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Subject: Response to Wisconsin Department of Natural Resources Revised Long-Term Potable Well Sampling Plan JCI/Tyco FTC (PFAS), 2700 Industrial Parkway South, Marinette, Wisconsin  
BRRTS Activity #: 02-38-580694  
Date: January 12, 2021

Dear Ms. Sellwood,

On behalf of Tyco Fire Products, LP (Tyco), Arcadis US, Inc. (Arcadis) submits the following responses to comments (RTC) to the November 16, 2020 Wisconsin Department of Natural Resources (WDNR) comments on the April 1, 2020 *Revised Long-Term Potable Well Sampling Plan* for the Tyco Fire Technology Center (FTC) Site (the Site) in Marinette, Wisconsin, referenced above. Each WDNR comment is presented below, followed by Tyco's response.

## Background

In the November 16, 2020 letter noted above, WDNR stated the following:

“On January 17, 2018, Johnson Controls, Inc. on behalf of Tyco Fire Products, LP (JCI/Tyco) reported a discharge of per- and polyfluoroalkyl substances (PFAS) to the environment. The discharge occurred as the result of PFAS-containing aqueous film forming foams (AFFF) being discharged as part of firefighting training activities conducted at the JCI/Tyco Ansul Fire Technology Center (FTC), located at 2700 Industrial Parkway in Marinette, Wisconsin (the Site), from approximately the 1960s through the fall of 2017.”

As Tyco has noted previously, the January 17, 2018 date is incorrect. Tyco reported a discharge of per-and polyfluoroalkyl substances in (PFAS) to the environment in November 2016.

Tyco eliminated the ingestion exposure pathway beginning in December 2017 by offering bottled water service to any parcel owner or tenant with a private drinking water well within the PWSA as it was understood at that time. As investigation data were analyzed, the PWSA expanded to reach additional properties. With every expansion of the PWSA, bottled water service was offered at no cost to homeowners or residents with private drinking water wells prior to any sampling at the home or business. Tyco submitted over 1,000 pages of documents demonstrating the nature and extent of PFAS impacts from the FTC to the Town of Peshtigo which confirmed the existing PWSA sufficiently protects residents with private drinking water wells (a list of those documents is included in the response to WDNR Comment 2).

Ms. Alyssa Sellwood  
WDNR  
January 12, 2021

Tyco outreach efforts to offer bottled water service within the PWSA included public meetings, letters, and phone calls. Participation in the residential sampling program was not required to receive a bottled water offer. This interim solution remains in place at no cost to homeowners regardless of previous sampling results. In some cases, Point of Entry Treatment (POET) Systems were installed when there were confirmed detections of PFOA and/or PFOS. To date, 41 POET systems have been installed. Homes and businesses with POET systems were not required to surrender their bottled water service despite regular sampling and maintenance of those systems that demonstrated their effectiveness at removing PFAS.

Bottled water and POET systems were always intended to be a short-term, interim solution. Tyco continues to work diligently with multiple stakeholders toward installing a municipal water system that will eliminate the need for bottled water service and POET systems in the area.

This Revised Long-Term Potable Well Sampling Plan (RLTPWSP) recognizes that the potential exposure pathway through ingestion for PFAS was eliminated with the provision of bottled water service independent of any sampling. If Tyco were to condition bottled water service on sampling results, then a continuous sampling program would be in order. Tyco instead voluntarily took the more conservative approach of providing bottled water to all residents with private drinking water wells within the PWSA. Investigation activities conducted to date conclude that the nature and extent of PFAS impacts from the FTC are defined and contained within the existing PWSA. While additional data will continue to be collected through a long-term monitoring well network (Figure 1), it is no longer necessary to collect individual, private drinking water well samples. However, in an effort to keep homeowners and tenants aware of their current water conditions until a long-term municipal solution is in place, Tyco is volunteering to continue sampling properties at a reduced frequency based on the number of previous samples collected and the results of those samples. New properties – parcels that were previously non-responsive – within the PWSA will be eligible for quarterly sampling for two consecutive quarters and additional sampling as defined in section 3.1.1 of the RLTPWSP. The schedule for future sampling of previously sampled properties is defined in section 3.1.2 of the RLTPWSP.

