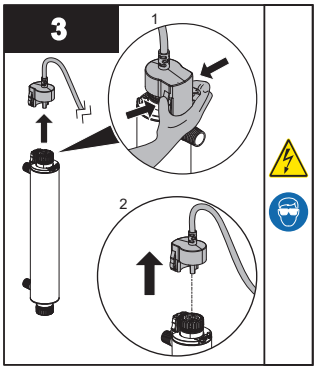
Procedure:



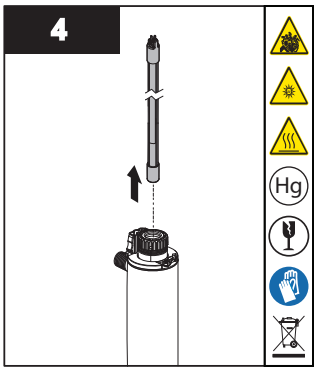
- Shut off the water line to chamber and release system pressure before servicing.



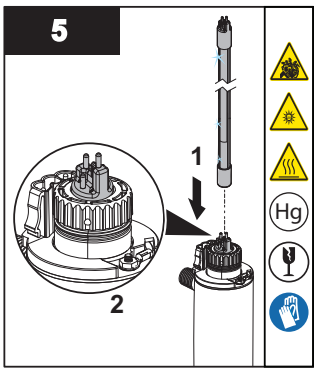
- Disconnect main power source and allow the unit to cool for 10 minutes.



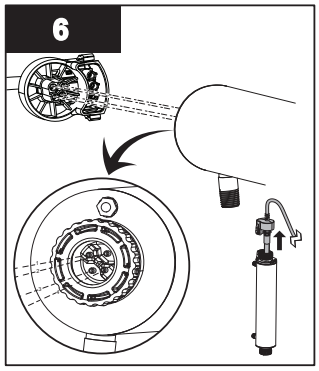
- Remove the lamp connector by squeezing the plastic locking tabs on the side of the connector.



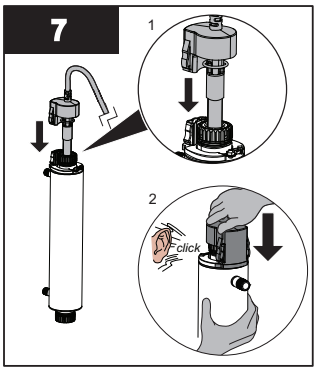
- Remove the lamp in upward direction from the chamber and lamp connector base.
- Always hold the lamp at the ceramic ends.



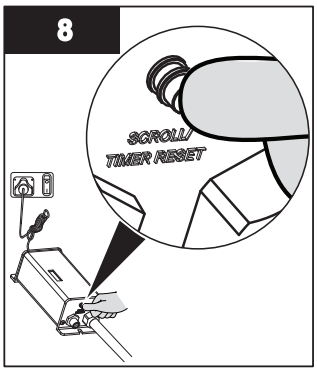
- Insert the new lamp fully into the chamber leaving about two inches of the lamp protruding from the chamber.



- Attach the connector to the lamp and note that the connector will only allow correct installation in one position.



- Push the lamp connector against lamp connector base together until an audible click is heard.
- Re-pressurize the system to check for leaks.



- Hold down the timer reset button and reapply power to the controller until you see rSEt, then release timer reset button.
- A 5 second delay will occur until you hear an audible tone and LED display will read once again 365.

VIQUA

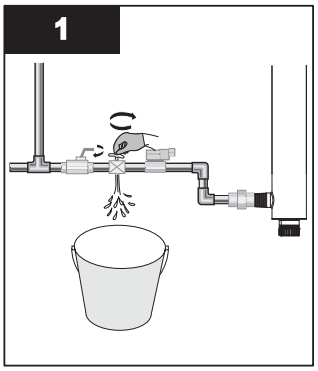
4.2 Cleaning and Replacing Quartz Sleeve

Note: *Minerals in the water slowly form a coating on the quartz sleeve. This coating must be removed because it reduces the amount of UV light reaching the water, thereby reducing disinfection performance. If the sleeve can not be cleaned, it must be replaced.*

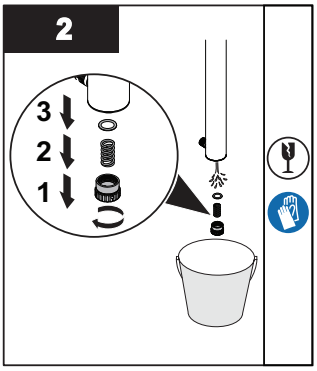
Prerequisites:

- Shut off water supply and drain all lines.
- Remove the UV lamp. Refer to Section 4.1.

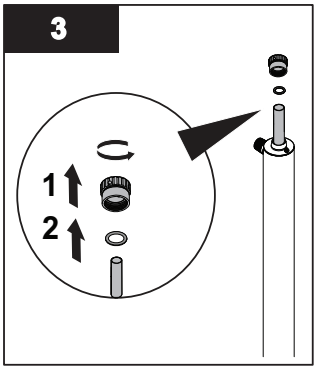
Procedure:



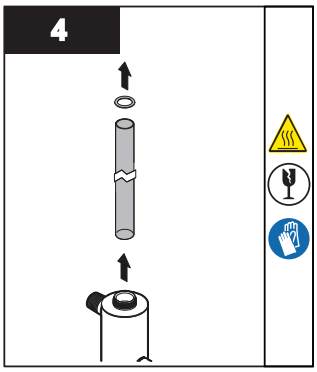
- Drain the chamber by using the drain port.



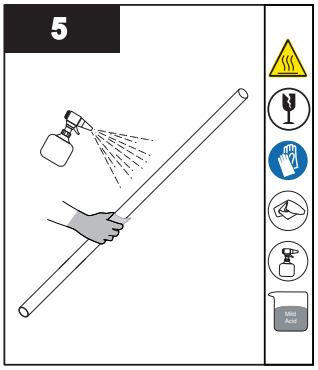
- Remove the bottom retaining nut, floating spring, and O-ring.



- Remove the top retaining nut and O-ring.

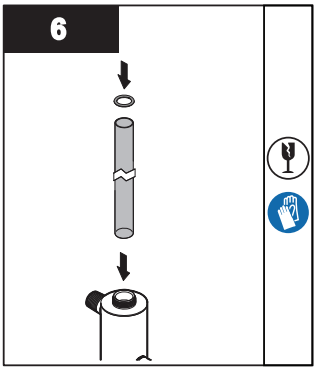


- Carefully, remove O-ring adhering to the quartz sleeve.
- Remove the quartz sleeve.

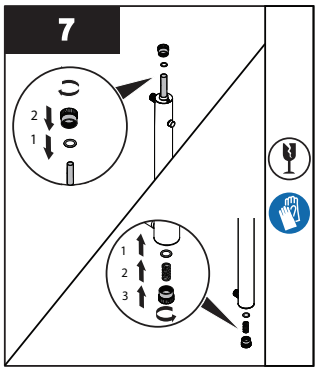


- Clean the quartz sleeve with a cloth soaked in CLR, vinegar or some other mild acid and then rinse with water.

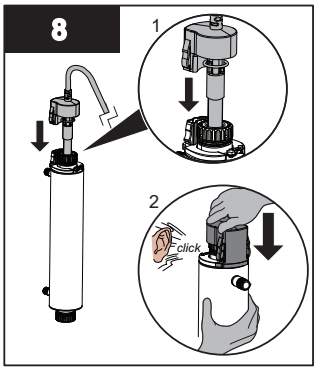
  Note: *If sleeve cannot be cleaned completely or it is scratched or cracked, then replace the sleeve.*



- Reinstall the quartz sleeve in the chamber allowing the sleeve to protrude an equal distance at both ends of the chamber.
- Slide supplied O-rings onto each end of the quartz sleeve.



- Reinstall the top and bottom retaining nuts, floating spring, and O-rings respectively.
- When service is complete, assemble the prerequisites in the reverse order of disassembly.



- Push the lamp connector against lamp connector base together until an audible click is heard.
- Plug in controller and verify the POWER-ON LED display.
- Re-pressurize the system to check for leaks.

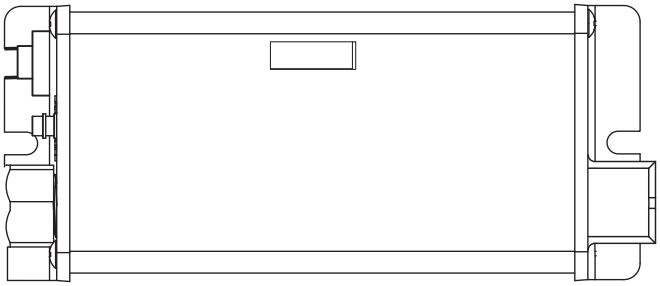
Note: *After replacing the UV lamp or quartz sleeve perform the disinfection procedure, refer to Section 3.2.*

Section 5 Operation

⚠ WARNING

The advanced warning system has been installed to provide the optimum protection against microbiological contamination in water. DO NOT disregard the warning signals. The best way to ensure optimum UV performance is to have the water microbiologically tested by a recognized testing agency on a regular basis.

5.1 Basic Systems Incorporating BA-ICE-S Controller



5.1.1 UV lamp Life Remaining (days)

365 The controller tracks the number of days of operation of the UV lamp and the controller. The default screen will display the total UV lamp life remaining (in days). The controller will count down the number of days remaining until the UV lamp requires changing (365 days to 1 day). At “0” days, the controller will display A3 and sound an intermittent audible chirp (1 second on, 5 seconds off), indicating the need to change the UV lamp.

5.1.2 Understanding your “A3” Code

A3 ***DEFERRAL*** - Once the “A3” or end of UV lamp life message is shown on the LED display, the audible alarm can be deferred up to 4 separate times. The delay is designed to allow you time to address the alarm while you obtain a new UV lamp. This can be done by simply depressing the timer reset button for 5 seconds, which is located on the left side of the controller. Each time the timer reset button is pressed the controller alarm is deferred seven days. Once the final 7 day deferral has been reached the alarm can only be silenced by changing the UV lamp and manually resetting the controller timer, refer to Section 4.1.

5.1.3 Resetting UV lamp Life

Refer to Section 4.1.

Note: *Even though the alarm on the system can be deferred for a period of time, it is important to address each and every alarm condition as they are indicating that there is a potential problem with the system and should be remedied.*

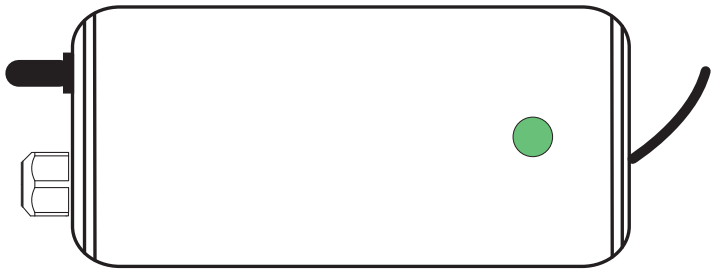
5.1.4 Total Days of Operation

1680 The controller also displays the total running time of the controller. To obtain this reading, press the push-button once. The total running time of the controller will be numerically displayed in days. This information will remain displayed for ten seconds and will then revert back to the UV lamp life remaining default screen. It should be noted that this value cannot be reset.

5.1.5 UV lamp Failure (Blank Screen)

When the system recognizes UV LAMP FAILURE (no current running through the UV lamp), the display will be blank (no default UV LAMP LIFE REMAINING screen) and the system will sound an intermittent audible tones (1 second on,1 second off). The system will remain in this state, until this condition is remedied.

5.2 12VDC Systems Incorporating BA-RO/P/12 Controller



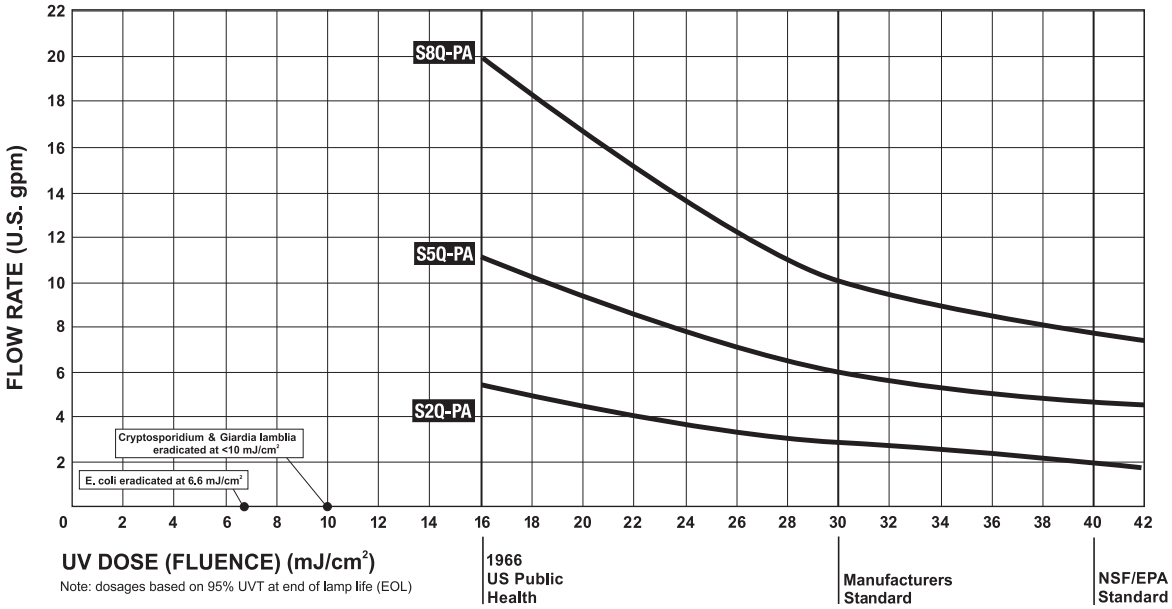
Green LED indicates UV lamp “ON”.

Section 6 Troubleshooting

Symptom	Possible Causes	Solutions
Pressure Drop	Sediment pre-filter clogged	Replace filter cartridge with appropriate 5 micron cartridge. ***Note:*** *Check source water supply as fluctuations may occur in source pressure.*
	Flow regulator	Flow regulator will result in pressure drop when approaching full flow.
High Bacteria Counts	Quartz sleeve is stained or dirty	Clean sleeve with scale cleaner and eliminate source of staining problem (ie. soften hard water, refer to Section 4.2.
	Change in feed water quality	Have source water tested to ensure that water quality is still within allowable limits for this system.
	Contamination in water lines after UV system (eg. power failures, plumbing	Disinfection system must have a bacterial free distribution system to work effectively. Refer to Section 3.2
	Possible break-through of sediment through pre-filter	Have source water tested for turbidity - may need stepped filtration in order to catch all sediment entering water system (20 micron filter followed by a 5 micron filter followed by UV
Heated Product Water	Common problem caused by infrequent use of water	Run water until it returns to ambient temperature.
Water Appears Milky	Caused by air in the water lines	Run water until air is purged.
Unit Leaking Water	Problem with O-ring seal (on retaining nut and/or UV sensor)	Ensure O-ring is in place, check for cuts or abrasions, clean O-ring, moisten with water/ lubricant and re-install, replace if necessary (410867).
	Condensation on UV chamber caused by excessive humidity & cold water	Check location of disinfection system and control humidity.
	Inadequate inlet/outlet port connections	Check thread connections, reseal with Teflon® tape and re-tighten.
System Shutting Down Intermittently	Interrupted controller	• Ensure system has been installed on its own circuit, as other equipment may be drawing power away from UV (ie. pump or fridge). • UV system should not be installed on a circuit which is incorporated into a light switch.
UV lamp Failure Alarm on - New lamp	Loose connection between UV lamp and connector	Disconnect UV lamp from connector and reconnect, ensuring that a tight fit is accomplished
	Moisture build up in connector may keep UV lamp and connector from making a solid connection	Eliminate chance of any moisture getting to the connector and/or lamp pins

DISPLAY FAULT MODES	
LED display reads “A3”	• UV lamp life expired - countdown is at “0” days. Refer to Section 5.1.2, Understanding your A3 Code. • Press reset button for a deferred alarm, replace UV lamp
LED display is blank	• Controller is in UV lamp failure mode. Refer to Section 5.1.5, UV Lamp Failure. Replace UV Lamp, refer to Section 4.1. • Power system down, allowing it to reset itself; apply power in order to confirm that the controller is able to power UV lamp • Check to see if there is sufficient power to the UV system
Green LED off (12 VDC only)	• UV lamp failure. Replace UV Lamp, refer to Section 4.1. • No input voltage to controller

Section 7 Manufacturer's Dose Flow Chart



Section 8 Specifications: Standard and Validated

Model		S2Q-P/12VDC/ S2Q-PA		S5Q-P/12VDC/ S5Q-PA/SV5Q-PA*		S8Q-PA/ SV8Q-PA*
Flow Rate	*NSF Class B Certified 16mJ/cm² @ 70% UVT	-		3.6 gpm (13.6 lpm) (0.8 m³/hr)		7 gpm (26.5 lpm) (1.6 m³/hr)
	US Public Health 16mJ/cm² @ 95% UVT	5 gpm (19 lpm) (1.1 m³/hr)		11 gpm (42 lpm) (2.5 m³/hr)		20 gpm (75 lpm) (4.5 m³/hr)
	VIQUA Standard 30 mJ/cm² @ 95% UVT	3 gpm (11 lpm) (0.7 m³/hr)		6 gpm (23 lpm) (1.4 m³/hr)		10 gpm (38 lpm) (2.3 m³/hr)
	NSF/EPA 40mJ/cm² @ 95% UVT	2 gpm (7 lpm) (0.4 m³/hr)		4.5 gpm (17 lpm) (1.0 m³/hr)		8 gpm (29 lpm) (1.8 m³/hr)
Dimensions	Chamber	43.2 cm x 6.4 cm (17" x 2.5")		56 cm x 6.4 cm (22" x 2.5")		90 cm x 6.4 cm (35" x 2.5")
	Controller 100-250 VAC	18.6 cm x 8.1 cm x 6.4 cm (7.3" x 3.2" x 2.5")		18.6 cm x 8.1 cm x 6.4 cm (7.3" x 3.2" x 2.5")		18.6 cm x 8.1 cm x 6.4 cm (7.3" x 3.2" x 2.5")
	Controller 12 VDC	13.5 cm x 4.3 cm x 5.8 cm (5.3" x 1.7" x 2.3")		13.5 cm x 4.3 cm x 5.8 cm (5.3" x 1.7" x 2.3")		-
Inlet/Outlet Port Size[1]		1/2" MNPT		3/4" MNPT"		3/4" MNPT
Shipping Weight		2.7 kg (6 lbs)		2.7 kg (6 lbs)		4.5 kg (10 lbs)
Electrical	Voltage[2]	100-240 V / 50/60 Hz	12 VDC	100-240 V / 50/60 Hz	12 VDC	100-240 V / 50/60 Hz
	Max. Current	0.6 Amp	1.8 Amp	0.6 Amp	1.8 Amp	0.6 Amp
	Power Consumption	22 W	20 W	30 W	27 W	46 W
	UV lamp Watts	17 W	15 W	25 W	20 W	37 W
Maximum Operating Pressure		125 psi (861 kPa)		125psi (861 kPa)		125 psi (861 kPa)
Minimum Operating Pressure		15 psi (103 kPa)		15psi (103 kPa)		15 psi (103 kPa)
Ambient Water Temperature		2-40 ºC (36-104 ºF)		2-40 ºC (36-104 ºF)		2-40 ºC (36-104 ºF)
UV Lamp Type		Sterilume™-EX (standard-output)		Sterilume™-EX (standard-output)		Sterilume™-EX (standard-output)
UV Chamber Material		304 SS		304 SS		304 SS

[1] Units ending in "/2B" have BSPT connections.

[2] Units ending in "/2" are for 230V applications.

Section 9 Manufacturer's Warranty

Our Commitment

VIQUA is committed to ensuring your experience with our products and organization exceeds your expectations. We have manufactured your UV disinfection system to the highest quality standards and value you as our customer. Should you need any support, or have questions about your system, please contact our Technical Support team at 1.800.265.7246 or technicalsupport@viqua.com and we will be happy to assist you. We sincerely hope you enjoy the benefits of clean, safe drinking water after the installation of your VIQUA disinfection system.

How to Make a Warranty Claim

Note: *To maximise the disinfection performance and reliability of your VIQUA product, the system must be properly sized, installed and maintained. Guidance on the necessary water quality parameters and maintenance requirements can be found in your Owner's Manual.*

In the event that repair or replacement of parts covered by this warranty are required, the process will be handled by your dealer. If you are unsure whether an equipment problem or failure is covered by warranty, contact our Technical Support team at 1.800.265.7246 or e-mail technicalsupport@viqua.com. Our fully trained technicians will help you troubleshoot the problem and identify a solution. Please have available the model number (system type), the date of purchase, the name of the dealer from whom you purchased your VIQUA product ("the source dealer"), as well as a description of the problem you are experiencing. To establish proof of purchase when making a warranty claim, you will either need your original invoice, or have previously completed and returned your product registration card via mail or online.

Specific Warranty Coverage

Warranty coverage is specific to the VIQUA range of products. Warranty coverage is subject to the conditions and limitations outlined under "General Conditions and Limitations".

Ten-Year Limited Warranty for VIQUA UV Chamber

VIQUA warrants the UV chamber on the VIQUA product to be free from defects in material and workmanship for a period of ten (10) years from the date of purchase. During this time, VIQUA will repair or replace, at its option, any defective VIQUA UV chamber. Please return the defective part to your dealer who will process your claim.

Three-Year Limited Warranty for Electrical and Hardware Components

VIQUA warrants the electrical (controller) and hardware components to be free from defects in material and workmanship for a period of three (3) years from the date of purchase. During this time, VIQUA will repair or replace, at its option, any defective parts covered by the warranty. Please return the defective part to your dealer who will process your claim.

One-Year Limited Warranty for UV lamps, Sleeves, and UV Sensors

VIQUA warrants UV lamps, sleeves, and UV sensors to be free from defects in material and workmanship for a period of one (1) year from the date of purchase. During this time, VIQUA will repair or replace, at its option, any defective parts covered by the warranty.Your dealer will process your claim and advise whether the defective item needs to be returned for failure analysis.

Note: *Use only genuine VIQUA replacement lamps and sleeves in your system. Failure to do so may seriously compromise disinfection performance and affect warranty coverage.*

General Conditions and Limitations

None of the above warranties cover damage caused by improper use or maintenance, accidents, acts of God or minor scratches or imperfections that do not materially impair the operation of the product. The warranties also do not cover products that are not installed as outlined in the applicable Owner's Manual.

Parts repaired or replaced under these warranties will be covered under warranty up to the end of the warranty period applicable to the original part.

The above warranties do not include the cost of shipping and handling of returned items.The limited warranties described above are the only warranties applicable to the VIQUA range of products. These limited warranties outline the exclusive remedy for all claims based on a failure of or defect in any of these products, whether the claim is based on contract, tort (including negligence), strict liability or otherwise. These warranties are in lieu of all other warranties whether written, oral, implied or statutory. Without limitation, no warranty of merchantability or of fitness for a particular purpose shall apply to any of these products.

VIQUA does not assume any liability for personal injury or property damage caused by the use or misuse of any of the above products. VIQUA shall not in any event be liable for special, incidental, indirect or consequential damages. VIQUA's liability shall, in all instances, be limited to repair or replacement of the defective product or part and this liability will terminate upon expiration of the applicable warranty period.

APPENDIX D - BACTERIAL GROWTH IN GRANULAR ACTIVATED CARBON FILTERS; HUMAN HEALTH AND DISINFECTION

Appendix D
Additional Information
Bacterial Growth in Granular Activated Carbon (GAC) Filters
Human Health and Disinfection
October 10, 2018, Revision March 6, 2019

As stated in the MDEQ's August 9, 2018 letter and as discussed in our July 25, 2018 meeting, several comments made by the MDEQ regarding the, *Alternate Water Supply Management Plan, Point-of-Entry Treatment Systems, Wolverine Worldwide, Inc.* (POET O&M Plan) may be addressed by additional information related to the bacteriological risks from the carbon filter systems as well as information regarding the operation of the ultra-violet (UV) lamp during interruptions in operation. Specific references in the MDEQ letter include; BP-4 and -12, Section 6.1.2.

The fundamental question/concern relates to the need for disinfection of the well water after GAC use. The POET system installation was designed with an UV light reactor that disinfects the treated water as a final step. R&W/GZA has indicated that the use of the UV on the filtered water is precautionary and not necessary for well water not contaminated with fecal bacteria. The use of the UV is a conservative measure to further ensure water quality but is not necessary to protect public health.

Bacterial Control – Well Water Systems

None of the well water systems that the POET system was installed had disinfection systems installed to control bacteria prior to the installation of the POET. In general, disinfection systems are not installed on residential well water supplies. Testing for coliform bacteria may be performed when the well is initially installed, following repairs or modification, and periodically as required by health agencies.

The premise that disinfection is required is based on the addition of the carbon filtration system. The MDEQ has made the following comments to argue the systems require disinfection:

- The source water bacteriological water quality is unknown and a moving target.
- Even if wells tested non-detect initially, they can become contaminated in a number of ways.
- Compared to a home without treatment, a GAC filter provides an excellent medium for bacteriological attachment and growth if exposure occurs.
- Bacteriological contamination poses an acute health risk.

The initial two and fourth bullet points are true for a well water supply with or without a GAC treatment system. These arguments would support a requirement to install a disinfection system on any private well water supply (with or without treatment) thus do not justify the addition of a disinfection system based on the installation of GAC treatment alone. Since a well system can become contaminated at any time, by a variety of ways, and bacteriological contamination is an acute health risk, periodic testing of the well water supply is performed in the absence of a carbon treatment system. The concern that differentiates the POET system from any residential well water system is stated in the third bullet point, *"Compared to a home without treatment, a GAC filter provides an excellent medium for bacteriological attachment and growth if exposure occurs."*

The statement may (or may not) have some merit, however, if exposure occurs (the well becomes contaminated), there is likely little difference in the acute health risk to the users of the well water if the system has a carbon filtration system or no treatment.

Although bacteria are known to colonize on the GAC (Point-of-Use [POU] or POE), the bacteria do not pose a health risk when the water being treated meets acceptable water quality standards. EPA and the World Health Organization (WHO) have opined that the use of disinfection in POU and POE systems is not required when the water entering the POE and/or POU meets acceptable water quality standards.

The WHO states, "Exposure to HPC (Heterotrophic Plate Count) microbiota is far greater in foodstuffs than through drinking-water." Exposure to HPC occurs through the air and other environmental sources. Section 1.4.2 Epidemiology in-part states, "The available body of evidence supports the conclusion that, in the absence of fecal contamination, there is no direct relationship between HPC values in ingested water and human health effects in the population at large. This conclusion is also supported indirectly by evidence from exposures to HPC in foodstuffs, where there is no evidence for a health effects link in the absence of pathogen contamination."

In summary, the use of GAC will increase the area for bacteria to regrow in a water system. However, in the absence of pathogenic contamination, bacteria do not pose a health risk. There is no evidence that has found health effects linked to non-pathogenic contamination. If the well were contaminated, an acute health risk would exist with or without a GAC system.

The WHO report includes a chapter (Chapter 8) on the immunocompromised individuals. The executive summary of the report includes recommendations that more study is required for, ". . the immunocompromised (especially infection control in health care facilities and susceptible persons in the public at large)." As summarized by the EPA, "Normal drinking water is not always suitable for all such individuals for all uses (e.g., wound irrigation). This relates to water safety in general and not to growth or HPC organisms in particular. Advice should be provided by public health authorities to at-risk groups in general and by practitioners responsible for individuals discharged to home care."

In summary, infections from HPCs of immunocompromised patients in the general community is unclear.

Bacterial Control – Carbon Systems

EPA states in a report entitled, *Water Health Series – Filtration Facts* that 4/10 Americans use a home water treatment. Most of these are Point-of-Use (POU) system that use carbon and do not include disinfection system. POU devices are commonly designed for a twelve-month service life.

Section 1.3.2 of the WHO Report states;

> Bacterial growth occurs in plumbed-in domestic water devices (including water softeners, carbon filters, etc.) and plumbed-in commercial devices, such as beverage vending machines. HPC values in water samples typically increase in such devices. Increases of HPC (due to growth) in these devices therefore do not indicate the existence of a health risk, as long as the entry water meets acceptable microbial water quality norms (e.g., WHO *Guidelines for Drinking-water Quality*).

Section 12.4 of the WHO Report states,

> "Health Canada, the US Environmental Protection Agency (EPA), the US Consumer Product Safety Commission and the Italian government have all, at one time or another, proposed banning activated carbon filters used in home drinking-water treatment devices because of the growth of HPC bacteria on the carbon media and subsequent rises in HPC counts in the filtered water (Regunathan and Beauman 1994). After further study, however, all four decided against banning the filters. At Health Canada, the decision was made following consultations with stakeholders and was based on the absence of evidence of any illness linked to such devices."

Similar to the regrowth of biofilms in water distribution systems, increased levels of HPC are not generally a health concern in drinking water treatment devices. Some experimental evidence has shown that the presence of heterotrophic bacteria HPC bacteria in POU and POE devices may be beneficial, since ordinary bacterial growth may reduce the number of disease-causing organisms through dilution, competition or predation inside the treatment device — i.e., in carbon filters, resin beds, bladder tanks, etc. (Rollinger and Dott 1987).

Snyder et.al, evaluated the water quality of POU powdered activated carbon (PAC) filters, ". . .to determine how such treatment might impact the bacteriological quality of private, residential drinking water supplies." Snyder's work concluded that PAC treatment does not compromise the bacteriological quality of drinking water from well water supplies. A number of additional results from this study follow:

- First draw samples (following overnight static periods) from well water supplies were only slightly higher than their corresponding influent counts.
- Snyder reported work performed by others (Geldreich and Reasoner) found that a six-week no-flow period increased bacterial counts 1,000 – 10,000-fold. Although this was indicated as a concern by some referenced reports, Snyder reported that several authors, ". . .suggest that activated carbon has no significant effect on bacterial levels in drinking water on the basis of their findings that bacterial densities were similarly increased in unfiltered water after periods of no use." Finally, Snyder reported, "An epidemiological study by Calderon gave little evidence to associate any health risks with the use of carbon filters."
- Fiore and Babineau (7) also found that a 2-minute flushing period reduced bacterial populations in filter effluents. As such, Snyder concludes that, "any potential public health concern from exposure to elevated HPC in POU filter effluents following periods of no use may be reduced or eliminated by flushing the POU device before use."
- Snyder references two studies (Camper and Reasoner) that suggested high densities of heterotrophs may prevent pathogenic bacteria from colonizing and persisting on GAC beds.

EPA Document Summary

As summarized in our previous response, an EPA document entitled, *Point-of-Use or Point-of-Entry Treatment Options for Small Drinking Water Systems* (EPA Document) summarizes that the use of disinfection for POU and POE systems is not required when the water entering the POE and/or POU meets acceptable water quality standards. Specifically, EPA states;

> ***"In view of these conclusions, it is appropriate to recognize that although bacterial growth occurs in POU and POE water treatment devices, the increase of HPC in these devices does not indicate that a health risk exists, so long as the water entering the device meets acceptable water quality standards."***

Although, this conclusion seems to be based on the WHO report and conclusions, the EPA report seems to contradict this conclusion in several locations. Specifically, when referencing regulations for drinking water the following text is included/referenced; " . . . *GAC media are prone to microbial colonization (heterotrophic bacteria) on the GAC media. Some form of HPC monitoring and/or disinfection should be considered when using POU GAC and when using POE GAC*. "

Although the references to the regulations raising concerns related to HPC's are accurate, the source of the HPC concerns related to GAC is found verbatum in the 1987 and 1988 Federal Register, 52 FR 25716, July 8, 1987; 53 FR 25111, July 1, 1988].

> As noted by the WHO, several countries including the USEPA proposed banning activated carbon filters used in home drinking-water treatment devices because of the growth of HPC bacteria. It would appear the scientific evidence as presented in the WHO report has concluded the HPC bacteria growth is not a health concern.

Summary

- EPA and the WHO have opined that the use of disinfection in POU and POE systems is not required when the water entering the POE and/or POU meets acceptable water quality standards.
- Exposure to HPC microbiota is far greater in foodstuffs than through drinking-water.
- 4/10 Americans use a home water treatment. Most of these are POU system that use carbon and do not include disinfection system.
- Bacterial growth occurs in carbon filters. HPC values in water samples typically increase in such devices. Increases of HPC (due to growth) in these devices do not indicate the existence of a health risk, as long as the entry water meets acceptable microbial water quality norms.
- The WHO report stated the EPA, the US Consumer Product Safety Commission proposed banning activated carbon filters used in home drinking-water treatment devices because of the growth of HPC bacteria on the carbon media and subsequent rises in HPC counts in the filtered water. However, after further study, decided against banning the filters.
- Snyder et.al, evaluated the water quality of POU PAC filters, ". . .to determine how such treatment might impact the bacteriological quality of private, residential drinking water supplies." Snyder's work concluded that PAC treatment does not compromise the bacteriological quality of drinking water from well water supplies.
- EPA document entitled, Point-of-Use or Point-of-Entry Treatment Options for Small Drinking Water Systems (EPA Document) summarizes that the use of disinfection for POU and POE systems is not required when the water entering the POE and/or POU meets acceptable water quality standards. Specifically, EPA states; "In view of these conclusions, it is appropriate to recognize that although bacterial growth occurs in POU and POE water treatment devices, the increase of HPC in these devices does not indicate that a health risk exists, so long as the water entering the device meets acceptable water quality standards."

- Infections from HPCs of immunocompromised patients in the general community is unclear. The EPA recommends that advice should be provided by public health authorities to at-risk groups in general and by practitioners responsible for individuals discharged to home care."

Although the WHO, Snyder et.al, and EPA Report present that the HPCs do not pose a health risk, both the EPA and Snyder suggest the users of the POE systems should be instructed to run water at full flow for at least 30 seconds before use after a prolonged period of quiescence. The EPA report states, ***"The system may want to consider post-treatment disinfection to ensure customer safety."*** This has been added to Section 4.3 of the POET O&M Plan.

References

Criteria and Procedures for Public Water Systems Using Point-of-Entry Devices. 53rd Fed Reg. July 1, 1988.

Snyder, Joseph W., et.al. September 20, 1995. Effect of Point-of-Use, Activated Carbon Filters on the Bacteriological Quality of Rural Groundwater Supplies. Applied and Environmental Microbiology, Dec, 1995 p. 4291-4295.

United States Environmental Protection Agency. April 2006. Point-of-Use or Point-of-Entry Treatment Options for Small Drinking Water Systems. Prepared by The Cadmus Group, Inc.; Arlington, VA.

World Health Organization. 2003. Heterotrophic Plate Counts and Drinking-water Safety. The Significance of HPCs for Water Quality and Human Health. IWZ Publishing; London, UK

Use of Non-Centralized Treatment Devices. 52 Fed Reg. 25716. July 8th, 1987.

United States Environmental Protection Agency. September 2005. Water Health Series – Filtration Facts. (816-K-05-002)

APPENDIX E - GRANULAR ACTIVATED CARBON DESIGN

Appendix E
Additional Information
Granular Activated Carbon Design
October 10, 2018, Revision March 6, 2019

As stated in the MDEQ's August 9, 2018 letter and as discussed in our July 25, 2018 meeting, several comments made by the MDEQ may be addressed by additional information related to the design of the carbon life based on flow, empty bed contact time (EBCT), and PFAS concentration. In addition, questions and concerns related to the calculation of predictive life of the carbon would support the frequency of sampling that was selected and changes to sampling frequency as discussed in the performance monitoring section (Section 6.1.3.2) of the "*Alternate Water Supply Management Plan, Point-of-Entry Treatment Systems, Wolverine Worldwide, Inc.*" (POET O&M Plan). Specific references in the MDEQ letter include; BP-8, 1. Section 1.2, 2. Section 4.1, 14. Section 6.1.3.2, and 15. Section 6.1.3.3.

Whole House Filter – Conceptual Design

The criteria mandated by Wolverine, when the decision was made to provide Whole House Filters (WHF), was the technology must be proven and used successfully for similar applications. Literature identified that both granular activated carbon (GAC) and reverse osmosis (RO) were effective for removal of PFAS compounds. R&W/GZA rejected the use of RO because the reject stream from the RO unit would need to be collected or discharged to the on-site septic system that discharges to the groundwater. Removing the PFAS from the groundwater and returning the concentrated PFAS back to the groundwater was not an acceptable solution. Based on this design criterion (not returning removed PFAS compounds to the groundwater), the use of RO was not acceptable. For the same reason, backwashing GAC columns was not be considered.

A number of factors that resulted in the recommendation by R&W/GZA of the Point-of-Entry Treatment (POET) system as developed by Culligan, utilizing Calgon Filtrasorb 600 GAC are summarized below:

- The system had been installed and operated at 500 homes in New Jersey and New York. Both the design and operation of the POET system for removal of PFAS has been demonstrated. No other supplier has equivalent experience with the two-stage GAC system.

- The system is generally in compliance and conforms with the document entitled, *"New York State Department of Environmental Conservation (Department) Point of Entry Treatment (POET) System Specification."*

- The system uses Filtrasorb 600 GAC from Calgon which is specified in the New York POET specification identified above. Filtratsorb 600 has been tested for PFAS removal and demonstrated to be effective. No other supplier provided information to confirm the proposed GAC has been used for and proven for removal of PFAS.

- Culligan had experience operating and maintaining hundreds of POETs in Bennington County, Vermont. We deemed it unlikely Culligan would agree to perform operation and maintenance on a system they have not supplied.

- Over 255 POETs were installed in Bennington County, Vermont by November 16, 2016. The highest concentration reported was 4,600 ppt PFOA (the concentration of other PFAS were not available). Following three months of monthly monitoring, no breakthrough was measure at the mid-point sampling point.

Whole House Filter – Detailed Design

Based on the above, R&W/GZA prepared a specification for the WHFs. The specification was delivered to the MDEQ on November 24, 2017 in response to the MDEQ's request. In general, the system is a two-stage granular activated carbon system equipped with pre- and post-sediment filters, an ultraviolet (UV) disinfection lamp, and flow meter.

R&W/GZA initially recommended performing an Accelerated Carbon Test (ACT) to assess GAC capacity using western Michigan groundwater. However, the ACT test would have delayed the installation of the WHF unit by two months. In the absence of an ACT, R&W/GZA used results from an isotherm study performed for Hoosick Falls, New York and the information available from the Bennington County, Vermont GAC systems. In the absence of an ACT for western Michigan groundwater, this data was used conservatively as will become evident in the following discussions.

Working with Culligan's plant design specialist, assuming similar flows and loadings, and low TOC concentration, Culligan believed that the two-stage, 4.0 cubic-foot system had been demonstrated for loadings up to 7,500 ppt PFAS using an EBCT of approximately 3.75 minutes (nominally 4 minutes). As stated in our prior correspondence, for high PFAS concentrations (defined as greater than 7,500 ppt), the EBCT was increased to 7.5 minutes (nominally 8 minutes) by installing four columns in a 2 x 2 configuration.

Although literature from Calgon recommended an EBCT of 8-10 minutes in the absence of an ACT, this general statement did not apply to the Wolverine design for the following reasons:

- The flow from a residential well is not continuous. Culligan's plant design specialist discounted this 8 to 10-minute EBCT stated in general Calgon literature since the flow is on-off and averages much less than the maximum flow of 8 gpm for the POET system.

- Culligan has hundreds of POET systems installed for residential purposes using the EBCT of 3.75 minutes.

- The groundwater did not contain detectable organic compounds which would compete with the PFAS adsorption.

- RW/GZA believed that periodic testing would be the best way to determine capacity and prepared an O&M manual that included performance monitoring.

The nominal EBCT for a standard POET system is 4 minutes. This is controlled by restricting the maximum flow through the system to 8 gallons per minute (gpm). If it is determined that the user requires more than 8 gpm, two systems will be installed in parallel (four GAC columns) to provide a "high flow" water use of 16 gpm.

Installations with total PFOA+PFOS concentrations that exceed 7,500 ppt were identified as "high concentration" installations. The nominal EBCT for high concentration installations is 8 minutes. This is performed by using four tanks. Although similar to the high flow system, the flow is restricted to 8.0 gpm which effectively doubles the EBCT.

Table 1 summarizes the POET system installations:

Table 1
POET System
Alternate Configurations

POET Configuration	GAC Columns	EBCT (minutes)	Max Flow (gpm)
Standard	Lead (2 CF) Lag (2 CF)	4	8
High Flow	Lead (4 CF) Lag (4 CF)	4	16
High Concentration	Lead (4 CF) Lag (4 CF)	8	8
High Flow & Concentration	Lead (8 CF) Lag (8 CF)	8	16

Periodic Testing-Performance Monitoring

The O&M plan includes recommendations for sampling frequency and locations (influent, mid-point, and effluent) for the POET systems. The recommendations are based on a combination of the influent concentration and estimated breakthrough time for PFOA+PFOS (through the lead carbon column.) The following sections provide additional information related to the sampling frequency and sample points.

Sampling Frequency

In order to establish the testing frequency, an estimate of the carbon life is needed. To estimate the carbon life, R&W/GZA used an equation from Metcalf & Eddy (M&E) Wastewater Engineering Treatment, Disposal, Reuse, 3rd Edition, page 323. The time of breakthrough (tb) was calculated using various concentrations of PFOA+PFOS, the X/M isotherm from Hooksick Falls, and the variables (flow and carbon mass) related to EBCT outlined above. The M&E equation includes a variable for the "% of carbon used." When calculating tb in the absence of known data for % of carbon used, M&E recommends using 25%. R&W/GZA used assumed an average residential flow of 350 gpd for calculation of tb.

Excerpt of M&E tb equation:

$$t_b = \frac{(x/m)_b M_c}{Q\left[C_i - (C_b/2)\right]\left[8.34\ \text{lb/Mgal} \cdot (\text{mg/L})\right]}$$

The following table summarizes the safety factors used for establishing the initial sampling frequencies:

Table 2
Carbon Breakthrough Calculations
Safety Factors Used

Description/Parameter	Values	Safety Factor (SF)
% Carbon Used	M&E recommends 0.25% - RW/GZA used 0.125%	2.0
Calculated Breakthrough of Lead Only	Recommended for normal operation – lag column provides 100% back-up	2.0
Adjust tb from calculation	Divide result by 2.0 to provide a safety factor of 2.0	2.0
Total Safety Factor		**8.0 (multiplicative)**

Table 3 summarizes the results of the calculation of tb for the lead column for various concentrations of PFOA+PFOS and the adjusted tb based on the SF applied to the calculation.

Table 3
Carbon Breakthrough Calculations
Summary of Results

PFOS+PFOA Concentration (ppt)	Cubic Foot GAC (CF)	tb (days)	tb Lead Column (days)	SF	tb Used (days)	Sampling Frequency/Notes
70	4	18,323	9,162	4	2,290	***70-200, Semi-annual***/annual seems appropriate, however in the absence of a column test – seems too long
200	4	5,271	2,635	4	659	***200-1,000, Quarterly***/quarterly is required for 1,000 ppt based on tb
1,000	4	979	490	4	122	***1,000-7,500, Monthly/***monthly required for tb at 7,500 ppt
7,500	8	257	127	4	32	***7,500-35,000, Weekly/***weekly required for tb at 35,000 ppt
35,000	8	55	28	4	7	

In the absence of any safety factors, the highest PFOA+PFOS concentration (35,000 ppt) was calculated to breakthrough in 55 days or detected at the mid-point sample tap in four weeks (28 days). The conservative approach used and outlined above requires sampling weekly.

Sampling Points

As stated in the Plan, "*Performance monitoring will be conducted to establish lead canister breakthrough time (and an associated treated water volume) to establish an appropriate schedule for routine monitoring and carbon change out*." More specifically, breakthrough (to mid-point) based on site-specific operating conditions is used to establish routine monitoring frequencies.

The rational for the sample points was summarized in our prior response letter dated May 15, 2018. In addition to that response, we have included additional rational for each range presented in Section 6.1.3.2 of the May 2018 O&M Plan:

- Homes with previous non-detect (ND) PFOS+PFOA well sample: annual sampling of the influent. If low level PFOS+PFOA is observed in the influent, then the home will be placed into the 1 – 70 ppt group.

Rational: Sampling of the effluent or mid-point of the POET system is unnecessary when the concentration of PFOS+PFOA in the influent is ND because no treatment is required. Thus, no demonstration of PFOS+PFOA removal is needed (when the concentration is ND). The rationale for sampling the influent is to verify no treatment is required. If sampling finds concentrations >1 ppt, the monitoring of influent and mid-point will be initiated on a semi-annual basis.

- Homes with 1 – 70 ppt total PFOS+PFOA: semi-annual sampling (influent and mid-point). Similarly, if changes to the influent concentration falls into a different concentration range, the sampling frequency will be adjusted accordingly;

Rational: Sampling of the effluent of the POET system is unnecessary when the concentration of PFOS+PFOA is 1-70 ppt because no treatment is required to protect public health. Thus, no demonstration of PFOS+PFOA removal is need (when the concentration is between1-70 ppt). The rationale for sampling the influent and mid-point is to verify that that no treatment is required. If sampling finds PFOS+PFOA concentrations >70 ppt, influent and mid-point monitoring will be initiated on a quarterly basis.

- Homes with 71 – 1,000 ppt total PFOS+PFOA: Quarterly sampling (influent, mid-point);

Rational: Sampling of the influent and mid-point is needed to monitor the system performance and calculate breakthrough. As stated above, the combination of the influent concentration and calculation of the time of PFOA+PFOS breakthrough from the lead carbon column is used to monitor the system. Breakthrough of the higher loadings (see below) will be used as a guide to estimate the loadings with concentrations that are less than 1,000 ppt. If sampling finds concentrations >1,000 ppt PFOS+PFOA, the monitoring of this system will be moved to a monthly basis.

- Homes with 1,001 – 7,499 ppt total PFOS+PFOA: Monthly sampling (influent, mid-point, and effluent); and

Rational: Sampling of the influent and mid-point is needed to monitor the system performance and calculate breakthrough. As stated above, the combination of the influent concentration and calculation of the time of PFOA+PFOS breakthrough from the lead carbon column is used to monitor the system. Although effluent sampling from the lag column is technically not needed for operation, the effluent sampling was included to verify that the filter system is operating effectively.

- Homes with 7,500+ ppt PFOS+PFOA: Weekly sampling (influent, mid-point, effluent).

Rational: Sampling of the influent and mid-point is needed to monitor the system performance and calculate breakthrough. As stated above, the combination of the influent concentration and calculation of the time of PFOA+PFOS breakthrough from the lead carbon column is used to monitor the system. Although effluent sampling from the lag column is technically not needed for operation, the effluent sampling was included to verify that the filter system is operating effectively.

GAC Performance Review

A review of the performance of two of the POET systems with the highest PFOA+PFOS loadings and comparison to the predicted performance discussed above is summarized in the following Table 4.