## WDNR Review

### Comment 1:

Clarify which potable wells fall into each category of proposed sampling.

- For example, it is unclear if potable wells with POET systems remain in the general monitoring program. Please clarify if the general monitoring schedule is to be separate from the POET system monitoring.
- The DNR recommends the Plan include a table to illustrate the sampling schedule for all well types discussed.

### Tyco Response:

*Summary tables of the LTMP and POETS monitoring programs since first quarter 2018 are provided in Table 1 and 2 (attached). Table 1 and 2 provide a summary of the private drinking water well and POETS programs, respectively, coded by the following criteria: 1) below the laboratory RL; 2) between the RL and the recommended enforcement standard (ES); and 3) above the recommended ES. Table 3 provides a summary of all the wells in the PWSA. The potable wells with POET systems are in a separate monitoring program, which is focused on assessing performance of the POET system during initial deployment.*

**Comment 2:**

Based upon information data provided in the Plan, the DNR does not concur with scaling back the monitoring frequency for wells identified as being previously sampled. The Plan should identify the reasoning used to support the reduction in overall monitoring frequency and should be further supported by data from previous reports, citing both data ranges (e.g., of PFAS concentrations) and report submittal dates as a part of this report.

***Tyco Response:***

*Since program inception, there have been up to nine sampling events at each potable well location. The number of samples varies due to owner participation and date entering the program. Section 3.1.2 of the RLTPWSP for further details. Bottled water and POETs are offered to owners and operators in the PWSA. This voluntary interim action provides a safe drinking water solution until construction of a long-term municipal water solution.*

*Data to support the program is provided in sampling results letters provided to WDNR and the project PFAS database to WDNR on a bi-weekly basis. On June 1, 2020, the Potable Well Sampling Program Summary Report – FTC Sampling Area was submitted to the WDNR with all analytical results.*

**Comment 3:**

DNR does not concur with reducing the monitoring schedule for new potable wells entering the monitoring program as outlined in the Plan. The DNR directs that the following monitoring schedule be applied, based on laboratory analytical results:

- Any new well with a recorded detection of PFAS compounds should be sampled quarterly for the first year, regardless of the levels of PFAS concentrations detected;
- Wells with a full year of quarterly data with PFAS contamination concentrations below the laboratory reporting limit (RL) may be reduced to semiannually (every 6 months);
- Wells with a full year of semiannual data with PFAS concentrations below the laboratory RL may move to annual sampling;
- Wells with a full year of annual data with PFAS concentrations below the laboratory RL may move to biennial (every 2 years) sampling;
- The DNR concurs with the POET monitoring and maintenance program as outlined in the plan.

***Tyco Response:***

*It is important to note that standard practice within the study area is to offer bottled water to all residences within the sampling area regardless of the presence or absence of PFAS detected in their private water supply. Tyco does not propose to change this practice at this time. Therefore, the proposed revision directed by the WDNR is unnecessary for decision making related to determination of whether a residence receives bottled water service and becomes simply a data gathering activity. In addition, a municipal water supply is the proposed long-term solution to provide safe drinking water to affected drinking water well users. However, in the interest of continued cooperation, Tyco agrees to implement the proposed sampling schedule above for new wells entering the monitoring program in the defined PWSA until such time as the municipal water supply is in place for the existing study area.*

**Comment 3:**

The plan discusses reporting results in relation to the United States Environmental Protection Agency's Health Advisory Level (HAL) of 70 ppt PFOA+PFOS. The guiding measure for health-based decision making at the Site