Table 4
Carbon Performance Review
Sampling Results as of August 3, 2018

Description	POET System #1	POET System #2
Days of Operation (days)	189	187
Total Flow Treated (gallon)	22,665	39,368
Average daily flow (gallon/day)	120	210
Average PFOA+PFOS Influent Concentration (ppt)	49,056	23,845
Predicted Operation Prior to Start-up		
Calculated days until breakthrough (days)	55	72
Safety Factor Used – lead column breakthrough	4	4
Estimated tb – breakthrough used for Performance Monitoring	14	18
Ratio - Actual tb: Estimated tb (as of August 3, 2018)	13.5:1	10.4:1

The WHF installations with the highest loadings (currently sampled weekly) have not experienced breakthrough

following six months of operation. Although we have not yet had breakthrough, the assumptions and safety factors used to calculate the days until breakthrough (tb) were conservative by over an order of magnitude. Stated another way, if we had conservatively calculated breakthrough to be one week, the actual time to breakthrough would be over ten weeks. Or if we had conservatively calculated breakthrough in one month, the actual time to breakthrough would be over ten months.

Routine Monitoring

As summarized in our May 15, 2108 response to your questions related to sample frequency in Section 6.1.3.3. of the O&M Plan, we reviewed the performance of the systems (based on three months of operation) and concluded, "*Based on the review of the performance monitoring as part of this response, we have modified the plan to require weekly sampling for homes with concentrations of PFOA+PFOS above 30,001 ppt. We will revise the monthly sampling range to 1,001 – 30,000 ppt and review this frequency following 9 months of operation.*"

The review outlined above is based on six months of weekly sampling data. The review of performance supports the prior conclusion to revise the monthly sampling range as discussed above.

Summary

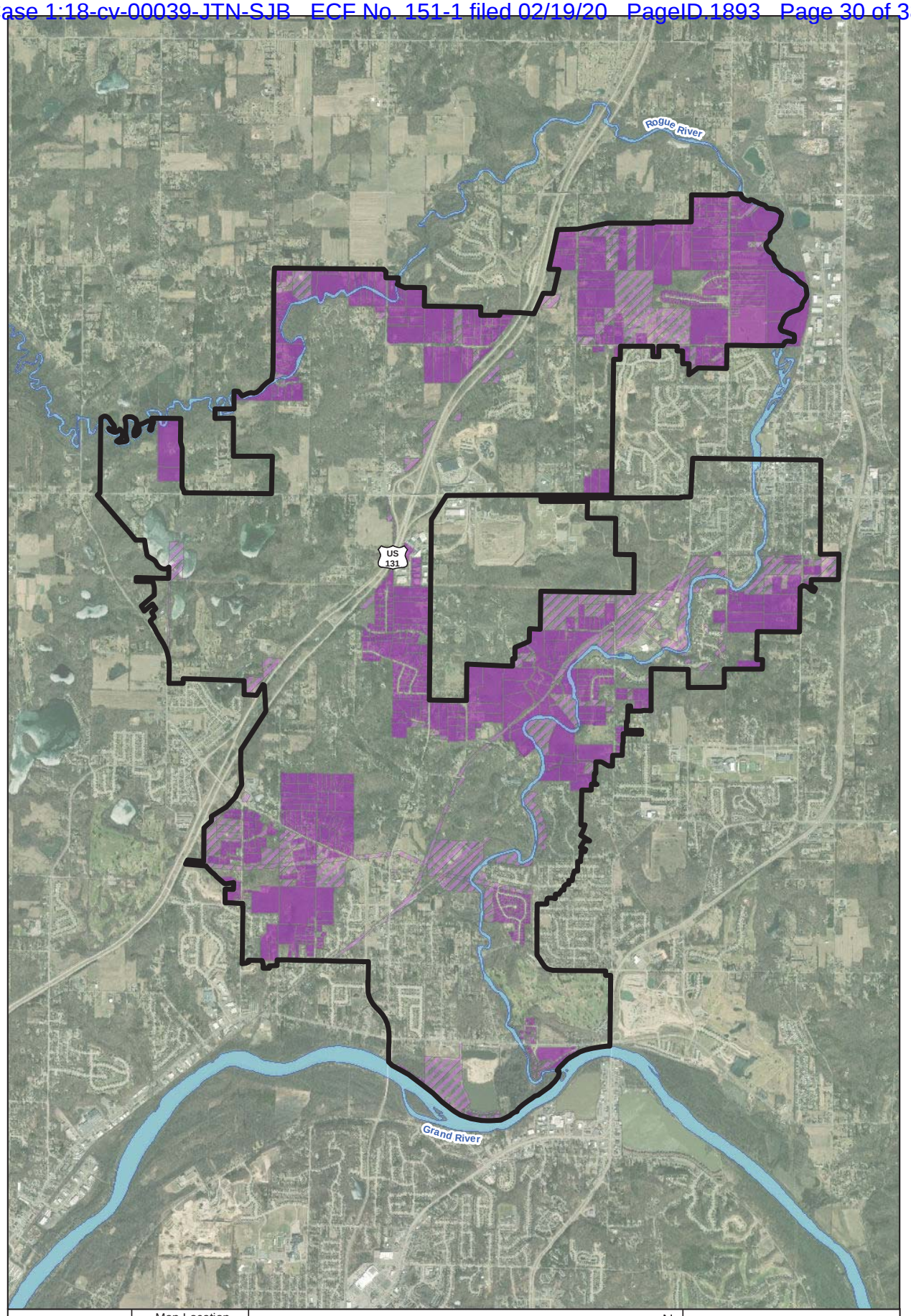
The MDEQ's August 9, 2018 response to our May 15, 2018 letter simply repeated a number of prior comments included in the MDEQ's April 3, 2018 letter without commenting, discussing, or presenting any additional comments in response to our explanations and presentation of information related to the MDEQ's comments. The MDEQ include the following statement following a several of the repeated comments from the April 3, 2018 letter.

> "During the July 25, 2018 meeting, R&W/GZA agreed to include in the Plan the assumptions and calculations used as the basis to develop mid-stage breakthrough time estimates and the filter system designs for the anticipated contaminant loading and flow rates."

We believe the discussion of the assumptions and safety factors responds to both the initial design and monitoring plan and the proposed routine monitoring based on the performance of the first six months of operation.

APPENDIX C
CD Appendices D and I

Appendix D

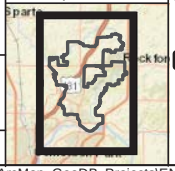


EGLE

AECOM

Prepared:2/3/2020

Map Location



Legend

- Occupied Parcel within Filter Area
- Vacant Parcel within Filter Area
- North Kent Study Area

N

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APPENDIX D
MAP OF FILTER AREAS
SHEET 1 OF 7

KENT COUNTY, MI

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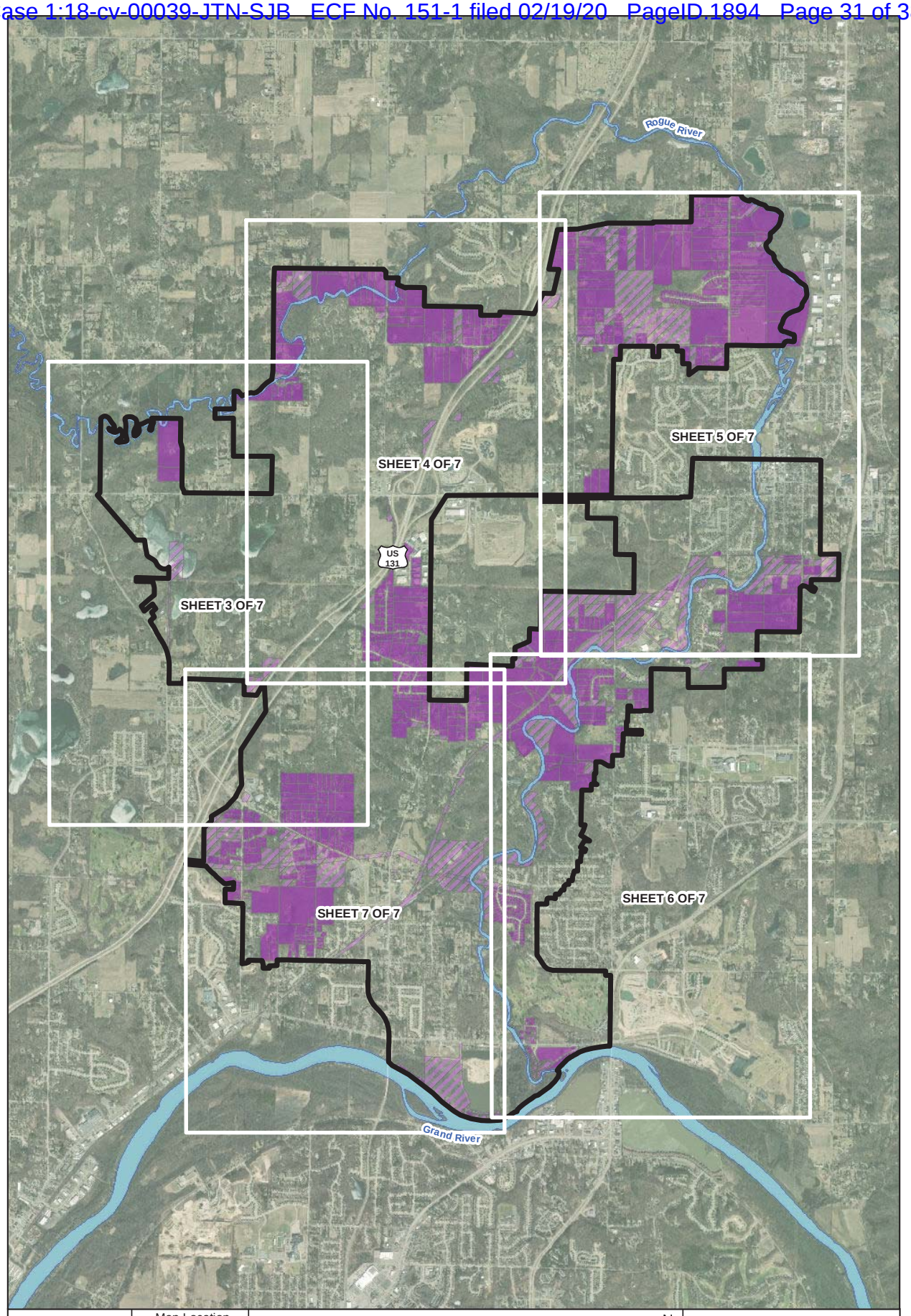

EGLE

AECOM

Prepared:2/3/2020

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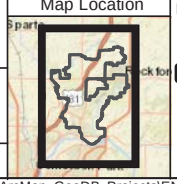

Legend

- Occupied Parcel within Filter Area
- Vacant Parcel within Filter Area
- North Kent Study Area

N

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APPENDIX D
MAP OF FILTER AREAS
SHEET 2 OF 7

KENT COUNTY, MI

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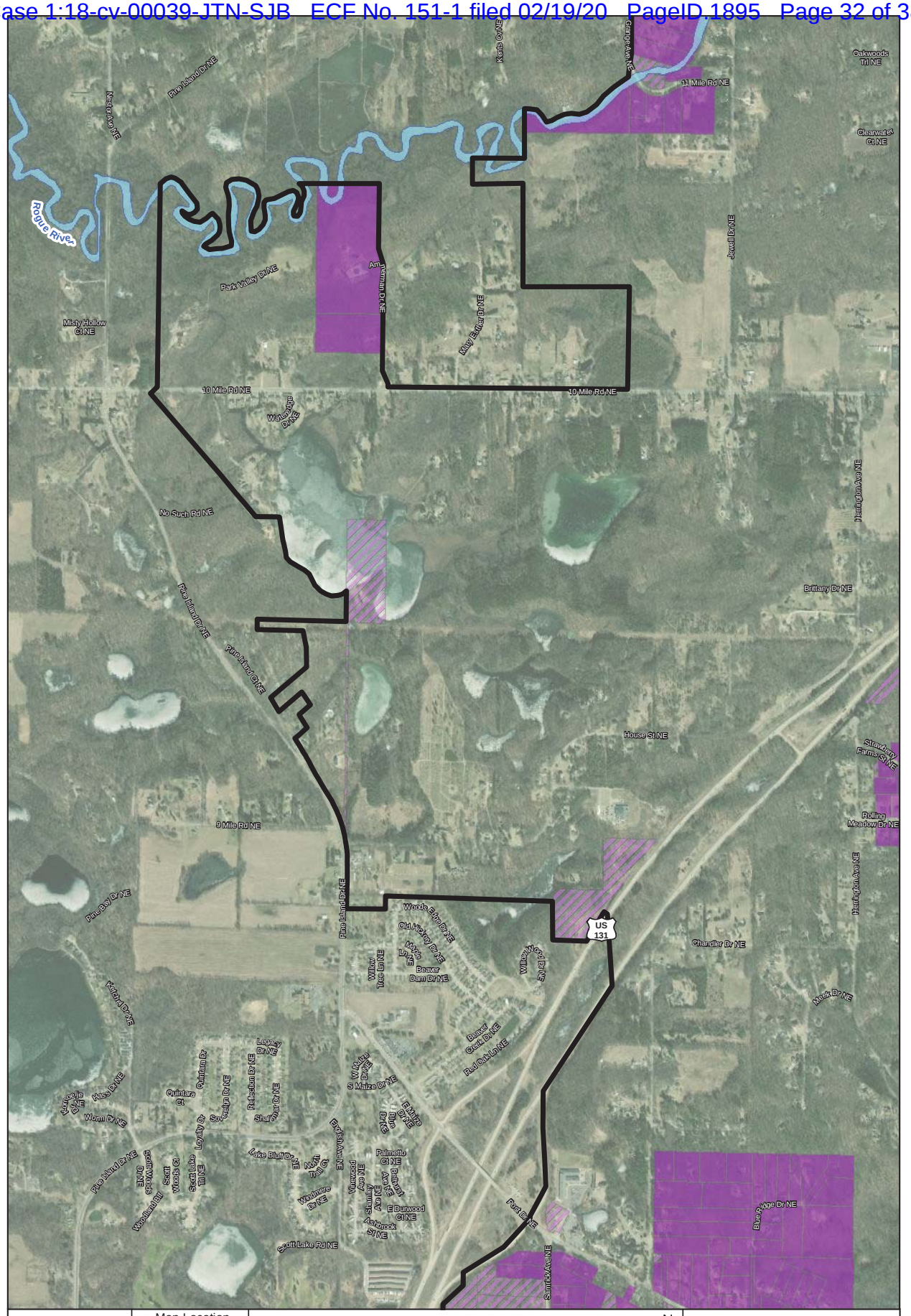

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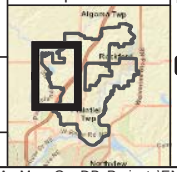

Legend

- Occupied Parcel within Filter Area
- Vacant Parcel within Filter Area
- North Kent Study Area

N

0 0.1 0.2 Miles

APPENDIX D
MAP OF FILTER AREAS
SHEET 3 OF 7

KENT COUNTY, MI

EGLE

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Prepared:2/3/2020

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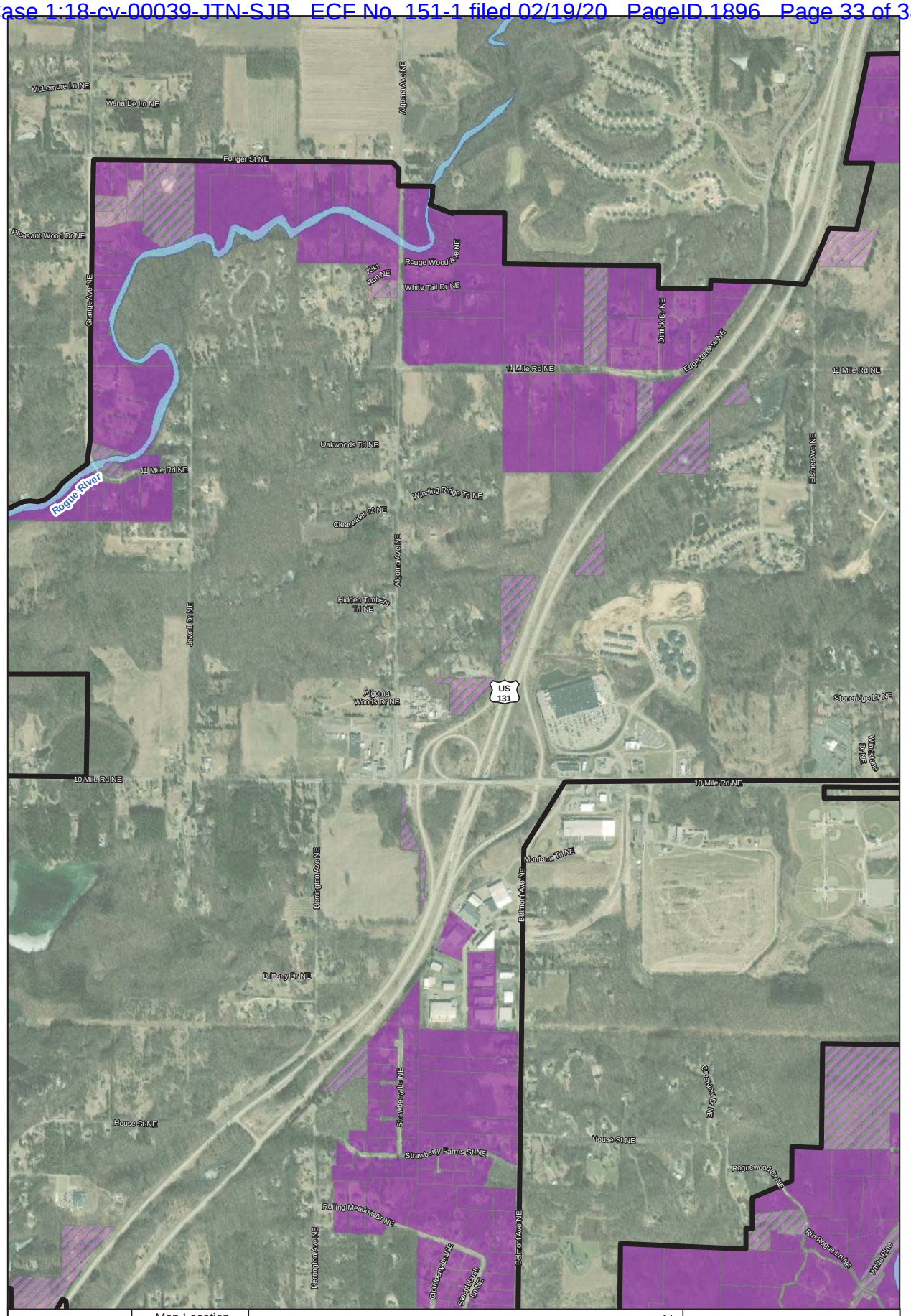

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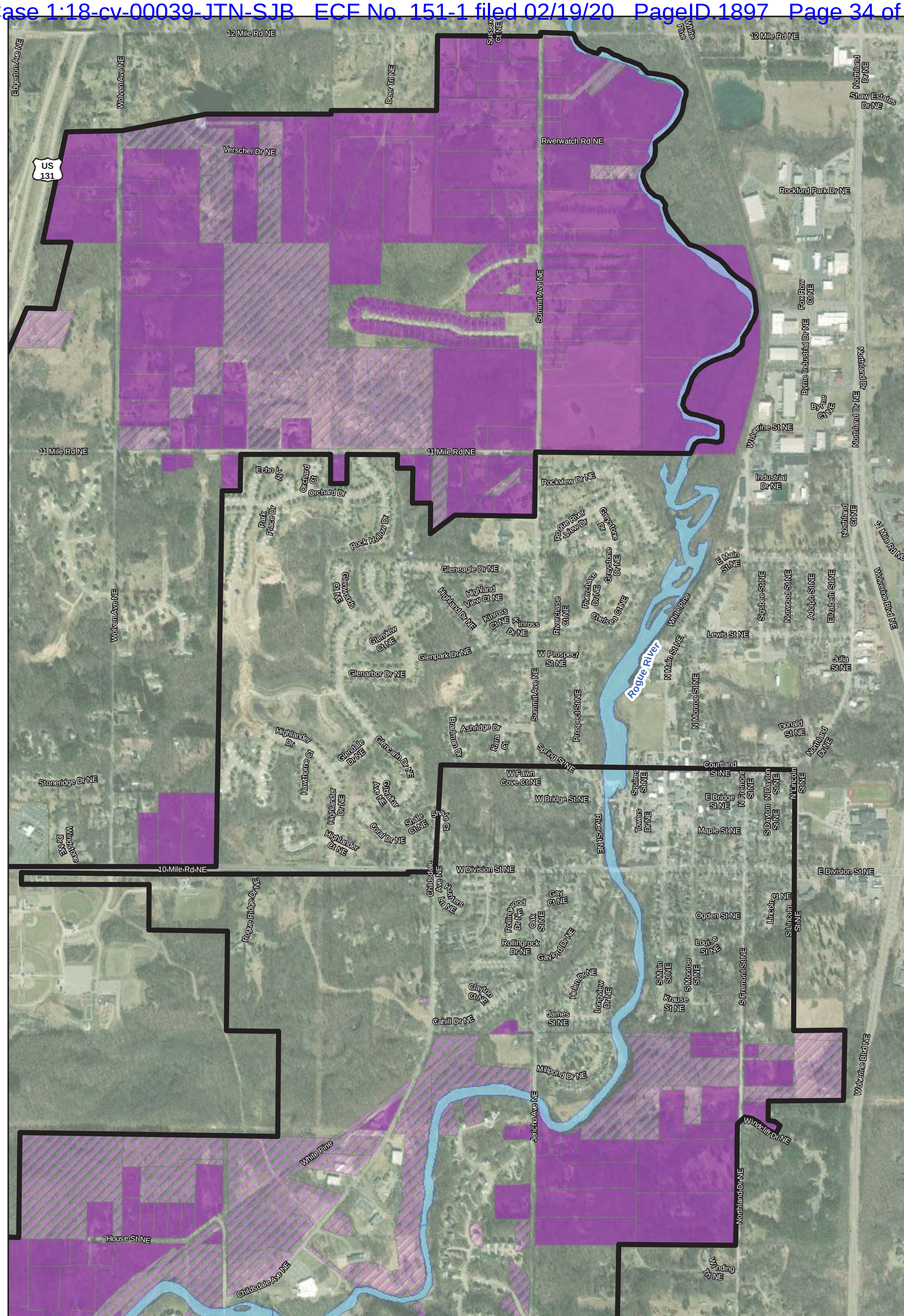

EGLE AECOM Prepared:2/3/2020	Map Location	**Legend** Occupied Parcel within Filter Area Vacant Parcel within Filter Area North Kent Study Area	N 0 0.1 0.2 Miles	APPENDIX D MAP OF FILTER AREAS SHEET 5 OF 7 KENT COUNTY, MI

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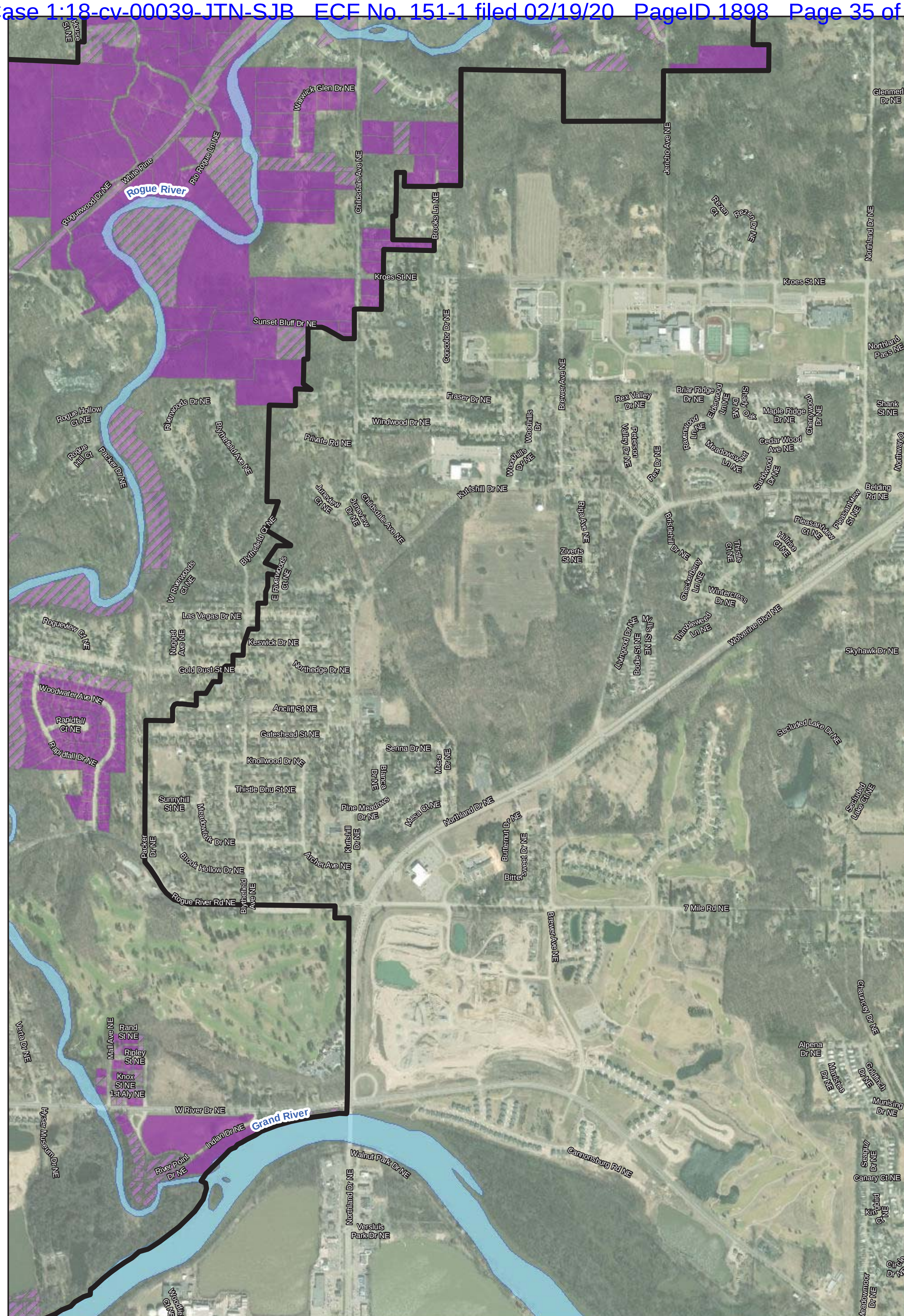

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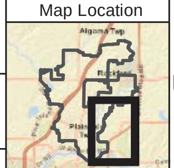

Legend
- Occupied Parcel within Filter Area
- Vacant Parcel within Filter Area
- North Kent Study Area

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0 0.1 0.2 Miles

APPENDIX D
MAP OF FILTER AREAS
SHEET 6 OF 7

KENT COUNTY, MI

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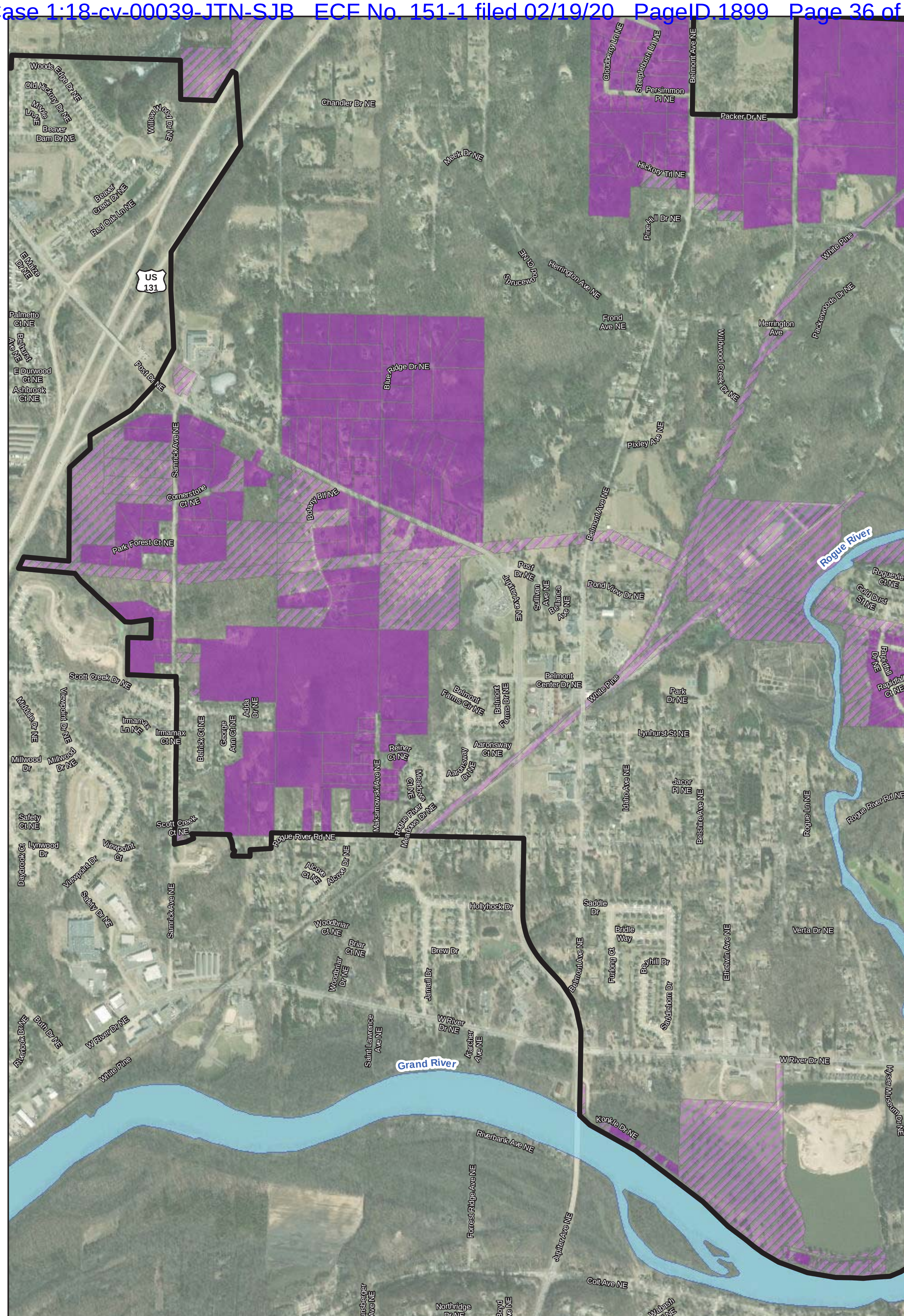

EGLE

AECOM

Prepared:2/3/2020

Map Location

Legend
- Occupied Parcel within Filter Area
- Vacant Parcel within Filter Area
- North Kent Study Area

N

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APPENDIX D
MAP OF FILTER AREAS
SHEET 7 OF 7

KENT COUNTY, MI

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Appendix I

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411005126043	1008 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126044	1022 10 MILE RD NE	COMSTOCK PARK	MI49321
410632300011	1031 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126006	1038 10 MILE RD NE	COMSTOCK PARK	MI49321
410632300009	1045 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126007	1052 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126008	1068 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126009	1084 10 MILE RD NE	COMSTOCK PARK	MI49321
410632300006	1095 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126047	1126 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126026	1140 10 MILE RD NE	COMSTOCK PARK	MI49321
410632300012	1155 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126062	1172 10 MILE RD NE	COMSTOCK PARK	MI49321
411005400043	1265 HOUSE ST NE	BELMONT	MI49306
411005400042	1271 HOUSE ST NE	BELMONT	MI49306
411008200040	1300 HOUSE ST NE	BELMONT	MI49306
410632400075	1307 10 MILE RD NE	COMSTOCK PARK	MI49321
411005200041	1310 10 MILE RD NE	COMSTOCK PARK	MI49321
411008200045	1310 HOUSE ST NE	BELMONT	MI49306
411005200001	1332 10 MILE RD NE	COMSTOCK PARK	MI49321
411005400037	1339 HOUSE ST NE	BELMONT	MI49306
411005200002	1344 10 MILE RD NE	COMSTOCK PARK	MI49321
411005400038	1359 HOUSE ST NE	BELMONT	MI49306
411008200036	1360 HOUSE ST NE	BELMONT	MI49306
411005400034	1379 HOUSE ST NE	BELMONT	MI49306
411005200027	1380 10 MILE RD NE	COMSTOCK PARK	MI49321
411008200049	1430 HOUSE ST NE	BELMONT	MI49306
411008200019	1440 HOUSE ST NE	BELMONT	MI49306
411005400045	1447 HOUSE ST NE	BELMONT	MI49306
411005200028	1456 10 MILE RD NE	COMSTOCK PARK	MI49321
411005200029	1460 10 MILE RD NE	COMSTOCK PARK	MI49321
411008200011	1460 HOUSE ST NE	BELMONT	MI49306
411005400018	1475 HOUSE ST NE	BELMONT	MI49306
411008200012	1480 HOUSE ST NE	BELMONT	MI49306
411005400019	1495 HOUSE ST NE	BELMONT	MI49306
411005400024	1499 HOUSE ST NE	BELMONT	MI49306
411008200015	1500 HOUSE ST NE	BELMONT	MI49306
411005200034	1530 10 MILE RD NE	COMSTOCK PARK	MI49321
411005200024	1538 10 MILE RD NE	COMSTOCK PARK	MI49321
411005200025	1542 10 MILE RD NE	COMSTOCK PARK	MI49321

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411005200026	1546 10 MILE RD NE	COMSTOCK PARK	MI49321
411005200038	1550 10 MILE RD NE	COMSTOCK PARK	MI49321
411009100047	1572 HOUSE ST NE	BELMONT	MI49306
411009100041	1580 HOUSE ST NE	BELMONT	MI49306
411009100042	1584 HOUSE ST NE	BELMONT	MI49306
411005200039	1590 10 MILE RD NE	COMSTOCK PARK	MI49321
411005400025	1597 HOUSE ST NE	BELMONT	MI49306
411009100043	1600 HOUSE ST NE	BELMONT	MI49306
411005400008	1601 HOUSE ST NE	BELMONT	MI49306
411005200032	1602 10 MILE RD NE	COMSTOCK PARK	MI49321
411005400030	1617 HOUSE ST NE	BELMONT	MI49306
411005200042	1622 10 MILE RD NE	COMSTOCK PARK	MI49321
411005400031	1625 HOUSE ST NE	BELMONT	MI49306
411004300045	1640 HOUSE ST NE	BELMONT	MI49306
411004300047	1650 HOUSE ST NE	BELMONT	MI49306
411004300060	1654 HOUSE ST NE	BELMONT	MI49306
411005400011	1655 HOUSE ST NE	BELMONT	MI49306
411005200043	1656 10 MILE RD NE	COMSTOCK PARK	MI49321
411004300049	1664 HOUSE ST NE	BELMONT	MI49306
411004101002	1672 10 MILE RD NE	COMSTOCK PARK	MI49321
411004300050	1676 HOUSE ST NE	BELMONT	MI49306
411004300051	1682 HOUSE ST NE	BELMONT	MI49306
411004300052	1698 HOUSE ST NE	BELMONT	MI49306
411004101003	1700 10 MILE RD NE	COMSTOCK PARK	MI49321
411004300022	1711 HOUSE ST NE	BELMONT	MI49306
411004104002	1736 10 MILE RD NE	COMSTOCK PARK	MI49321
411004105002	1740 10 MILE RD NE	COMSTOCK PARK	MI49321
411004102001	1744 10 MILE RD NE	COMSTOCK PARK	MI49321
411004300023	1767 HOUSE ST NE	BELMONT	MI49306
411004300057	1778 HOUSE ST NE	BELMONT	MI49306
411004300010	1781 HOUSE ST NE	BELMONT	MI49306
411004300054	1786 HOUSE ST NE	BELMONT	MI49306
411004103002	1820 10 MILE RD NE	COMSTOCK PARK	MI49321
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411004300036	1850 HOUSE ST NE	BELMONT	MI49306
411004126005	1866 10 MILE RD NE	COMSTOCK PARK	MI49321
411004126007	1884 10 MILE RD NE	COMSTOCK PARK	MI49321
410633100082	1899 OFFROAD DR NE	COMSTOCK PARK	MI49321
411004126002	1918 10 MILE RD NE	COMSTOCK PARK	MI49321
411004126003	1940 10 MILE RD NE	COMSTOCK PARK	MI49321

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410633100083	1969 OFFROAD DR NE	COMSTOCK PARK	MI49321
410633300007	1981 10 MILE RD NE	COMSTOCK PARK	MI49321
410628300011	1981 11 MILE RD NE	ROCKFORD	MI49341
410633100081	1990 OFFROAD DR NE	COMSTOCK PARK	MI49321
411009401007	2001 MEEK DR NE	BELMONT	MI49306
410633402001	2010 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
410628451002	2011 11 MILE RD NE	ROCKFORD	MI49341
411009251019	2020 KORBEN WOODS CT NE	BELMONT	MI49306
411004127010	2020 SQUIREWOOD CT NE	COMSTOCK PARK	MI49321
411004127013	2021 SQUIREWOOD CT NE	COMSTOCK PARK	MI49321
411009401006	2023 MEEK DR NE	BELMONT	MI49306
411009401010	2024 MEEK DR NE	BELMONT	MI49306
410628451003	2029 11 MILE RD NE	ROCKFORD	MI49341
410633451004	2031 10 MILE RD NE	COMSTOCK PARK	MI49321
411004128001	2034 10 MILE RD NE	COMSTOCK PARK	MI49321
411009401014	2036 MEEK DR NE	BELMONT	MI49306
411009251018	2039 KORBEN WOODS CT NE	BELMONT	MI49306
411009401005	2039 MEEK DR NE	BELMONT	MI49306
411009251020	2042 KORBEN WOODS CT NE	BELMONT	MI49306
411004127012	2045 SQUIREWOOD CT NE	COMSTOCK PARK	MI49321
410633201002	2050 11 MILE RD NE	ROCKFORD	MI49341
410633402002	2050 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
411004127011	2050 SQUIREWOOD CT NE	COMSTOCK PARK	MI49321
411009401001	2051 MEEK DR NE	BELMONT	MI49306
411009251017	2055 KORBEN WOODS CT NE	BELMONT	MI49306
411009401018	2060 MEEK DR NE	BELMONT	MI49306
411009251022	2066 MEEK DR NE	BELMONT	MI49306
410633402009	2069 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
411004200012	2070 10 MILE RD NE	COMSTOCK PARK	MI49321
411009251023	2072 MEEK DR NE	BELMONT	MI49306
411009251021	2075 KORBEN WOODS CT NE	BELMONT	MI49306
411009251016	2077 KORBEN WOODS CT NE	BELMONT	MI49306

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411004200031	2080 10 MILE RD NE	COMSTOCK PARK	MI49321
411009251024	2086 MEEK DR NE	BELMONT	MI49306
410633402003	2088 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
410633402008	2091 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
411004200058	2100 BRENT DR NE	BELMONT	MI49306
411009251025	2100 MEEK DR NE	BELMONT	MI49306
411004200032	2109 BRITTANY DR NE	BELMONT	MI49306
410633402004	2110 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
411004401001	2115 HOUSE ST NE	BELMONT	MI49306
410633402007	2119 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
411009251003	2141 MEEK DR NE	BELMONT	MI49306
410633402005	2144 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
411004200033	2145 BRITTANY DR NE	BELMONT	MI49306
410633402006	2145 GREEN TIMBERS DR NE	COMSTOCK PARK	MI49321
411009251004	2147 MEEK DR NE	BELMONT	MI49306
411004200059	2150 BRENT DR NE	BELMONT	MI49306
411009251005	2153 MEEK DR NE	BELMONT	MI49306
411009251027	2154 MEEK DR NE	BELMONT	MI49306
411004200034	2179 BRITTANY DR NE	BELMONT	MI49306
411004200015	2186 10 MILE RD NE	BELMONT	MI49306
410633201004	2190 11 MILE RD NE	ROCKFORD	MI49341
411004200056	2200 BRENT DR NE	BELMONT	MI49306
410633226001	2202 11 MILE RD NE	ROCKFORD	MI49341
410633451009	2203 10 MILE RD NE	COMSTOCK PARK	MI49321
410628478003	2211 11 MILE RD NE	ROCKFORD	MI49341
410633277007	2211 CLEAR WATER CT NE	ROCKFORD	MI49341
410628478004	2215 11 MILE RD NE	ROCKFORD	MI49341
410633226002	2222 11 MILE RD NE	ROCKFORD	MI49341
411009428001	2241 SPRUCEWOOD CT NE	BELMONT	MI49306
410633277006	2245 CLEAR WATER CT NE	ROCKFORD	MI49341
410633426017	2250 HIDDEN TIMBERS TRL NE	ROCKFORD	MI49341
411009428002	2250 SPRUCEWOOD CT NE	BELMONT	MI49306
410628478002	2251 11 MILE RD NE	ROCKFORD	MI49341
410633226003	2260 11 MILE RD NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
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411009428004	2265 SPRUCEWOOD CT NE	BELMONT	MI49306
410633277005	2279 CLEAR WATER CT NE	ROCKFORD	MI49341
410633426012	2280 ALGOMA WOODS DR NE	ROCKFORD	MI49341
410633426009	2281 ALGOMA WOODS DR NE	ROCKFORD	MI49341
410633226004	2286 11 MILE RD NE	ROCKFORD	MI49341
410633426005	2290 HIDDEN TIMBERS TRL NE	ROCKFORD	MI49341
411016276020	2295 POST DR NE	BELMONT	MI49306
410633426013	2300 ALGOMA WOODS DR NE	ROCKFORD	MI49341
411021226037	2300 ROGUE RIVER RD NE	BELMONT	MI49306
410633277004	2301 CLEAR WATER CT NE	ROCKFORD	MI49341
411016276019	2309 POST DR NE	BELMONT	MI49306
410633226019	2316 11 MILE RD NE	ROCKFORD	MI49341
411016476021	2317 ROGUE RIVER RD NE	BELMONT	MI49306
410633426010	2323 ALGOMA WOODS DR NE	ROCKFORD	MI49341
410633277003	2323 CLEAR WATER CT NE	ROCKFORD	MI49341
410633426014	2324 ALGOMA WOODS DR NE	ROCKFORD	MI49341
410633426006	2330 HIDDEN TIMBERS TRL NE	ROCKFORD	MI49341
411021226034	2332 ROGUE RIVER RD NE	BELMONT	MI49306
410633426023	2333 HIDDEN TIMBERS TRL NE	ROCKFORD	MI49341
410633476011	2335 10 MILE RD NE	ROCKFORD	MI49341
411021226035	2340 ROGUE RIVER RD NE	BELMONT	MI49306
411016276004	2345 POST DR NE	BELMONT	MI49306
411016476041	2345 ROGUE RIVER RD NE	BELMONT	MI49306
410633426015	2346 ALGOMA WOODS DR NE	ROCKFORD	MI49341
411016278004	2350 SAVOY ST NE	BELMONT	MI49306
410633277002	2355 CLEAR WATER CT NE	ROCKFORD	MI49341
410633277008	2364 CLEAR WATER CT NE	ROCKFORD	MI49341
411021226032	2364 ROGUE RIVER RD NE	BELMONT	MI49306
411016476052	2367 ROGUE RIVER RD NE	BELMONT	MI49306
410633426007	2370 HIDDEN TIMBERS TRL NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411016279003	2374 POST DR NE	BELMONT	MI49306
411016476026	2377 ROGUE RIVER RD NE	BELMONT	MI49306
410633426003	2385 HIDDEN TIMBERS TRL NE	ROCKFORD	MI49341
410633277001	2387 CLEAR WATER CT NE	ROCKFORD	MI49341
411010351001	2416 FROND ST NE	BELMONT	MI49306
411010351002	2440 FROND ST NE	BELMONT	MI49306
410634152001	2441 WINDING RIDGE TRL NE	ROCKFORD	MI49341
410634152013	2456 WINDING RIDGE TRL NE	ROCKFORD	MI49341
411015351044	2461 ROGUE RIVER RD NE	BELMONT	MI49306
411010351003	2466 FROND ST NE	BELMONT	MI49306
411022101033	2466 ROGUE RIVER RD NE	BELMONT	MI49306
410634152002	2469 WINDING RIDGE TRL NE	ROCKFORD	MI49341
410634152012	2478 WINDING RIDGE TRL NE	ROCKFORD	MI49341
411022101024	2480 ROGUE RIVER RD NE	BELMONT	MI49306
410634152011	2500 WINDING RIDGE TRL NE	ROCKFORD	MI49341
410634152003	2511 WINDING RIDGE TRL NE	ROCKFORD	MI49341
411015352045	2512 LYNHURST ST NE	BELMONT	MI49306
410634152010	2540 WINDING RIDGE TRL NE	ROCKFORD	MI49341
410634152004	2543 WINDING RIDGE TRL NE	ROCKFORD	MI49341
410634101004	2550 11 MILE RD NE	ROCKFORD	MI49341
411015302009	2551 LYNHURST ST NE	BELMONT	MI49306
411010303007	2555 VAN DAM DR NE	BELMONT	MI49306
411010303002	2559 VAN DAM DR NE	BELMONT	MI49306
411022101039	2560 ROGUE RIVER RD NE	BELMONT	MI49306
410634152005	2561 WINDING RIDGE TRL NE	ROCKFORD	MI49341
410634152009	2564 WINDING RIDGE TRL NE	ROCKFORD	MI49341
411010353002	2566 VAN DAM DR NE	BELMONT	MI49306
410634152008	2580 WINDING RIDGE TRL NE	ROCKFORD	MI49341
410634152006	2585 WINDING RIDGE TRL NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411015302012	2595 LYNHURST ST NE	BELMONT	MI49306
410634152007	2600 WINDING RIDGE TRL NE	ROCKFORD	MI49341
411010326002	2615 VAN DAM DR NE	BELMONT	MI49306
411022126036	2626 ROGUE RIVER RD NE	BELMONT	MI49306
411010376003	2630 VAN DAM DR NE	BELMONT	MI49306
411010326003	2635 VAN DAM DR NE	BELMONT	MI49306
411010326021	2655 VAN DAM DR NE	BELMONT	MI49306
411010326014	2661 VAN DAM DR NE	BELMONT	MI49306
411010326015	2671 VAN DAM DR NE	BELMONT	MI49306
411010376009	2700 VAN DAM DR NE	BELMONT	MI49306
411010376011	2720 VAN DAM DR NE	BELMONT	MI49306
411010326035	2727 VAN DAM DR NE	BELMONT	MI49306
411010376012	2730 VAN DAM DR NE	BELMONT	MI49306
411015376069	2739 ROGUE RIVER RD NE	BELMONT	MI49306
411010326034	2741 VAN DAM DR NE	BELMONT	MI49306
411010376025	2750 VAN DAM DR NE	BELMONT	MI49306
411010326024	2755 VAN DAM DR NE	BELMONT	MI49306
411022127069	2760 ROGUE RIVER RD NE	BELMONT	MI49306
411010401006	2760 VAN DAM DR NE	BELMONT	MI49306
411010326018	2775 VAN DAM DR NE	BELMONT	MI49306
411015376067	2787 ROGUE RIVER RD NE	BELMONT	MI49306
411015376045	2789 ROGUE RIVER RD NE	BELMONT	MI49306
411015376044	2791 ROGUE RIVER RD NE	BELMONT	MI49306
411010376015	2800 VAN DAM DR NE	BELMONT	MI49306
411015376054	2801 ROGUE RIVER RD NE	BELMONT	MI49306
411015376047	2803 ROGUE RIVER RD NE	BELMONT	MI49306
411015376032	2805 ROGUE RIVER RD NE	BELMONT	MI49306
411015376050	2807 ROGUE RIVER RD NE	BELMONT	MI49306
411015376051	2809 ROGUE RIVER RD NE	BELMONT	MI49306
411015376029	2811 ROGUE RIVER RD NE	BELMONT	MI49306
411010327001	2920 VAN DAM DR NE	BELMONT	MI49306
411015230025	2955 ROGUE BAYOU CT NE	BELMONT	MI49306
410634227064	2960 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227063	2963 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227065	2972 ROYAL HANNAH DR NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410634227062	2975 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227033	2982 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227034	2983 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227066	2988 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227032	2988 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227061	2989 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227035	2989 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227031	2990 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227036	2997 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227067	3000 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227030	3000 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227060	3003 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227029	3012 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227068	3016 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227059	3019 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227028	3024 SIR CHARLES DR NE	ROCKFORD	MI49341
411010476009	3027 ROGUE HILL CT NE	BELMONT	MI49306
411010476026	3030 ROGUE HILL CT NE	BELMONT	MI49306
410634227069	3030 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227058	3035 ROYAL HANNAH DR NE	ROCKFORD	MI49341
411010476020	3036 ROGUE HOLLOW CT NE	BELMONT	MI49306
410634227027	3038 SIR CHARLES DR NE	ROCKFORD	MI49341
410634227070	3042 ROYAL HANNAH DR NE	ROCKFORD	MI49341
411010476025	3043 ROGUE HILL CT NE	BELMONT	MI49306
411010476027	3046 ROGUE HILL CT NE	BELMONT	MI49306
411010476028	3047 ROGUE HOLLOW CT NE	BELMONT	MI49306
410634227057	3047 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227026	3050 SIR CHARLES DR NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410634227071	3056 ROYAL HANNAH DR NE	ROCKFORD	MI49341
411010476007	3057 ROGUE HILL CT NE	BELMONT	MI49306
410634226002	3060 11 MILE RD NE	ROCKFORD	MI49341
410634227025	3062 SIR CHARLES DR NE	ROCKFORD	MI49341
411010476012	3066 ROGUE HILL CT NE	BELMONT	MI49306
410634227056	3069 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227072	3070 ROYAL HANNAH DR NE	ROCKFORD	MI49341
411010476002	3071 ROGUE HOLLOW CT NE	BELMONT	MI49306
411010476006	3073 ROGUE HILL CT NE	BELMONT	MI49306
410634227055	3081 ROYAL HANNAH DR NE	ROCKFORD	MI49341
411010476013	3086 ROGUE HILL CT NE	BELMONT	MI49306
411015428028	3093 ROGUE RIVER RD NE	BELMONT	MI49306
410634227054	3099 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634226003	3100 11 MILE RD NE	ROCKFORD	MI49341
410634227053	3115 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410634227052	3127 ROYAL HANNAH DR NE	ROCKFORD	MI49341
410627400046	3155 11 MILE RD NE	ROCKFORD	MI49341
411015429009	3191 ROGUE RIVER RD NE	BELMONT	MI49306
411002100008	3210 10 MILE RD NE	ROCKFORD	MI49341
410635351007	3221 STONERIDGE DR NE	ROCKFORD	MI49341
410635301015	3232 BENT TREE RIDGE DR NE	ROCKFORD	MI49341
410635351008	3232 STONERIDGE DR NE	ROCKFORD	MI49341
410635351006	3233 STONERIDGE DR NE	ROCKFORD	MI49341
410635301006	3235 BENT TREE RIDGE DR NE	ROCKFORD	MI49341
410635100020	3246 11 MILE RD NE	ROCKFORD	MI49341
410635120009	3254 HOPEWELL CT NE	ROCKFORD	MI49341
410635351009	3256 STONERIDGE DR NE	ROCKFORD	MI49341
410635120010	3257 HOPEWELL CT NE	ROCKFORD	MI49341
410635301016	3260 BENT TREE RIDGE DR NE	ROCKFORD	MI49341
410635351005	3261 STONERIDGE DR NE	ROCKFORD	MI49341