Ms. Alyssa Sellwood  
WDNR  
January 12, 2021

are the recommendations for PFAS groundwater standards from Wisconsin DHS, rather than the 2016 EPA recommendation of 70 ppt for drinking water. Therefore, DNR directs that JCI/Tyco adhere to the following:

- When sampling results are reported to property owners, tenants or both per Wis. Admin. Code § NR 716.14, PFAS results, as well as any additional sampled parameters, should be reported in accordance with the DNR letter, dated August 12, 2020, regarding DHS's recommendations for communicating private well testing results.
- In future revisions of the Long-Term Potable Well Sampling Plan, review all applicable DHS recommendations for groundwater standards from Cycle 10 and Cycle 11 and apply these as decision-making criteria to private well sampling results. (Links to the DHS's recommended Cycle 10 and Cycle 11 groundwater standards are included below for reference).

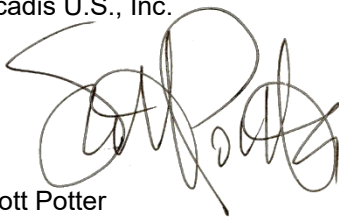
***Tyco Response:***

*Note that the proposed sampling plan was submitted well before the Cycle 11 recommendations were published. However, currently Tyco provides a Sample Results Notification letter to property owners and tenants that includes a summary of the DHS Cycle 10/Cycle 11 groundwater standard recommendations, a summary table of the sample analytical results with a comparison to the DHS recommendations, and a copy of the laboratory analytical report, which is consistent with the August 12, 2020 DNR recommendations.*

*Future revisions to the Long-Term Potable Well Sampling Plan will include comparison of the Cycle 10/Cycle 11 proposed criteria, as is currently done in practice. Tyco is committed to providing a long-term drinking water solution to affected properties through a municipal water source. Regardless of the addition of PFAS substances through DHS groundwater Cycle 11 review, the long-term solution will address the drinking water pathway.*

If you have any questions regarding these comment responses, please let me know.

Sincerely,  
Arcadis U.S., Inc.



Scott Potter  
Chief Hydrogeologist/Senior Vice President

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- CC. Bridget Kelly, David Neste – WDNR  
Jeffrey Danko, Scott Wahl – Tyco
- Enc. Table 1 – Private Drinking Water Well Program  
Table 2 – Private Drinking Water Wells in POET Program  
Table 3 – Private Drinking Water Well Results by Category  
Figure 1 – Long-term Monitoring Well Network

**Table 1**  
**Private Drinking Water Well Program**  
**Marinette, Wisconsin**

Well Sample ID	# of Quarterly Samples Collected	Most Conservative Category
WS-001	8	< RL
WS-002	2	< RL
WS-004	1	< RL
WS-005	9	< RL
WS-005B	2	< RL
WS-006	3	< RL
WS-007A <sup>(1)</sup>	1	> ES
WS-007B <sup>(1)</sup>	2	> ES
WS-010	5	< RL
WS-011	7	< RL
WS-012	6	< RL
WS-014	9	< RL
WS-015	4	< RL
WS-016	6	< RL
WS-020	7	< RL
WS-021	2	< RL
WS-022	7	< RL
WS-026	8	< RL
WS-027	5	< RL
WS-028	4	< RL
WS-029	7	< RL
WS-031	9	< RL
WS-033	9	< RL
WS-034	9	< RL
WS-035	5	RL < ES
WS-039	7	< RL
WS-040	7	< RL
WS-041	8	< RL
WS-042	8	< RL
WS-043	7	< RL
WS-044	9	< RL
WS-045	9	< RL
WS-046	4	< RL
WS-047	2	< RL
WS-048 <sup>(1)</sup>	8	RL < ES
WS-050	9	< RL
WS-051	9	< RL
WS-055	6	< RL
WS-056	4	< RL
WS-059	4	< RL
WS-060 <sup>(1)</sup>	4	RL < ES
WS-061A	2	< RL
WS-062 <sup>(2)</sup>	5	> ES
WS-063	9	< RL
WS-064	7	RL < ES
WS-065	9	< RL
WS-066	7	< RL