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PPN	Address	City	Zip Code
411014301009	3265 ANCLIFF ST NE	ROCKFORD	MI49341
410635120008	3266 HOPEWELL CT NE	ROCKFORD	MI49341
410635120011	3269 HOPEWELL CT NE	ROCKFORD	MI49341
410635301007	3275 BENT TREE RIDGE DR NE	ROCKFORD	MI49341
410635120007	3278 HOPEWELL CT NE	ROCKFORD	MI49341
410635120012	3281 HOPEWELL CT NE	ROCKFORD	MI49341
411014301010	3283 ANCLIFF ST NE	ROCKFORD	MI49341
410635351010	3284 STONERIDGE DR NE	ROCKFORD	MI49341
410635351004	3287 STONERIDGE DR NE	ROCKFORD	MI49341
410635301011	3290 BENT TREE RIDGE DR NE	ROCKFORD	MI49341
410635100007	3310 11 MILE RD NE	ROCKFORD	MI49341
410635351011	3310 STONERIDGE DR NE	ROCKFORD	MI49341
410635351003	3313 STONERIDGE DR NE	ROCKFORD	MI49341
410635301008	3325 BENT TREE RIDGE DR NE	ROCKFORD	MI49341
410635301012	3330 BENT TREE RIDGE DR NE	ROCKFORD	MI49341
410635351012	3340 STONERIDGE DR NE	ROCKFORD	MI49341
410635351002	3343 STONERIDGE DR NE	ROCKFORD	MI49341
410635120019	3349 THORNTONS CT NE	ROCKFORD	MI49341
410635120022	3352 THORNTONS CT NE	ROCKFORD	MI49341
410635120021	3364 THORNTONS CT NE	ROCKFORD	MI49341
410635120020	3367 THORNTONS CT NE	ROCKFORD	MI49341
410635351013	3380 STONERIDGE DR NE	ROCKFORD	MI49341
410635351001	3383 STONERIDGE DR NE	ROCKFORD	MI49341
410626300027	3385 11 MILE RD NE	ROCKFORD	MI49341
410635100041	3426 11 MILE RD NE	ROCKFORD	MI49341
410635326016	3455 PRESTONWOOD DR NE	ROCKFORD	MI49341
410635326017	3470 PRESTONWOOD DR NE	ROCKFORD	MI49341
411023100007	3558 ROGUE RIVER RD NE	BELMONT	MI49306
411002200033	3716 10 MILE RD NE	ROCKFORD	MI49341
411002200034	3838 10 MILE RD NE	ROCKFORD	MI49341
411022276006	5646 VERTA DR NE	BELMONT	MI49306
411022276005	5666 VERTA DR NE	BELMONT	MI49306
411022251029	5681 VERTA DR NE	BELMONT	MI49306
411022127019	5684 ETHELWIN AVE NE	BELMONT	MI49306
411022251036	5709 VERTA DR NE	BELMONT	MI49306

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PPN	Address	City	Zip Code
411022201014	5766 VERTA DR NE	BELMONT	MI49306
411022126037	5795 ETHELWIN AVE NE	BELMONT	MI49306
411023100039	5801 NORTHLAND DR NE	BELMONT	MI49306
411021226039	5815 BELMONT AVE NE	BELMONT	MI49306
411022127054	5816 ETHELWIN AVE NE	BELMONT	MI49306
411022201011	5820 VERTA DR NE	BELMONT	MI49306
411022151024	5860 BELMONT AVE NE	BELMONT	MI49306
411022127038	5864 ETHELWIN AVE NE	BELMONT	MI49306
411022127037	5874 ETHELWIN AVE NE	BELMONT	MI49306
411022251001	5875 VERTA DR NE	BELMONT	MI49306
411021226041	5891 BELMONT AVE NE	BELMONT	MI49306
411022127008	5894 ETHELWIN AVE NE	BELMONT	MI49306
411022126033	5895 ETHELWIN AVE NE	BELMONT	MI49306
411022101020	5920 BELMONT AVE NE	BELMONT	MI49306
411022127007	5924 ETHELWIN AVE NE	BELMONT	MI49306
411022201026	5960 VERTA DR NE	BELMONT	MI49306
411015376017	6072 BELSHIRE AVE NE	BELMONT	MI49306
411015351036	6107 IDAHO AVE NE	BELMONT	MI49306
411015351035	6121 IDAHO AVE NE	BELMONT	MI49306
411015352042	6126 IDAHO AVE NE	BELMONT	MI49306
411015451025	6132 ROGUE LN NE	BELMONT	MI49306
411015451024	6148 ROGUE LN NE	BELMONT	MI49306
411015451005	6170 ROGUE LN NE	BELMONT	MI49306
411015352017	6175 BELSHIRE AVE NE	BELMONT	MI49306
411015451030	6194 ROGUE LN NE	BELMONT	MI49306
411022126024	6211 WEST RIVER DR NE	BELMONT	MI49306
411015376034	6230 BELSHIRE AVE NE	BELMONT	MI49306
411022127062	6267 WEST RIVER DR NE	BELMONT	MI49306
411015302015	6300 BELSHIRE AVE NE	BELMONT	MI49306
411022401004	6334 WEST RIVER DR NE	BELMONT	MI49306
411022251018	6367 WEST RIVER DR NE	BELMONT	MI49306
411016301028	6390 SAMRICK AVE NE	BELMONT	MI49306
411022276009	6419 WEST RIVER DR NE	BELMONT	MI49306
411016279011	6433 SULLIVAN AVE NE	BELMONT	MI49306
411015152001	6480 BELMONT AVE NE	BELMONT	MI49306
411014153010	6502 NUGGET AVE NE	BELMONT	MI49306
411015151018	6510 BELMONT AVE NE	BELMONT	MI49306
411014152008	6515 NUGGET AVE NE	BELMONT	MI49306
411016276009	6517 BELMONT AVE NE	BELMONT	MI49306
411015151017	6530 BELMONT AVE NE	BELMONT	MI49306

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PPN	Address	City	Zip Code
411016276022	6531 BELMONT AVE NE	BELMONT	MI49306
411014152007	6531 NUGGET AVE NE	BELMONT	MI49306
411015151024	6550 BELMONT AVE NE	BELMONT	MI49306
411016276011	6561 BELMONT AVE NE	BELMONT	MI49306
411015151023	6562 BELMONT AVE NE	BELMONT	MI49306
411015151012	6566 BELMONT AVE NE	BELMONT	MI49306
411023100040	6573 WEST RIVER DR NE	BELMONT	MI49306
411023100028	6581 WEST RIVER DR NE	BELMONT	MI49306
411023100015	6591 WEST RIVER DR NE	BELMONT	MI49306
411015151019	6594 BELMONT AVE NE	BELMONT	MI49306
411023100029	6601 WEST RIVER DR NE	BELMONT	MI49306
411015201026	6605 PACKER DR NE	BELMONT	MI49306
411015120002	6612 BELMONT AVE NE	BELMONT	MI49306
411023100035	6617 WEST RIVER DR NE	BELMONT	MI49306
411023100036	6621 WEST RIVER DR NE	BELMONT	MI49306
411023100032	6655 WEST RIVER DR NE	BELMONT	MI49306
411015201024	6688 WILDWOOD CREEK DR NE	BELMONT	MI49306
411015120001	6694 BELMONT AVE NE	BELMONT	MI49306
411015201023	6724 WILDWOOD CREEK DR NE	BELMONT	MI49306
411015101002	6725 BELMONT AVE NE	BELMONT	MI49306
411015102004	6751 PIXLEY AVE NE	BELMONT	MI49306
411015201011	6760 PACKER DR NE	BELMONT	MI49306
411015201013	6767 PACKER DR NE	BELMONT	MI49306
411015201014	6769 PACKER DR NE	BELMONT	MI49306
411015201012	6773 PACKER DR NE	BELMONT	MI49306
411015201003	6779 PACKER DR NE	BELMONT	MI49306
411015201010	6780 PACKER DR NE	BELMONT	MI49306
411015126006	6780 PIXLEY AVE NE	BELMONT	MI49306
411015201009	6781 PACKER DR NE	BELMONT	MI49306
411015102003	6790 BELMONT AVE NE	BELMONT	MI49306
411015201017	6790 WILDWOOD CREEK DR NE	BELMONT	MI49306
411015101001	6795 BELMONT AVE NE	BELMONT	MI49306
411010376019	6800 WILDWOOD CREEK DR NE	BELMONT	MI49306
411016226002	6801 BELMONT AVE NE	BELMONT	MI49306
411010479001	6802 PACKER DR NE	BELMONT	MI49306
411010476014	6803 PACKER DR NE	BELMONT	MI49306
411009476001	6813 BELMONT AVE NE	BELMONT	MI49306

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PPN	Address	City	Zip Code
411010376024	6814 WILDWOOD CREEK DR NE	BELMONT	MI49306
411010376021	6815 WILDWOOD CREEK DR NE	BELMONT	MI49306
411010352010	6817 PIXLEY AVE NE	BELMONT	MI49306
411010352013	6818 BELMONT AVE NE	BELMONT	MI49306
411010353014	6818 PIXLEY AVE NE	BELMONT	MI49306
411010352009	6821 PIXLEY AVE NE	BELMONT	MI49306
411010352012	6824 BELMONT AVE NE	BELMONT	MI49306
411010376022	6826 WILDWOOD CREEK DR NE	BELMONT	MI49306
411010352007	6830 BELMONT AVE NE	BELMONT	MI49306
411010377005	6833 WILDWOOD CREEK DR NE	BELMONT	MI49306
411010351010	6835 BELMONT AVE NE	BELMONT	MI49306
411015201008	6839 PACKER DR NE	BELMONT	MI49306
411010377004	6840 WILDWOOD CREEK DR NE	BELMONT	MI49306
411015201004	6841 PACKER DR NE	BELMONT	MI49306
411015201005	6843 PACKER DR NE	BELMONT	MI49306
411015201006	6845 PACKER DR NE	BELMONT	MI49306
411015201019	6847 PACKER DR NE	BELMONT	MI49306
411010353018	6848 PIXLEY AVE NE	BELMONT	MI49306
411015201020	6849 PACKER DR NE	BELMONT	MI49306
411010352006	6858 BELMONT AVE NE	BELMONT	MI49306
411010353017	6858 PIXLEY AVE NE	BELMONT	MI49306
411010351009	6859 BELMONT AVE NE	BELMONT	MI49306
411010377006	6859 WILDWOOD CREEK DR NE	BELMONT	MI49306
411010352005	6868 BELMONT AVE NE	BELMONT	MI49306
411010377003	6868 WILDWOOD CREEK DR NE	BELMONT	MI49306
411010353016	6872 PIXLEY AVE NE	BELMONT	MI49306
411010476005	6875 PACKER DR NE	BELMONT	MI49306
411010352014	6881 PIXLEY AVE NE	BELMONT	MI49306
411010377002	6884 WILDWOOD CREEK DR NE	BELMONT	MI49306
411010351008	6885 BELMONT AVE NE	BELMONT	MI49306
411010353015	6890 PIXLEY AVE NE	BELMONT	MI49306
411010476004	6891 PACKER DR NE	BELMONT	MI49306

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411010377001	6900 WILDWOOD CREEK DR NE	BELMONT	MI49306
411010476022	6907 PACKER DR NE	BELMONT	MI49306
411010351007	6911 BELMONT AVE NE	BELMONT	MI49306
411010353004	6918 PIXLEY AVE NE	BELMONT	MI49306
411010353003	6932 PIXLEY AVE NE	BELMONT	MI49306
411010351006	6935 BELMONT AVE NE	BELMONT	MI49306
411010353020	6950 PIXLEY AVE NE	BELMONT	MI49306
411010351005	6959 BELMONT AVE NE	BELMONT	MI49306
411010351004	6975 HERRINGTON AVE NE	BELMONT	MI49306
411010301017	6990 HERRINGTON AVE NE	BELMONT	MI49306
411010353019	6990 PIXLEY AVE NE	BELMONT	MI49306
411010301022	6997 HERRINGTON AVE NE	BELMONT	MI49306
411010426012	7000 PACKER DR NE	BELMONT	MI49306
411010301028	7019 HERRINGTON AVE NE	BELMONT	MI49306
411009429006	7029 HERRINGTON AVE NE	BELMONT	MI49306
411010301026	7034 HERRINGTON AVE NE	BELMONT	MI49306
411010426019	7035 PACKER DR NE	BELMONT	MI49306
411009340001	7042 CHANDLER DR NE	BELMONT	MI49306
411010301015	7045 PINE HILL DR NE	BELMONT	MI49306
411009429003	7049 HERRINGTON AVE NE	BELMONT	MI49306
411010303006	7050 BELMONT AVE NE	BELMONT	MI49306
411010302012	7060 PINE HILL DR NE	BELMONT	MI49306
411010301014	7061 PINE HILL DR NE	BELMONT	MI49306
411010303003	7064 BELMONT AVE NE	BELMONT	MI49306
411009301008	7071 CHANDLER DR NE	BELMONT	MI49306
411009301013	7077 CHANDLER DR NE	BELMONT	MI49306
411010326038	7077 EMERALD FOREST DR NE	BELMONT	MI49306
411009429002	7079 SPRUCEWOOD DR NE	BELMONT	MI49306
411009301002	7081 CHANDLER DR NE	BELMONT	MI49306
411009326010	7100 CHANDLER DR NE	BELMONT	MI49306
411010301012	7105 PINE HILL DR NE	BELMONT	MI49306
411010303008	7124 BELMONT AVE NE	BELMONT	MI49306

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411010301011	7125 PINE HILL DR NE	BELMONT	MI49306
411010302010	7126 PINE HILL DR NE	BELMONT	MI49306
411009301003	7129 CHANDLER DR NE	BELMONT	MI49306
411010302009	7143 BELMONT AVE NE	BELMONT	MI49306
411010301027	7143 PINE HILL DR NE	BELMONT	MI49306
411010326031	7144 BELMONT AVE NE	BELMONT	MI49306
411010302002	7144 PINE HILL DR NE	BELMONT	MI49306
411010426018	7145 PACKER DR NE	BELMONT	MI49306
411010451025	7147 PACKER DR NE	BELMONT	MI49306
411010451011	7149 PACKER DR NE	BELMONT	MI49306
411010426017	7150 ROGUEWOOD DR NE	BELMONT	MI49306
411010451013	7153 PACKER DR NE	BELMONT	MI49306
411009429001	7157 HERRINGTON AVE NE	BELMONT	MI49306
411010451014	7157 PACKER WOODS DR NE	BELMONT	MI49306
411010451015	7161 PACKER DR NE	BELMONT	MI49306
411010451016	7165 PACKER DR NE	BELMONT	MI49306
411009301001	7169 CHANDLER DR NE	BELMONT	MI49306
411010326016	7170 BELMONT AVE NE	BELMONT	MI49306
411010376023	7171 PACKER WOODS DR NE	BELMONT	MI49306
411010451017	7173 PACKER DR NE	BELMONT	MI49306
411010451029	7177 PACKER DR NE	BELMONT	MI49306
411010451010	7181 PACKER DR NE	BELMONT	MI49306
411009326009	7184 CHANDLER DR NE	BELMONT	MI49306
411010326027	7190 BELMONT AVE NE	BELMONT	MI49306
411009426001	7193 HERRINGTON AVE NE	BELMONT	MI49306
411009100010	7200 CHANDLER DR NE	BELMONT	MI49306
411010426020	7205 PACKER DR NE	BELMONT	MI49306
411010426011	7208 PACKER DR NE	BELMONT	MI49306
411010426021	7209 PACKER DR NE	BELMONT	MI49306
411009200047	7210 HERRINGTON AVE NE	BELMONT	MI49306
411010426010	7210 PACKER DR NE	BELMONT	MI49306
411009200013	7211 HERRINGTON AVE NE	BELMONT	MI49306
411010151025	7211 PINE HILL DR NE	BELMONT	MI49306
411010426005	7215 PACKER DR NE	BELMONT	MI49306
411010176021	7220 BELMONT AVE NE	BELMONT	MI49306

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411009200046	7220 HERRINGTON AVE NE	BELMONT	MI49306
411010302001	7220 PINE HILL DR NE	BELMONT	MI49306
411010451028	7223 PACKER DR NE	BELMONT	MI49306
411010451027	7225 PACKER DR NE	BELMONT	MI49306
411010426013	7228 PACKER DR NE	BELMONT	MI49306
411010451023	7229 PACKER DR NE	BELMONT	MI49306
411010151021	7235 PINE HILL DR NE	BELMONT	MI49306
411010200024	7244 PACKER DR NE	BELMONT	MI49306
411010401005	7245 PACKER DR NE	BELMONT	MI49306
411009100005	7249 CHANDLER DR NE	BELMONT	MI49306
411010200010	7250 PACKER DR NE	BELMONT	MI49306
411010200035	7256 PACKER DR NE	BELMONT	MI49306
411010401004	7259 PACKER DR NE	BELMONT	MI49306
411009251015	7299 TERRIE LYNN DR NE	BELMONT	MI49306
411009100035	7300 CHANDLER DR NE	BELMONT	MI49306
411009251006	7318 TERRIE LYNN DR NE	BELMONT	MI49306
411009200007	7320 HERRINGTON AVE NE	BELMONT	MI49306
411009100039	7325 CHANDLER DR NE	BELMONT	MI49306
411009251014	7325 TERRIE LYNN DR NE	BELMONT	MI49306
411009251007	7336 TERRIE LYNN DR NE	BELMONT	MI49306
411009251013	7339 TERRIE LYNN DR NE	BELMONT	MI49306
411009251012	7347 TERRIE LYNN DR NE	BELMONT	MI49306
411009251008	7354 TERRIE LYNN DR NE	BELMONT	MI49306
411009251011	7355 TERRIE LYNN DR NE	BELMONT	MI49306
411009100038	7367 CHANDLER DR NE	BELMONT	MI49306
411009100044	7370 CHANDLER DR NE	BELMONT	MI49306
411009251010	7371 TERRIE LYNN DR NE	BELMONT	MI49306
411009251029	7373 HERRINGTON AVE NE	BELMONT	MI49306
411011252001	7378 CHILDSDALE AVE NE	ROCKFORD	MI49341
411009200036	7400 HERRINGTON AVE NE	BELMONT	MI49306
411009100011	7401 CHANDLER DR NE	BELMONT	MI49306
411009100045	7410 CHANDLER DR NE	BELMONT	MI49306
411009100015	7415 CHANDLER DR NE	BELMONT	MI49306
411009200040	7415 HERRINGTON AVE NE	BELMONT	MI49306
411009100026	7419 CHANDLER DR NE	BELMONT	MI49306
411009100046	7422 CHANDLER DR NE	BELMONT	MI49306

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411009100027	7425 CHANDLER DR NE	BELMONT	MI49306
411009200029	7426 HERRINGTON AVE NE	BELMONT	MI49306
411009100030	7428 CHANDLER DR NE	BELMONT	MI49306
411009200039	7435 HERRINGTON AVE NE	BELMONT	MI49306
411009200042	7444 HERRINGTON AVE NE	BELMONT	MI49306
411009200019	7445 HERRINGTON AVE NE	BELMONT	MI49306
411008200029	7450 PINE ISLAND DR NE	BELMONT	MI49306
411009200041	7460 HERRINGTON AVE NE	BELMONT	MI49306
411009100036	7480 CHANDLER DR NE	BELMONT	MI49306
411009100013	7485 CHANDLER DR NE	BELMONT	MI49306
411009200032	7500 HERRINGTON AVE NE	BELMONT	MI49306
411009200025	7501 CHANDLER DR NE	BELMONT	MI49306
411009200018	7509 HERRINGTON AVE NE	BELMONT	MI49306
411012101005	7515 JERICHO AVE NE	ROCKFORD	MI49341
411009200014	7531 HERRINGTON AVE NE	BELMONT	MI49306
411008200047	7546 PINE ISLAND DR NE	BELMONT	MI49306
411009200027	7550 HERRINGTON AVE NE	BELMONT	MI49306
411009200022	7555 CHANDLER DR NE	BELMONT	MI49306
411009200037	7557 CHANDLER DR NE	BELMONT	MI49306
411009200023	7565 CHANDLER DR NE	BELMONT	MI49306
411012101004	7575 JERICHO AVE NE	ROCKFORD	MI49341
411009200045	7580 HERRINGTON AVE NE	BELMONT	MI49306
411009200002	7585 HERRINGTON AVE NE	BELMONT	MI49306
411009200044	7600 HERRINGTON AVE NE	BELMONT	MI49306
411009200024	7601 HERRINGTON AVE NE	BELMONT	MI49306
411009200043	7608 HERRINGTON AVE NE	BELMONT	MI49306
411001300022	7626 JERICHO AVE NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411004477002	7630 HERRINGTON AVE NE	BELMONT	MI49306
411004451008	7641 HERRINGTON AVE NE	BELMONT	MI49306
411004451006	7649 HERRINGTON AVE NE	BELMONT	MI49306
411004451007	7651 HERRINGTON AVE NE	BELMONT	MI49306
411004451005	7661 HERRINGTON AVE NE	BELMONT	MI49306
411004451004	7667 HERRINGTON AVE NE	BELMONT	MI49306
411004476004	7680 HERRINGTON AVE NE	BELMONT	MI49306
411004476003	7712 HERRINGTON AVE NE	BELMONT	MI49306
411004476002	7720 HERRINGTON AVE NE	BELMONT	MI49306
411004451003	7737 HERRINGTON AVE NE	BELMONT	MI49306
411004451010	7747 HERRINGTON AVE NE	BELMONT	MI49306
411005300031	7754 PINE ISLAND CT NE	BELMONT	MI49306
411004451011	7757 HERRINGTON AVE NE	BELMONT	MI49306
411005300041	7758 PINE ISLAND CT NE	BELMONT	MI49306
411004451012	7777 HERRINGTON AVE NE	BELMONT	MI49306
411005300043	7800 PINE ISLAND CT NE	BELMONT	MI49306
411004426003	7830 HERRINGTON AVE NE	BELMONT	MI49306
411005300044	7850 PINE ISLAND CT NE	BELMONT	MI49306
411004300042	7853 IMPERIAL PINE DR NE	BELMONT	MI49306
411004451001	7863 HERRINGTON AVE NE	BELMONT	MI49306
411004426002	7864 HERRINGTON AVE NE	BELMONT	MI49306
411004300041	7879 IMPERIAL PINE DR NE	BELMONT	MI49306
411004300063	7885 IMPERIAL PINE DR NE	BELMONT	MI49306

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411004200048	8004 HERRINGTON AVE NE	BELMONT	MI49306
411004200051	8025 HERRINGTON AVE NE	BELMONT	MI49306
411001152002	8035 JERICHO AVE NE	ROCKFORD	MI49341
411003151009	8057 GRAPHIC DR NE	BELMONT	MI49306
411003151001	8069 BELMONT AVE NE	BELMONT	MI49306
411004200035	8081 HERRINGTON AVE NE	BELMONT	MI49306
411004200046	8092 HERRINGTON AVE NE	BELMONT	MI49306
411003151005	8093 GRAPHIC DR NE	BELMONT	MI49306
411004200045	8100 HERRINGTON AVE NE	BELMONT	MI49306
411004200021	8138 HERRINGTON AVE NE	BELMONT	MI49306
411003152004	8139 BELMONT AVE NE	BELMONT	MI49306
411004200049	8151 HERRINGTON AVE NE	BELMONT	MI49306
411005126053	8170 FRESKA LAKE DR NE	COMSTOCK PARK	MI49321
411005126058	8180 FRESKA LAKE DR NE	COMSTOCK PARK	MI49321
411004200044	8180 HERRINGTON AVE NE	BELMONT	MI49306
411004200030	8183 HERRINGTON AVE NE	BELMONT	MI49306
411005126057	8193 FRESKA LAKE DR NE	COMSTOCK PARK	MI49321
411005126051	8200 FRESKA LAKE DR NE	COMSTOCK PARK	MI49321
411003152002	8200 GRAPHIC DR NE	BELMONT	MI49306
411004127008	8200 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411004127007	8215 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411002200045	8220 ROGUE RIDGE NE	ROCKFORD	MI49341
411003102010	8221 GRAPHIC DR NE	BELMONT	MI49306
411002200041	8221 ROGUE RIDGE NE	ROCKFORD	MI49341
411002200049	8230 ROGUE RIDGE NE	ROCKFORD	MI49341
411005126056	8239 FRESKA LAKE DR NE	COMSTOCK PARK	MI49321
411004127006	8239 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411005126050	8244 FRESKA LAKE DR NE	COMSTOCK PARK	MI49321
411004127009	8250 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411004127005	8255 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411004200029	8265 HERRINGTON AVE NE	BELMONT	MI49306

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
411004200025	8273 HERRINGTON AVE NE	BELMONT	MI49306
411004200028	8281 HERRINGTON AVE NE	BELMONT	MI49306
411004127004	8281 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411002200048	8287 ROGUE RIDGE NE	ROCKFORD	MI49341
411002200039	8293 CHILDSDALE AVE NE	ROCKFORD	MI49341
411005126049	8300 FRESKA LAKE DR NE	COMSTOCK PARK	MI49321
411004200040	8301 HERRINGTON AVE NE	BELMONT	MI49306
411004127003	8303 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411005126014	8305 WATEREDGE DR NE	COMSTOCK PARK	MI49321
411005126038	8306 WATEREDGE DR NE	COMSTOCK PARK	MI49321
411002200013	8313 CHILDSDALE AVE NE	ROCKFORD	MI49341
411004200053	8315 HERRINGTON AVE NE	BELMONT	MI49306
411005126048	8321 FRESKA LAKE DR NE	COMSTOCK PARK	MI49321
411004200052	8327 HERRINGTON AVE NE	BELMONT	MI49306
411005126018	8330 WATEREDGE DR NE	COMSTOCK PARK	MI49321
411002200061	8331 ROGUE RIDGE NE	ROCKFORD	MI49341
411005126063	8331 WATEREDGE DR NE	COMSTOCK PARK	MI49321
411004200020	8333 HERRINGTON AVE NE	BELMONT	MI49306
411002200057	8339 CHILDSDALE AVE NE	ROCKFORD	MI49341
411002200053	8341 CHILDSDALE AVE NE	ROCKFORD	MI49341
411002200064	8343 CHILDSDALE AVE NE	ROCKFORD	MI49341
411005126059	8344 WATEREDGE DR NE	COMSTOCK PARK	MI49321
411002200065	8345 CHILDSDALE AVE NE	ROCKFORD	MI49341
411004127002	8359 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411002200060	8365 ROGUE RIDGE NE	ROCKFORD	MI49341
411002200035	8371 CHILDSDALE AVE NE	ROCKFORD	MI49341
411004127001	8375 SQUIREWOOD DR NE	COMSTOCK PARK	MI49321
411004200017	8377 HERRINGTON AVE NE	BELMONT	MI49306
411005126064	8377 WATEREDGE DR NE	COMSTOCK PARK	MI49321
411005126061	8384 WATEREDGE DR NE	COMSTOCK PARK	MI49321
411004200037	8386 HERRINGTON AVE NE	BELMONT	MI49306
411002200059	8395 CHILDSDALE AVE NE	ROCKFORD	MI49341
411005126045	8396 WATEREDGE DR NE	COMSTOCK PARK	MI49321

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410635353009	8414 WINDSTONE DR NE	ROCKFORD	MI49341
410635353001	8415 WINDSTONE DR NE	ROCKFORD	MI49341
410635376010	8420 WOLVEN AVE NE	ROCKFORD	MI49341
411004200019	8431 HERRINGTON AVE NE	BELMONT	MI49306
410633300019	8431 JEWELL AVE NE	COMSTOCK PARK	MI49321
410635354004	8435 WOLVEN AVE NE	ROCKFORD	MI49341
410635353008	8440 WINDSTONE DR NE	ROCKFORD	MI49341
410635353002	8443 WINDSTONE DR NE	ROCKFORD	MI49341
410632400074	8445 AMMERMAN DR NE	COMSTOCK PARK	MI49321
410634300009	8450 ALGOMA AVE NE	ROCKFORD	MI49341
410635376009	8450 WOLVEN AVE NE	ROCKFORD	MI49341
410635354003	8465 WOLVEN AVE NE	ROCKFORD	MI49341
410633451003	8470 JEWELL AVE NE	COMSTOCK PARK	MI49321
410635353007	8470 WINDSTONE DR NE	ROCKFORD	MI49341
410633476014	8471 ALGOMA AVE NE	ROCKFORD	MI49341
410635353003	8475 WINDSTONE DR NE	ROCKFORD	MI49341
410633476009	8485 ALGOMA AVE NE	ROCKFORD	MI49341
410635353010	8496 WINDSTONE DR NE	ROCKFORD	MI49341
410635353004	8497 WINDSTONE DR NE	ROCKFORD	MI49341
410634300016	8500 ALGOMA AVE NE	ROCKFORD	MI49341
410635353005	8500 WINDSTONE DR NE	ROCKFORD	MI49341
410635376004	8500 WOLVEN AVE NE	ROCKFORD	MI49341
410633476008	8501 ALGOMA AVE NE	ROCKFORD	MI49341
410635354006	8515 WOLVEN AVE NE	ROCKFORD	MI49341
410635376002	8520 WOLVEN AVE NE	ROCKFORD	MI49341
410633476005	8531 ALGOMA AVE NE	ROCKFORD	MI49341
410635354001	8535 WOLVEN AVE NE	ROCKFORD	MI49341
410633451006	8540 JEWELL AVE NE	COMSTOCK PARK	MI49321
410635376003	8540 WOLVEN AVE NE	ROCKFORD	MI49341
410633476004	8555 ALGOMA AVE NE	ROCKFORD	MI49341
410635376001	8560 WOLVEN AVE NE	ROCKFORD	MI49341
410633476002	8565 ALGOMA AVE NE	ROCKFORD	MI49341
410633451001	8570 JEWELL AVE NE	COMSTOCK PARK	MI49321
410633476003	8585 ALGOMA AVE NE	ROCKFORD	MI49341
410633403002	8594 JEWELL AVE NE	COMSTOCK PARK	MI49321
410635326015	8600 WOLVEN AVE NE	ROCKFORD	MI49341
410634300034	8620 ALGOMA AVE NE	ROCKFORD	MI49341
410635326014	8620 WOLVEN AVE NE	ROCKFORD	MI49341
410633426020	8637 ALGOMA AVE NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410633426019	8641 ALGOMA AVE NE	ROCKFORD	MI49341
410634300033	8650 ALGOMA AVE NE	ROCKFORD	MI49341
410635301009	8655 WOLVEN AVE NE	ROCKFORD	MI49341
410633426011	8665 ALGOMA AVE NE	ROCKFORD	MI49341
410634300027	8668 ALGOMA AVE NE	ROCKFORD	MI49341
410634300031	8670 ALGOMA AVE NE	ROCKFORD	MI49341
410635326009	8670 WOLVEN AVE NE	ROCKFORD	MI49341
410634300030	8674 ALGOMA AVE NE	ROCKFORD	MI49341
410635301003	8685 WOLVEN AVE NE	ROCKFORD	MI49341
410634300024	8686 ALGOMA AVE NE	ROCKFORD	MI49341
410635326008	8686 WOLVEN AVE NE	ROCKFORD	MI49341
410635301002	8697 WOLVEN AVE NE	ROCKFORD	MI49341
410634300036	8700 ALGOMA AVE NE	ROCKFORD	MI49341
410633426018	8701 ALGOMA AVE NE	ROCKFORD	MI49341
410634300035	8708 ALGOMA AVE NE	ROCKFORD	MI49341
410633403001	8708 JEWELL AVE NE	COMSTOCK PARK	MI49321
410634300021	8714 ALGOMA AVE NE	ROCKFORD	MI49341
410634300029	8720 ALGOMA AVE NE	ROCKFORD	MI49341
410634300028	8726 ALGOMA AVE NE	ROCKFORD	MI49341
410635326018	8730 WOLVEN AVE NE	ROCKFORD	MI49341
410635301017	8767 WOLVEN AVE NE	ROCKFORD	MI49341
410633401001	8770 JEWELL AVE NE	COMSTOCK PARK	MI49321
410634300014	8774 ALGOMA AVE NE	ROCKFORD	MI49341
410634300015	8780 ALGOMA AVE NE	ROCKFORD	MI49341
410633426001	8787 ALGOMA AVE NE	ROCKFORD	MI49341
410635100045	8787 WOLVEN AVE NE	ROCKFORD	MI49341
410634153001	8824 ALGOMA AVE NE	ROCKFORD	MI49341
410633278005	8825 ALGOMA AVE NE	ROCKFORD	MI49341
410633100079	8825 JEWELL AVE NE	COMSTOCK PARK	MI49321
410633100080	8827 JEWELL AVE NE	COMSTOCK PARK	MI49321
410633251002	8844 JEWELL AVE NE	COMSTOCK PARK	MI49321
410635100038	8850 ELSTNER AVE NE	ROCKFORD	MI49341
410633278002	8851 ALGOMA AVE NE	ROCKFORD	MI49341
410635100029	8870 ELSTNER AVE NE	ROCKFORD	MI49341
410633100016	8875 JEWELL AVE NE	COMSTOCK PARK	MI49321
410635100028	8894 ELSTNER AVE NE	ROCKFORD	MI49341
410634227042	8900 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227043	8903 LADY LAUREN DR NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410633278001	8905 ALGOMA AVE NE	ROCKFORD	MI49341
410635120025	8910 HOPEWELL DR NE	ROCKFORD	MI49341
410635120001	8911 HOPEWELL DR NE	ROCKFORD	MI49341
410634227041	8914 LADY LAUREN DR NE	ROCKFORD	MI49341
410633100029	8915 JEWELL AVE NE	COMSTOCK PARK	MI49321
410634227045	8919 LADY LAUREN DR NE	ROCKFORD	MI49341
410635100027	8922 ELSTNER AVE NE	ROCKFORD	MI49341
410635120024	8922 HOPEWELL DR NE	ROCKFORD	MI49341
410634227040	8922 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227046	8927 LADY LAUREN DR NE	ROCKFORD	MI49341
410633251004	8928 JEWELL AVE NE	COMSTOCK PARK	MI49321
410635120003	8929 HOPEWELL DR NE	ROCKFORD	MI49341
410634227039	8930 LADY LAUREN DR NE	ROCKFORD	MI49341
410635120023	8934 HOPEWELL DR NE	ROCKFORD	MI49341
410634227047	8935 LADY LAUREN DR NE	ROCKFORD	MI49341
410635120004	8937 HOPEWELL DR NE	ROCKFORD	MI49341
410633251007	8940 JEWELL AVE NE	COMSTOCK PARK	MI49321
410634227048	8941 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227038	8942 LADY LAUREN DR NE	ROCKFORD	MI49341
410635100015	8944 WOLVEN AVE NE	ROCKFORD	MI49341
410634227049	8947 LADY LAUREN DR NE	ROCKFORD	MI49341
410635100026	8948 ELSTNER AVE NE	ROCKFORD	MI49341
410635120005	8951 HOPEWELL DR NE	ROCKFORD	MI49341
410634227037	8954 LADY LAUREN DR NE	ROCKFORD	MI49341
410633100035	8955 JEWELL AVE NE	COMSTOCK PARK	MI49321
410634227050	8955 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227051	8961 LADY LAUREN DR NE	ROCKFORD	MI49341
410635100025	8966 ELSTNER AVE NE	ROCKFORD	MI49341
410635120006	8973 HOPEWELL DR NE	ROCKFORD	MI49341
410633251006	8980 JEWELL AVE NE	COMSTOCK PARK	MI49321

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410635100036	8988 ELSTNER AVE NE	ROCKFORD	MI49341
410633276002	8989 ALGOMA AVE NE	ROCKFORD	MI49341
410634151001	9000 ALGOMA AVE NE	ROCKFORD	MI49341
410633201008	9000 JEWELL AVE NE	ROCKFORD	MI49341
410633276001	9001 ALGOMA AVE NE	ROCKFORD	MI49341
410633100076	9011 JEWELL AVE NE	ROCKFORD	MI49341
410633226018	9013 ALGOMA AVE NE	ROCKFORD	MI49341
410635100035	9014 ELSTNER AVE NE	ROCKFORD	MI49341
410634101005	9024 11 MILE RD NE	ROCKFORD	MI49341
410634228005	9025 ELSTNER AVE NE	ROCKFORD	MI49341
410635100034	9030 ELSTNER AVE NE	ROCKFORD	MI49341
410633226017	9035 ALGOMA AVE NE	ROCKFORD	MI49341
410633226016	9039 ALGOMA AVE NE	ROCKFORD	MI49341
410633226010	9041 ALGOMA AVE NE	ROCKFORD	MI49341
410633100022	9043 JEWELL AVE NE	ROCKFORD	MI49341
410633226009	9045 ALGOMA AVE NE	ROCKFORD	MI49341
410633226015	9047 ALGOMA AVE NE	ROCKFORD	MI49341
410634228004	9047 ELSTNER AVE NE	ROCKFORD	MI49341
410633226008	9049 ALGOMA AVE NE	ROCKFORD	MI49341
410635120018	9050 HOPEWELL DR NE	ROCKFORD	MI49341
410633226012	9051 ALGOMA AVE NE	ROCKFORD	MI49341
410633226013	9053 ALGOMA AVE NE	ROCKFORD	MI49341
410633226006	9057 ALGOMA AVE NE	ROCKFORD	MI49341
410633226007	9059 ALGOMA AVE NE	ROCKFORD	MI49341
410634101002	9060 ALGOMA AVE NE	ROCKFORD	MI49341
410635100033	9062 ELSTNER AVE NE	ROCKFORD	MI49341
410633226014	9063 ALGOMA AVE NE	ROCKFORD	MI49341
410633226011	9065 ALGOMA AVE NE	ROCKFORD	MI49341
410635120017	9066 HOPEWELL DR NE	ROCKFORD	MI49341
410635120013	9069 HOPEWELL DR NE	ROCKFORD	MI49341
410634227024	9069 LADY LAUREN DR NE	ROCKFORD	MI49341
410633201006	9070 JEWELL AVE NE	ROCKFORD	MI49341
410634227001	9070 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227023	9075 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227002	9078 LADY LAUREN DR NE	ROCKFORD	MI49341
410635120016	9080 HOPEWELL DR NE	ROCKFORD	MI49341
410634228003	9089 ELSTNER AVE NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410635100032	9090 ELSTNER AVE NE	ROCKFORD	MI49341
410633201005	9090 JEWELL AVE NE	ROCKFORD	MI49341
410634227003	9090 LADY LAUREN DR NE	ROCKFORD	MI49341
410635120015	9094 HOPEWELL DR NE	ROCKFORD	MI49341
410635120014	9099 HOPEWELL DR NE	ROCKFORD	MI49341
410633100011	9101 JEWELL AVE NE	ROCKFORD	MI49341
410634227004	9102 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227022	9107 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227005	9108 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227006	9114 LADY LAUREN DR NE	ROCKFORD	MI49341
410633226020	9119 ALGOMA AVE NE	ROCKFORD	MI49341
410634227007	9120 LADY LAUREN DR NE	ROCKFORD	MI49341
410635100031	9122 ELSTNER AVE NE	ROCKFORD	MI49341
410634227008	9128 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227009	9140 LADY LAUREN DR NE	ROCKFORD	MI49341
410634228002	9145 ELSTNER AVE NE	ROCKFORD	MI49341
410632300019	915 10 MILE RD NE	COMSTOCK PARK	MI49321
410633201001	9150 JEWELL AVE NE	ROCKFORD	MI49341
410633100021	9151 JEWELL AVE NE	ROCKFORD	MI49341
410634227010	9152 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227021	9155 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227011	9164 LADY LAUREN DR NE	ROCKFORD	MI49341
410634228001	9165 ELSTNER AVE NE	ROCKFORD	MI49341
410633100033	9165 JEWELL AVE NE	ROCKFORD	MI49341
410634227020	9169 LADY LAUREN DR NE	ROCKFORD	MI49341
410633100032	9171 JEWELL AVE NE	ROCKFORD	MI49341
410634227019	9175 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227012	9178 LADY LAUREN DR NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

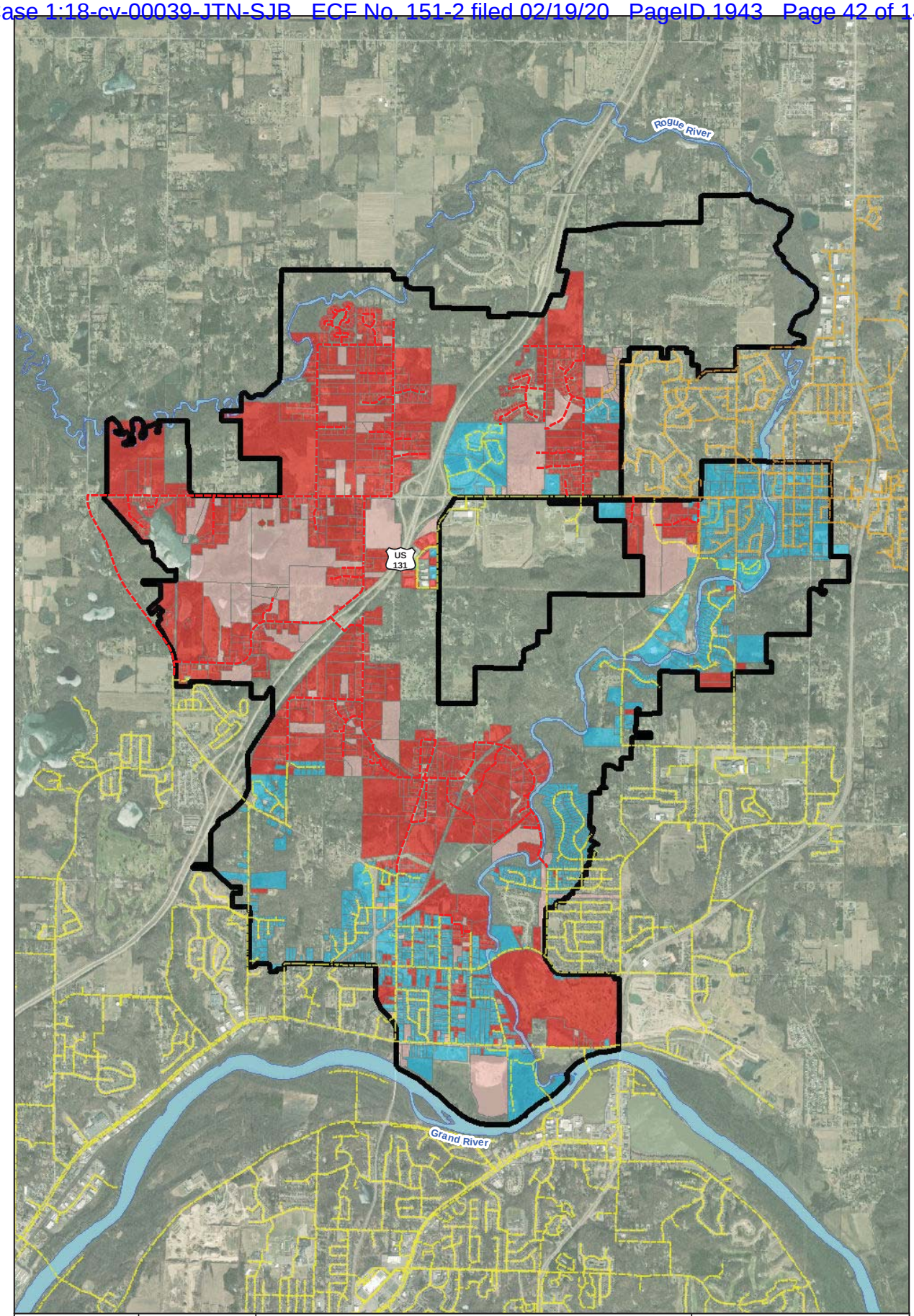
PPN	Address	City	Zip Code
410634227018	9187 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227013	9190 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227017	9193 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227016	9195 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227015	9200 LADY LAUREN DR NE	ROCKFORD	MI49341
410634227014	9202 LADY LAUREN DR NE	ROCKFORD	MI49341
410628452001	9207 BOOTH BAY CT NE	ROCKFORD	MI49341
410628452029	9210 SAG HARBOR CT NE	ROCKFORD	MI49341
410628452002	9215 BOOTH BAY CT NE	ROCKFORD	MI49341
410628452028	9218 SAG HARBOR CT NE	ROCKFORD	MI49341
410628476004	9220 GARDEN GATE DR NE	ROCKFORD	MI49341
410628476020	9223 GARDEN GATE DR NE	ROCKFORD	MI49341
410628452027	9226 SAG HARBOR CT NE	ROCKFORD	MI49341
410628452003	9227 BOOTH BAY CT NE	ROCKFORD	MI49341
410628452026	9234 SAG HARBOR CT NE	ROCKFORD	MI49341
410628476021	9235 ALGOMA AVE NE	ROCKFORD	MI49341
410628452004	9239 BOOTH BAY CT NE	ROCKFORD	MI49341
410628452025	9242 SAG HARBOR CT NE	ROCKFORD	MI49341
410628477004	9247 ALGOMA AVE NE	ROCKFORD	MI49341
410628476019	9249 GARDEN GATE DR NE	ROCKFORD	MI49341
410628476005	9250 GARDEN GATE DR NE	ROCKFORD	MI49341
410628452005	9253 NANTUCKET CT NE	ROCKFORD	MI49341
410628452006	9261 NANTUCKET CT NE	ROCKFORD	MI49341
410628452024	9262 NAGSHEAD CT NE	ROCKFORD	MI49341
410628452007	9269 NANTUCKET CT NE	ROCKFORD	MI49341
410628452023	9270 NAGSHEAD CT NE	ROCKFORD	MI49341
410628452008	9277 NANTUCKET CT NE	ROCKFORD	MI49341
410628476006	9278 GARDEN GATE DR NE	ROCKFORD	MI49341
410628452022	9278 NAGSHEAD CT NE	ROCKFORD	MI49341
410628476018	9285 GARDEN GATE DR NE	ROCKFORD	MI49341

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code
410628452009	9285 NANTUCKET CT NE	ROCKFORD	MI49341
410628452021	9286 NAGSHEAD CT NE	ROCKFORD	MI49341
410628452020	9294 NAGSHEAD CT NE	ROCKFORD	MI49341
410628452010	9299 BAY HARBOR CT NE	ROCKFORD	MI49341
410628476007	9300 GARDEN GATE CT NE	ROCKFORD	MI49341
410628476017	9305 GARDEN GATE DR NE	ROCKFORD	MI49341
410628452011	9311 BAY HARBOR CT NE	ROCKFORD	MI49341
410627400045	9311 ELSTNER AVE NE	ROCKFORD	MI49341
410628452019	9314 OLD HARBOR CT NE	ROCKFORD	MI49341
410628476016	9321 GARDEN GATE DR NE	ROCKFORD	MI49341
410628452018	9322 OLD HARBOR CT NE	ROCKFORD	MI49341
410628452012	9323 BAY HARBOR CT NE	ROCKFORD	MI49341
410628476008	9330 GARDEN GATE CT NE	ROCKFORD	MI49341
410628452013	9331 BAY HARBOR CT NE	ROCKFORD	MI49341
410628476012	9332 GARDEN GATE DR NE	ROCKFORD	MI49341
410628476011	9333 GARDEN GATE CT NE	ROCKFORD	MI49341
410628452030	9338 OLD HARBOR CT NE	ROCKFORD	MI49341
410628452014	9339 BAY HARBOR CT NE	ROCKFORD	MI49341
410628476015	9343 GARDEN GATE DR NE	ROCKFORD	MI49341
410628452015	9344 OLD HARBOR CT NE	ROCKFORD	MI49341
410628476009	9352 GARDEN GATE CT NE	ROCKFORD	MI49341
410628476010	9355 GARDEN GATE CT NE	ROCKFORD	MI49341
410628476014	9369 GARDEN GATE DR NE	ROCKFORD	MI49341
410628476013	9370 GARDEN GATE DR NE	ROCKFORD	MI49341
411005126002	978 10 MILE RD NE	COMSTOCK PARK	MI49321
411005126003	992 10 MILE RD NE	COMSTOCK PARK	MI49321
410632300018	993 10 MILE RD NE	COMSTOCK PARK	MI49321

APPENDIX I – LIST OF PARCELS

PPN	Address	City	Zip Code

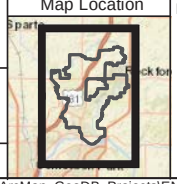


EGLE

AECOM

Prepared:2/3/2020

Map Location



Legend

- Occupied Parcel within New Municipal Water Area
- Vacant Parcel within New Municipal Water Area
- Existing Municipal Water Area
- New Water Main

Existing Water Main

- Plainfield Water Main
- Rockford Water Main
- North Kent Study Area

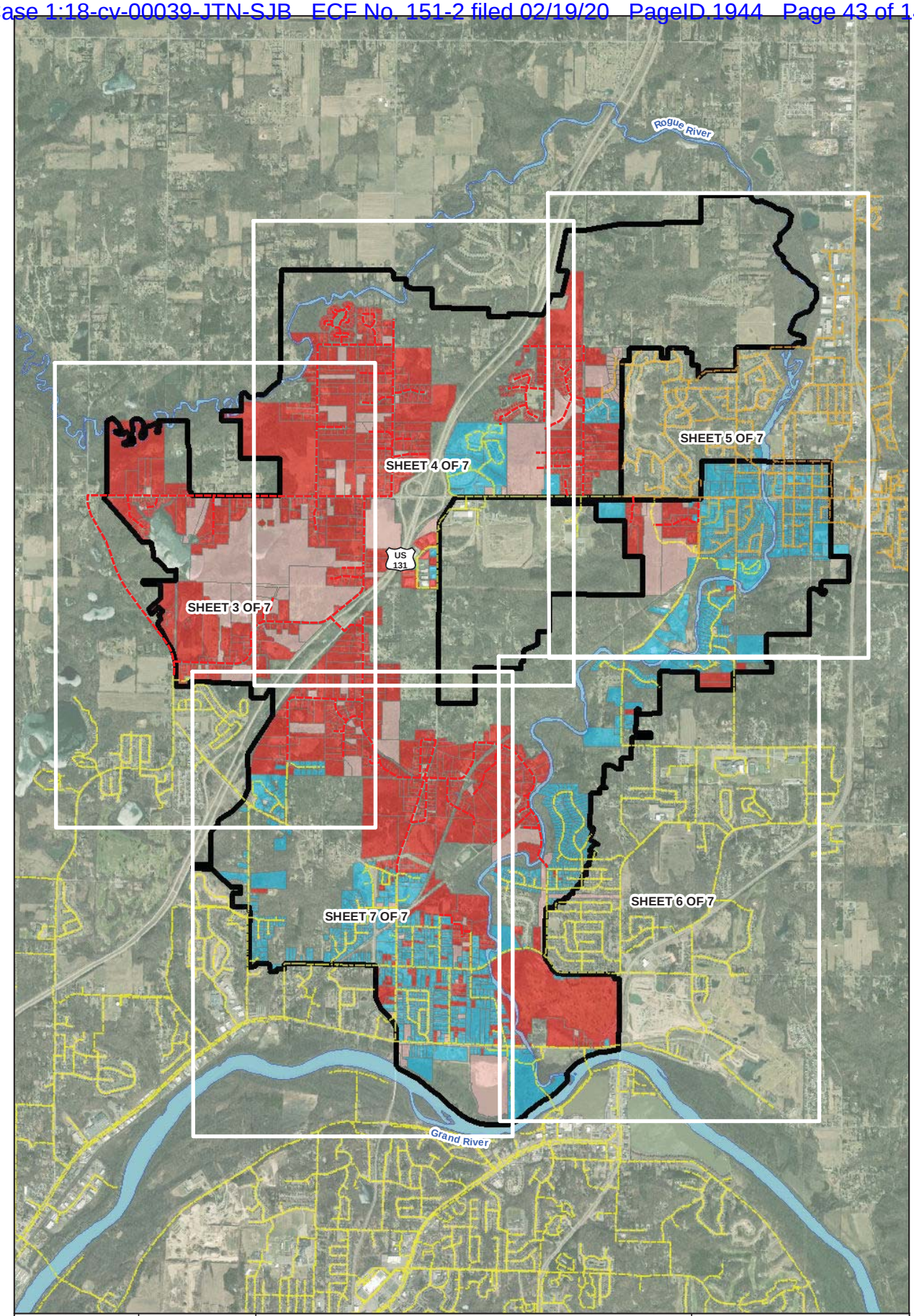
N

0 0.25 0.5 Miles

APPENDIX F
MAP OF MUNICIPAL WATER AREAS
SHEET 1 OF 7

KENT COUNTY, MI

G:\GrandRapids\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\North_Kent\MXDs\AG\Appendix_F_Map_Municipal_Areas_Sheet1.mxd



EGLE

AECOM

Prepared:2/3/2020

Map Location

Legend

- Occupied Parcel within New Municipal Water Area
- Vacant Parcel within New Municipal Water Area
- Existing Municipal Water Area
- New Water Main

Existing Water Main

- Plainfield Water Main
- Rockford Water Main
- North Kent Study Area

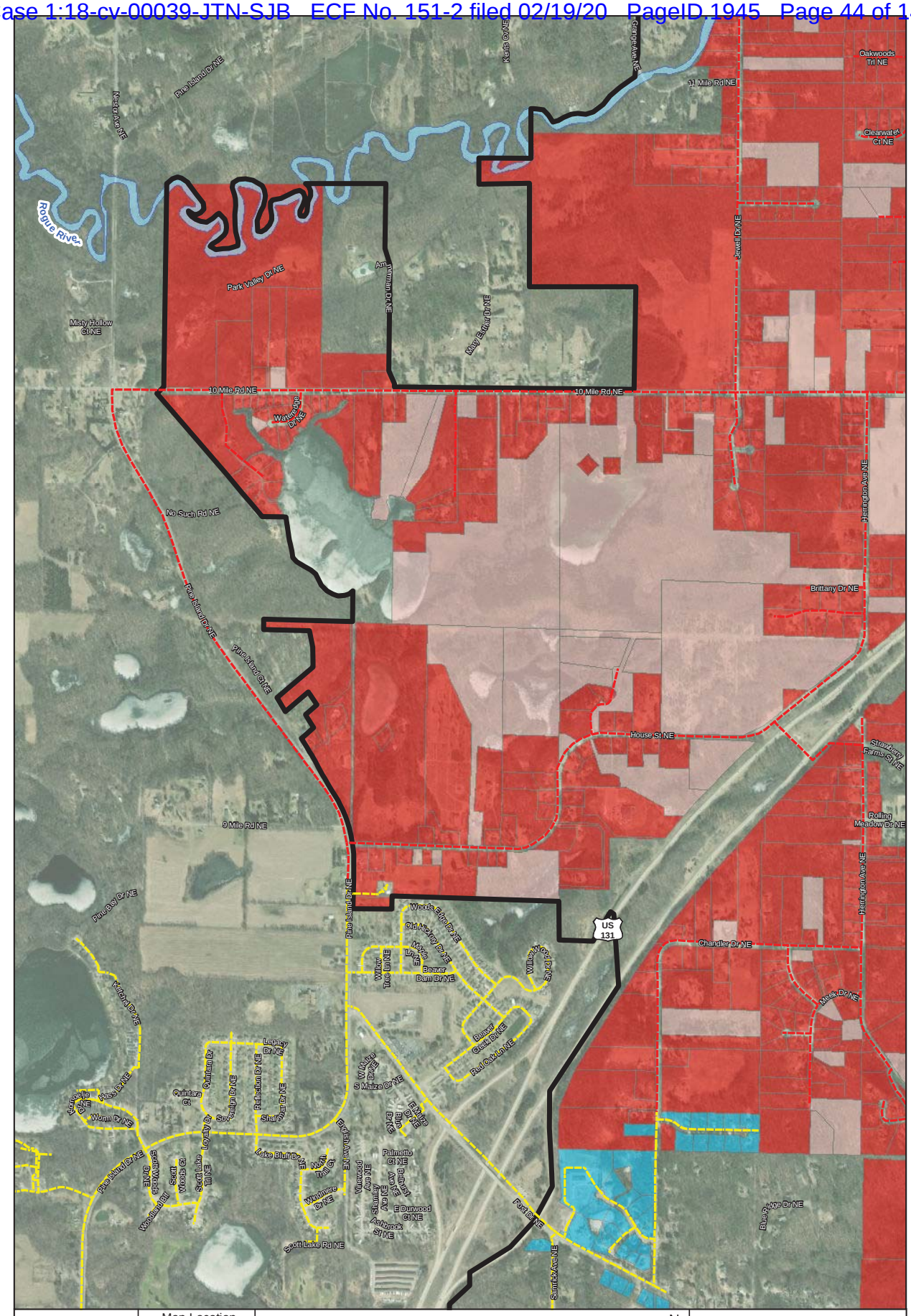
N

0 0.25 0.5 Miles

APPENDIX F
MAP OF MUNICIPAL WATER AREAS
SHEET 2 OF 7

KENT COUNTY, MI

G:\GrandRapids\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\North_Kent\MXDs\AG\Appendix_F_Map_Municipal_Areas_Sheet2.mxd

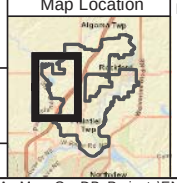


EGLE

AECOM

Prepared:2/3/2020

Map Location



Legend

- Occupied Parcel within New Municipal Water Area
- Vacant Parcel within New Municipal Water Area
- Existing Municipal Water Area
- New Water Main

Existing Water Main

- Plainfield Water Main
- Rockford Water Main
- North Kent Study Area

N

0 0.1 0.2 Miles

APPENDIX F
MAP OF MUNICIPAL WATER AREAS
SHEET 3 OF 7

KENT COUNTY, MI

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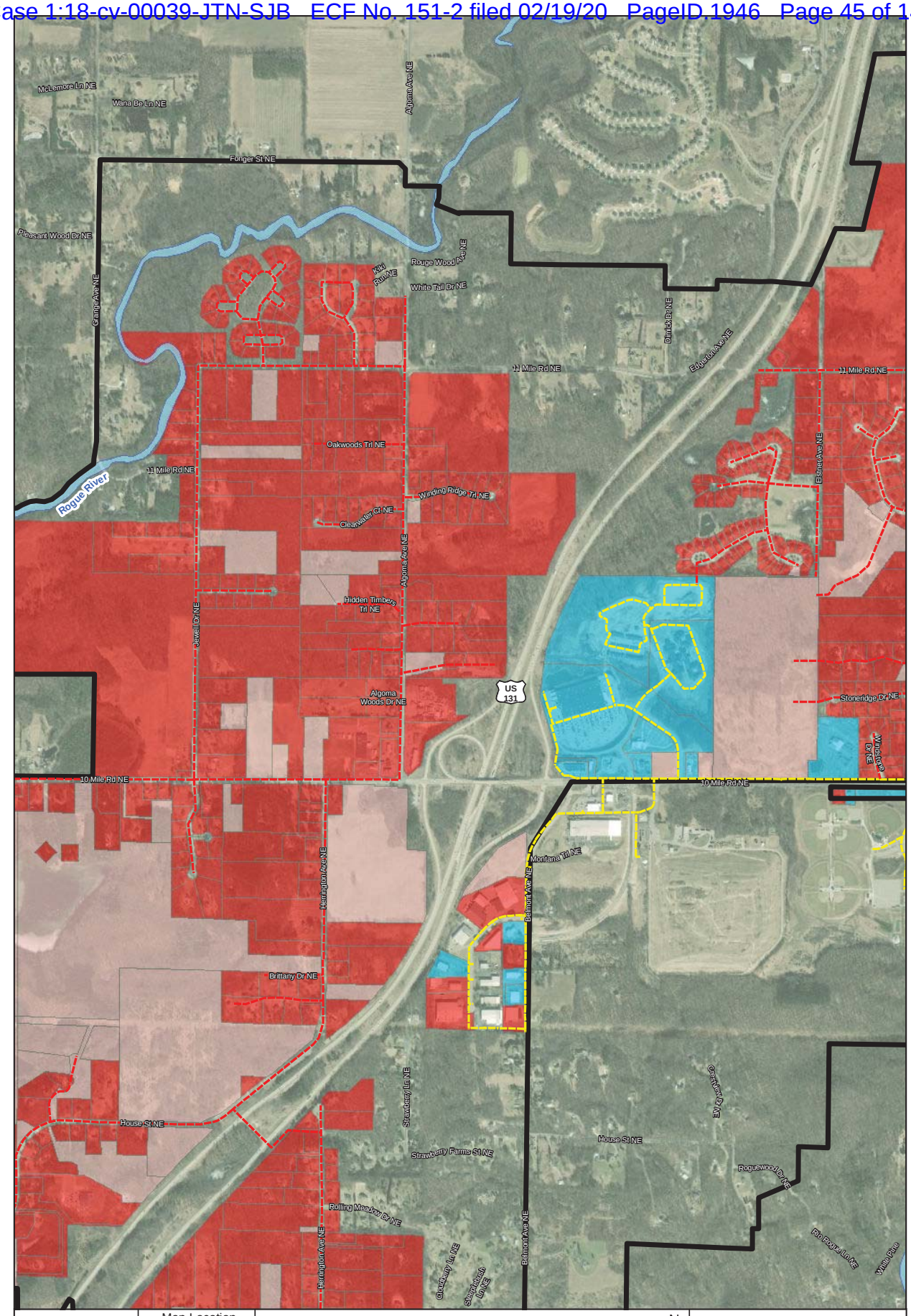
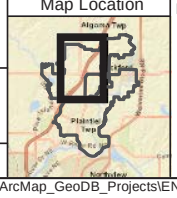


EGLE

AECOM

Prepared:2/3/2020

Map Location



Legend

- Occupied Parcel within New Municipal Water Area
- Vacant Parcel within New Municipal Water Area
- Existing Municipal Water Area
- New Water Main

Existing Water Main

- Plainfield Water Main
- Rockford Water Main
- North Kent Study Area

N

0 0.1 0.2 Miles

APPENDIX F
MAP OF MUNICIPAL WATER AREAS
SHEET 4 OF 7

KENT COUNTY, MI

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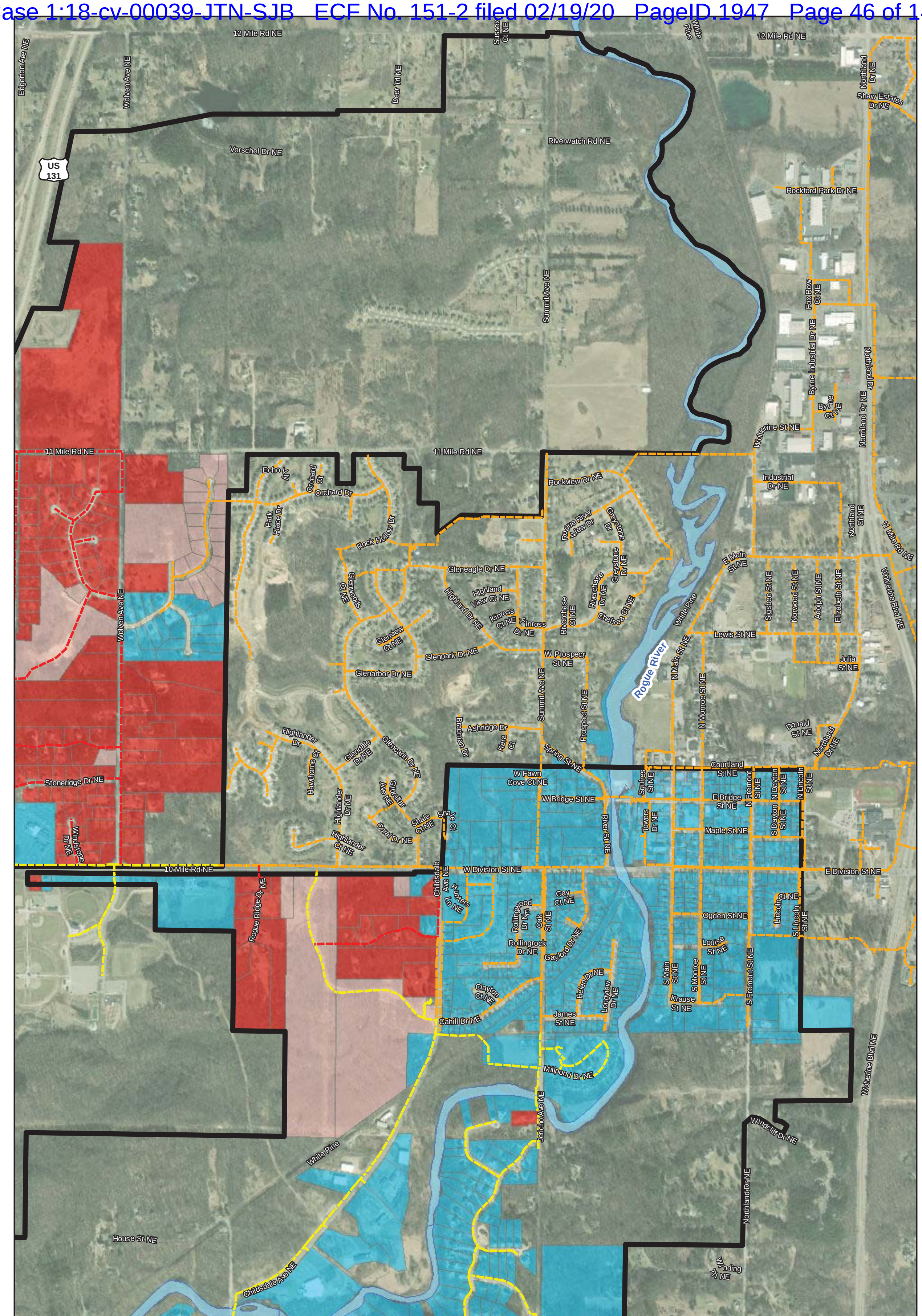
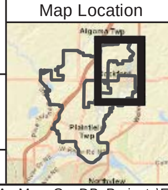




EGLE

AECOM

Prepared:2/3/2020

Legend

- Occupied Parcel within New Municipal Water Area
- Vacant Parcel within New Municipal Water Area
- Existing Municipal Water Area
- New Water Main

Existing Water Main

- Plainfield Water Main
- Rockford Water Main
- North Kent Study Area

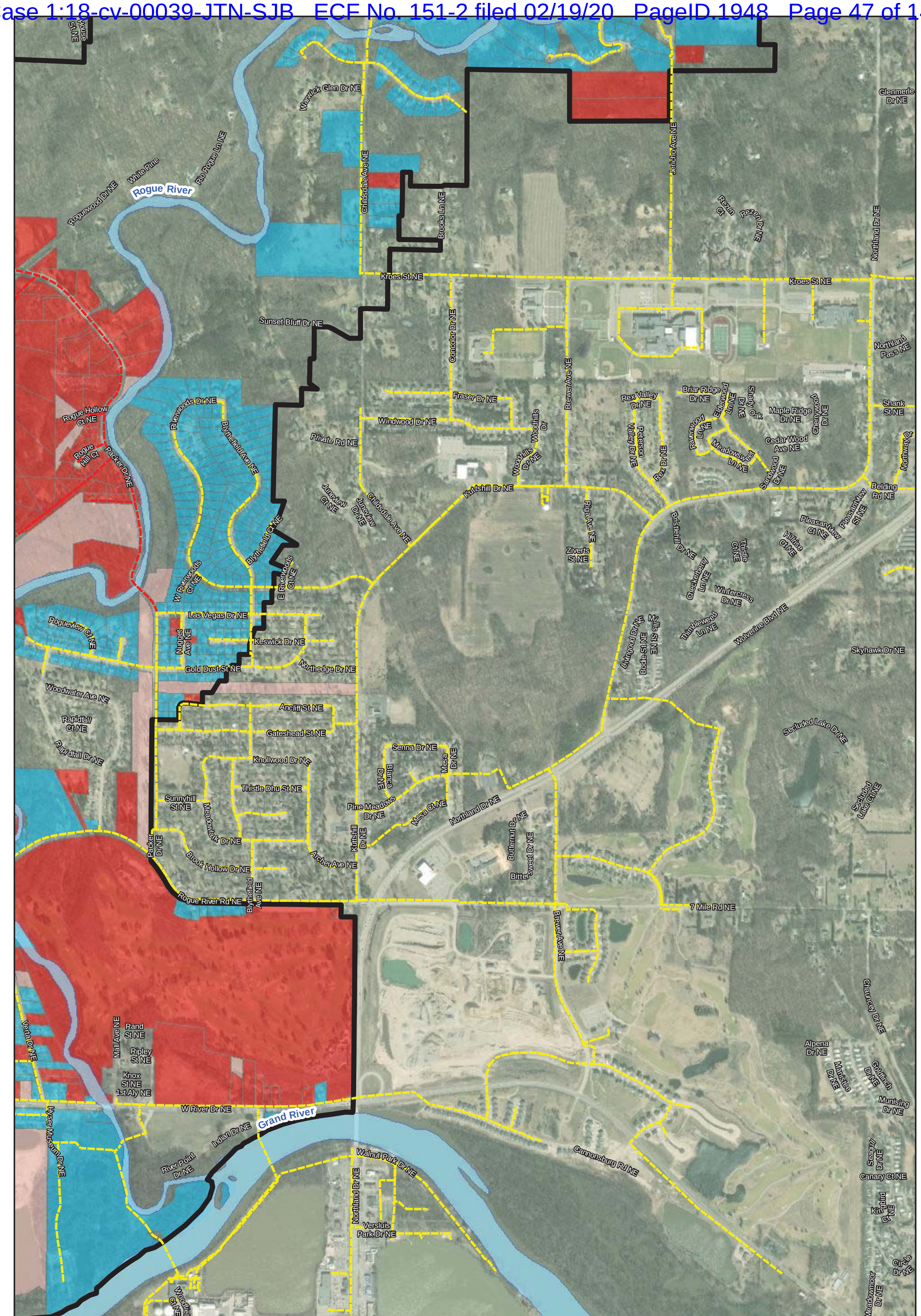
N

0 0.1 0.2 Miles

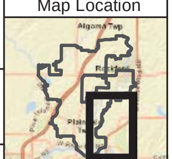
APPENDIX F
MAP OF MUNICIPAL WATER AREAS
SHEET 5 OF 7

KENT COUNTY, MI

G:\GrandRapids\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\North_Kent\MXDs\AG\Appendix_F_Map_Municipal_Areas_Sheets3+.mxd


Rogue River
Grand River
Warwick Glen Dr NE
Rio Rogue Ln NE
White Pine
Roguewood Dr NE
Childsdale Ave NE
Brooks Ln NE
Jericho Ave NE
Glenmerle Dr NE
Rezen Ct
Rezen Dr NE
Northland Dr NE
Kroes St NE
Sunset Bluff Dr NE
Concord Dr NE
Brewer Ave NE
Northland Pass NE
Rogue Hollow Ct NE
Rogue Hill Ct
Packer Dr NE
Riverwoods Dr NE
Blythefield Ave NE
Fraser Dr NE
Windwood Dr NE
Private Rd NE
Woodhills Dr
Woodhills Ct NE
Rex Valley Dr NE
Briar Ridge Dr NE
Maple Ridge Dr NE
Cedar Wood Ave NE
Rex Dr NE
Shank St NE
Belding Rd NE
Kuttshill Dr NE
Juneview Ct NE
Juneview Dr NE
Childsdale Ave NE
Blythefield Ct NE
Ridge Ave NE
Ziverts St NE
Pleasantview Ct NE
Thistle Ct NE
W Riverwoods Ct NE
E Riverwoods Ct NE
Las Vegas Dr NE
Rogueview Ct NE
Keswick Dr NE
Nugget Ave NE
Gold Dust St NE
Northedge Dr NE
Woodwater Ave NE
Rapidfall Ct NE
Rapidfall Dr NE
Ancliff St NE
Gateshead St NE
Knollwood Dr NE
Senna Dr NE
Thistle Dhu St NE
Sunnyhill St NE
Pine Meadows Dr NE
Mesa Ct NE
Northland Dr NE
Brook Hollow Dr NE
Archer Ave NE
Kuttshill Dr NE
Butternut Dr NE
Rogue River Rd NE
7 Mile Rd NE
Wintercress Dr NE
Thimbleweed Ln NE
Wolverine Blvd NE
Skyhawk Dr NE
Secluded Lake Dr NE
Secluded Lake Ct NE
Brewer Ave NE
Vatta Dr NE
Mall Ave NE
Rand St NE
Ripley St NE
Knox St NE
1st Aly NE
W River Dr NE
Indian Dr NE
River Point Dr NE
Walnut Park Dr NE
Northland Dr NE
Versluis Park Dr NE
Cannonsburg Rd NE
Chauncey Dr NE
Alpena Dr NE
Munising Dr NE
Canary Ct NE
Meadowmoor Dr NE

EGLE	Map Location
AECOM	
Prepared:2/3/2020	



Legend

- Occupied Parcel within New Municipal Water Area
- Vacant Parcel within New Municipal Water Area
- Existing Municipal Water Area
- New Water Main

Existing Water Main

- Plainfield Water Main
- Rockford Water Main
- North Kent Study Area

0 0.1 0.2 Miles

N

APPENDIX F
MAP OF MUNICIPAL WATER AREAS
SHEET 6 OF 7

KENT COUNTY, MI

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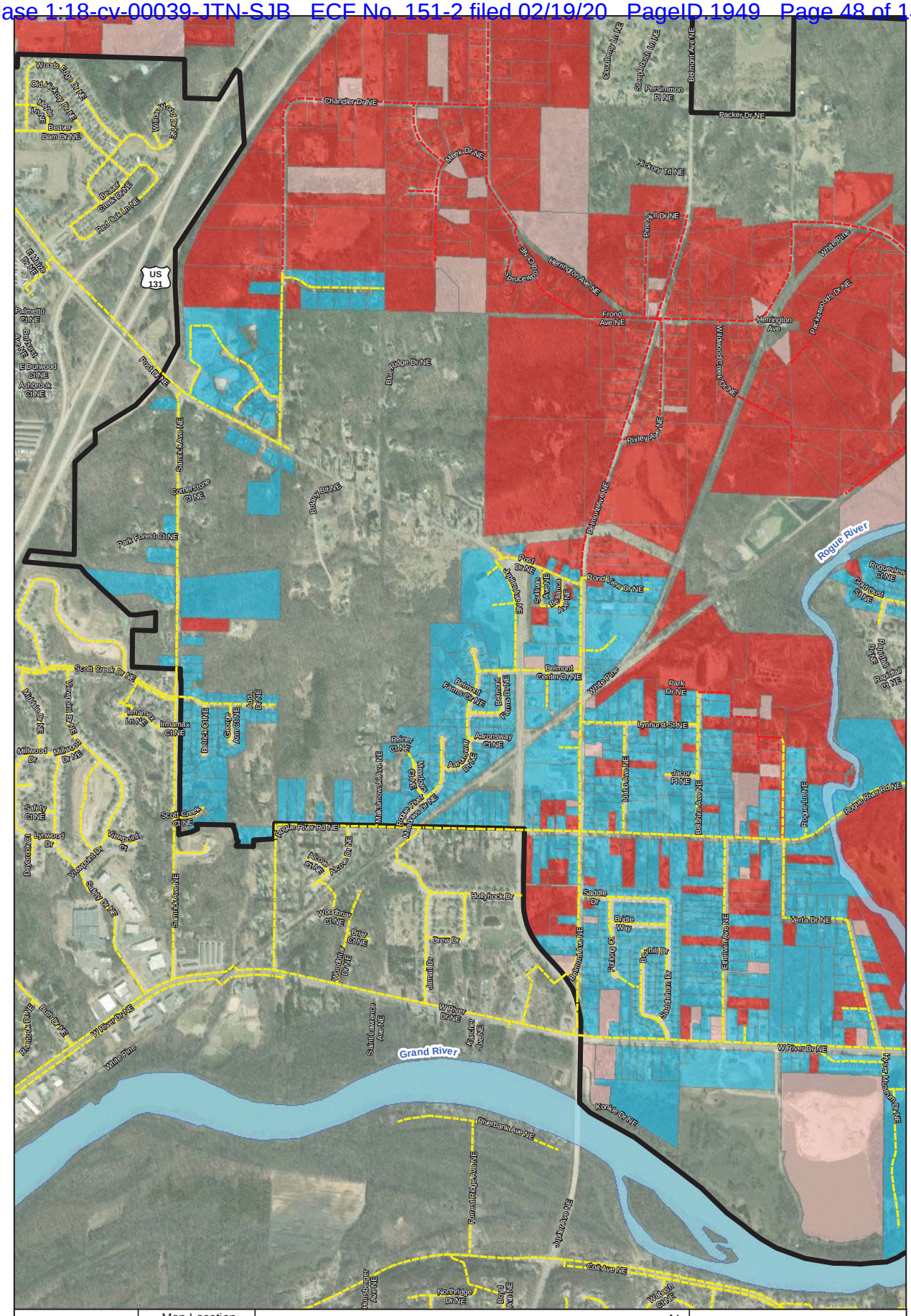
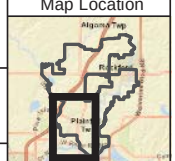


EGLE

AECOM

Prepared:2/3/2020

Map Location



Legend

- Occupied Parcel within New Municipal Water Area
- Vacant Parcel within New Municipal Water Area
- Existing Municipal Water Area
- New Water Main

Existing Water Main

- Plainfield Water Main
- Rockford Water Main
- North Kent Study Area

N

0 0.1 0.2 Miles

APPENDIX F
MAP OF MUNICIPAL WATER AREAS
SHEET 7 OF 7

KENT COUNTY, MI

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APPENDIX D
Sample Letters – Filter Cessation Notifications

Rose & Westra
A Division of GZA

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

The Widdicomb Building
601 Fifth Street NW
Suite 102
Grand Rapids, MI 49504
T: 616.956.6123
F: 616.288.3327
www.rosewestra.com
www.gza.com

xxxxx

Mr./Mrs. xxx
Street
Belmont, MI xxxxx

Re: Changes to Whole House Filter Sampling and Maintenance

Dear [_____],

We are writing on behalf of Wolverine World Wide, Inc. (WWW). As you may have heard, on February 19, 2020, U.S. District Judge Janet T. Neff approved a Consent Decree reached among WWW, the State of Michigan, Plainfield Charter Township, and Algoma Township[1]. The Consent Decree represents a comprehensive PFAS action plan, and outlines and approves changes to the operation and maintenance (O&M) schedule for the whole house filter (WHF) WWW provided to you.

These O&M changes were approved because the remediation investigations in the North Kent Study Area have better defined the extent of PFAS, and because your residence has not had a detection of PFOA+PFOS higher than 10 ppt. Given this data, WWW and the State have agreed, and the Court has approved in the Consent Decree, that WWW will no longer provide sampling or O&M for your WHF.

You may choose to retain the WHF with future O&M at your expense, or have it removed. Please indicate your preference on the attached form and send to R&W/GZA by April 17, 2020. If your form is not returned to R&W/GZA by April 17, 2020, we will assume that you would like to retain the WHF with the future O&M at your expense. You may mail the form or send it to house.street@gza.com.

If you choose to retain the WHF, Culligan will contact you to coordinate setting up your account and scheduling the O&M. If you choose to have the WHF removed, Culligan will contact you to schedule the removal.

Please feel free to call our office (616-956-6123) or the State of Michigan/EGLE (616-356-0226) if you have any questions.

Very truly yours,

Rose & Westra, a Division of GZA GeoEnvironmental, Inc.

Loretta J. Powers
Senior Project Manager

Mark Westra
Principal

cc: Karen Vorce, EGLE

j:\62000\629xx\62961.xx - www rap-wp\62961.60 - filter plan and o&m\cd notice letters\form letters\fa poets\poet letter - under 10 ppt - f 03302020.docx

[1] Visit www.wearewolverine.com for complete details and a link to the full text of the Consent Decree.

Whole House Filter O&M Selection Form

Please Return this Form by xxxxx

Name: _____

Address: _____

As indicated in the letter dated xxxxx, you have two options regarding your whole house filter (WHF). Please indicate how you wish to proceed.

_____ I would like to retain the WHF system in my residence. I understand that going forward, I will be responsible for the operation and maintenance of the system. Wolverine World Wide, Inc. will no longer be responsible for any operation, maintenance, or services associated with this system.

_____ I would like the WHF removed from my residence.

Signature: _____ Date: _____

You may return this completed form to R&W/GZA at House.Street@gza.com or to 601 Fifth Street NW, Suite 102, Grand Rapids, MI 49504

Rose & Westra
A Division of GZA

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

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Suite 102
Grand Rapids, MI 49504
T: 616.956.6123
F: 616.288.3327
www.rosewestra.com
www.gza.com

xxxxx

Mr./Mrs. xxx
Street
Belmont, MI xxxxx

Re: Changes to Point-of-Use Filter Maintenance

Dear [_____],

We are writing on behalf of Wolverine World Wide, Inc. (WWW). As you may have heard, on February 19, 2020, U.S. District Judge Janet T. Neff approved a Consent Decree among WWW, the State of Michigan, Plainfield Charter Township, and Algoma Township[1]. The Consent Decree represents a comprehensive PFAS action plan, and outlines and approves several changes to the operation and maintenance (O&M) schedule for the NSF-certified point-of-use (POU) filter(s) WWW provided to you.

The following changes are being implemented for the POU filter(s) installed at your residence:

- Since your residence has not had a PFOS+PFOA concentration higher than 10 ppt, WWW will no longer provide the O&M for your POU filter(s).

- You may choose to have the POU filter(s) removed or retain it, with all future operation and maintenance at your expense. Please indicate your preference on the attached form and send to R&W/GZA by April 17, 2020. You may mail it or send it to house.street@gza.com. If you choose to have the POU system removed, R&W/GZA will contact you directly to schedule the removal by a licensed plumber. If you do not respond by April 17, the filter will remain in your home at your expense for any O&M.

Please feel free to call our office (616-956-6123) or EGLE (616-356-0226) if you have any questions.

Very truly yours,

Rose & Westra, a Division of GZA GeoEnvironmental, Inc.

Loretta J. Powers
Senior Project Manager

Mark Westra
Principal

cc: Karen Vorce, EGLE

j:\62000\629xx\62961.xx - www rap-wp\62961.60 - filter plan and o&m\cd notice letters\form letters\pous\pou- fa - under 10ppt-f 03302020.docx

[1] Visit www.wearewolverine.com for complete details and a link to the full text of the Consent Decree.

POU Filter O&M Selection Form

Please Return this Form by xxxxx.

Name: _____

Address: _____

As indicated in the letter dated xxxxx, you have two options regarding your POU filter(s). Please indicate how you wish to proceed.

_____ I would like to retain the POU filter(s) in my residence. I understand that going forward, I will be responsible for the operation and maintenance of the filter(s). Wolverine World Wide, Inc. will no longer retain responsibility for any operation, maintenance, services, or leaks associated with this system.

_____ I would like the POU filter(s) removed from my residence.

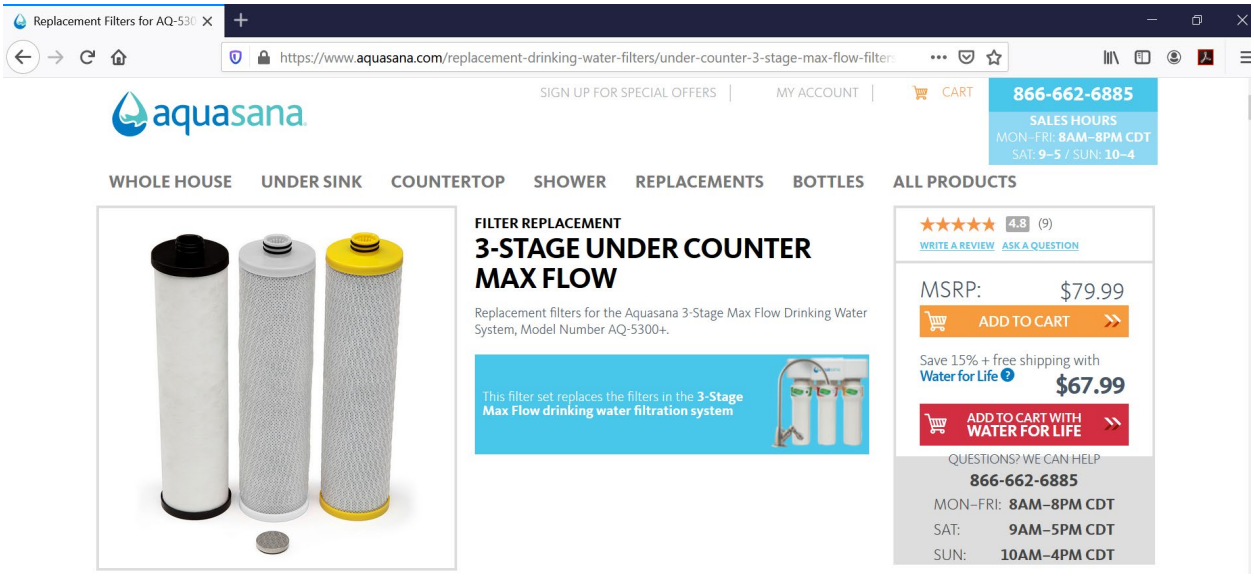
Signature: _____ Date: _____

You may return this form to R&W/GZA at House.Street@gza.com or to 601 Fifth Street NW, Suite 102, Grand Rapids, MI 49504

POU Filter O&M Retention Form

If you would like to retain your POU filter, please contact Aquasana directly (866-662-6885) to order the replacement cartridges for your AQ– 5300+ under kitchen sink filter.

Aquasana's website - *www.Aquasana.com*



Rose & Westra
A Division of GZA

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

The Widdicomb Building
601 Fifth Street NW
Suite 102
Grand Rapids, MI 49504
T: 616.956.6123
F: 616.288.3327
www.rosewestra.com
www.gza.com

xxxxx

Mr./Mrs. xxx
Street
Belmont, MI 49306

Re: Changes to Whole House and Point-of-Use Filtration Operation and Maintenance

Dear [_____],

We are writing on behalf of Wolverine World Wide, Inc. (WWW). As you have likely heard, on February 19, 2020, U.S. District Judge Janet T. Neff approved a Consent Decree reached among WWW, the State of Michigan, Plainfield Charter Township, and Algoma Township[1]. The Consent Decree represents a comprehensive PFAS action plan, and outlines and approves changes to the operation and maintenance (O&M) for the whole house filter (WHF) and/or Point-of-Use (POU; sink) filter(s) WWW provided to you.

These O&M changes were approved because the remediation investigations in the North Kent Study Area have better defined the extent of PFAS, and because residences like yours will be connected to municipal water. According to the Plainfield Township construction schedule, it is anticipated that the municipal water line will be available to your home in the near future. Given this data, WWW and the State have agreed, and the Court has approved in the Consent Decree, once the municipal service line is installed and ready for connection that WWW will no longer provide O&M for your WHF and/or POU(s). Likewise, sampling and monitoring of your WHF will cease.

You may choose to retain the WHF and/or POU(s) with future O&M at your expense, or have it removed. Please indicate your preference on the attached form and send to R&W/GZA at your earliest convenience. If your form is not returned to R&W/GZA by the time of your municipal connection, we will assume that you would like to retain the filtration system(s) with the future O&M at your expense. You may mail the form or email it to house.street@gza.com.

If you choose to retain the WHF, Culligan will contact you to coordinate setting up your account and scheduling the O&M. If you choose to have the WHF removed, Culligan will contact you to schedule the removal. If you have questions about the long-term O&M and costs, you may contact Kaat's Culligan (616-791-7150).

If you choose to retain the Aquasana POU, you may purchase replacement cartridges at: https://www.aquasana.com.

If you choose to have the POU removed, R&W/GZA will coordinate with a licensed plumber to schedule removal of the system.

Please feel free to call our office (616-956-6123) or the State of Michigan/EGLE (616-356-0226) if you have any questions.

Very truly yours,

Rose & Westra, a Division of GZA GeoEnvironmental, Inc.

Loretta J. Powers, CHMM
Associate Principal

Mark Westra
Principal

cc: Leah Gies, EGLE

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[1] Visit www.wearewolverine.com for complete details and a link to the full text of the Consent Decree.

Whole House and Point-of-Use Filter O&M Selection Form

Please Return this Form at Your Earliest Convenience.

Name: _____

Address: _____

As indicated in the letter dated xxxxx, you have two options regarding your whole house filter (WHF) and point-of-use (POU; sink) filter(s). Please indicate how you wish to proceed.

_____ I would like to **retain** the **WHF** system in my residence. I understand that once municipal water is available to my property, I will be responsible for the operation and maintenance of the system. Wolverine World Wide, Inc. will no longer be responsible for any operation, maintenance, or services associated with this system.

_____ I would like the **WHF removed** from my residence.

_____ Not Applicable, I do not have a WHF.

_____ I would like to **retain** the **POU** filter(s) in my residence. I understand that once municipal water is available to my property, I will be responsible for the operation and maintenance of the system. Wolverine World Wide, Inc. will no longer be responsible for any operation, maintenance, or services associated with this system.

_____ I would like the **POU** filter(s) **removed** from my residence.

_____ Not Applicable, I do not have a POU filter.

Signature: _____ **Date:** _____

You may return this completed form to R&W/GZA at House.Street@gza.com or to 601 Fifth Street NW, Suite 102, Grand Rapids, MI 49504

GZA GeoEnvironmental, Inc.