**Table 1**  
**Private Drinking Water Well Program**  
**Marinette, Wisconsin**

Well Sample ID	# of Quarterly Samples Collected	Most Conservative Category
WS-069A	7	< RL
WS-069B <sup>(1)</sup>	7	RL < ES
WS-070 <sup>(1)</sup>	1	> ES
WS-071	6	< RL
WS-072	9	< RL
WS-073	9	< RL
WS-074	1	< RL
WS-075	9	< RL
WS-076	3	< RL
WS-077	5	< RL
WS-078	9	< RL
WS-079	9	< RL
WS-080	4	< RL
WS-081	3	< RL
WS-082	2	< RL
WS-082B	1	< RL
WS-082C	1	< RL
WS-082D <sup>(1)</sup>	2	> ES
WS-083	6	< RL
WS-084	9	< RL
WS-085	7	< RL
WS-086	6	< RL
WS-087	9	< RL
WS-088	9	< RL
WS-089	4	< RL
WS-091	4	< RL
WS-093	5	< RL
WS-094 <sup>(1)</sup>	6	RL < ES
WS-095	3	< RL
WS-098	5	< RL
WS-101 <sup>(2)</sup>	2	> ES
WS-102	8	< RL
WS-103	5	< RL
WS-104	8	< RL
WS-105	1	< RL
WS-107	6	< RL
WS-108	8	< RL
WS-110A	9	< RL
WS-112	8	< RL
WS-113	9	< RL
WS-114	5	< RL
WS-116	7	< RL
WS-117	7	< RL
WS-118A	5	< RL
WS-118B	4	< RL
WS-119	9	< RL
WS-120	6	< RL

**Table 1**  
**Private Drinking Water Well Program**  
**Marinette, Wisconsin**

Well Sample ID	# of Quarterly Samples Collected	Most Conservative Category
WS-122	9	< RL
WS-123	5	< RL
WS-124 <sup>(1)</sup>	6	RL < ES
WS-125	6	< RL
WS-127	2	< RL
WS-128	3	< RL
WS-130	9	< RL
WS-131	6	< RL
WS-132	8	< RL
WS-134	5	< RL
WS-135	3	< RL
WS-136	5	< RL
WS-137	6	< RL
WS-138	7	< RL
WS-139	8	< RL
WS-140	4	RL < ES
WS-141	7	< RL
WS-142	3	< RL
WS-143	5	RL < ES
WS-144	5	< RL
WS-145	4	< RL
WS-147 <sup>(2)</sup>	2	> ES
WS-148	2	< RL
WS-149	2	< RL
WS-150	2	< RL
WS-151	3	< RL
WS-152	6	< RL
WS-153	6	< RL
WS-154	4	< RL
WS-155	3	< RL
WS-156	6	< RL
WS-157	5	RL < ES
WS-158	2	> ES
WS-159 <sup>(1)</sup>	2	> ES
WS-160	3	< RL
WS-161	2	< RL
WS-162	1	< RL

**Notes:**

Data compared against Cycle 11 proposed groundwater standards;  
not all compounds with proposed criteria were analyzed

<sup>(1)</sup> = POET offer extended

<sup>(2)</sup> = POET offer declined

ES = Wisconsin Department of Natural Resources proposed Enforcement Standard

ID = Identification

RL = Reporting Limit

**Table 2**  
**Private Drinking Water Wells in POET OM&M Program**  
**Marinette, Wisconsin**

Well Sample ID	POET ID	Most Conservative Category
WS-008	POET-7	> ES
WS-009	POET-26	> ES
WS-013	POET-10	RL < ES
WS-017	POET-40	RL < ES
WS-018	POET-29	> ES
WS-019	POET-5	> ES
WS-023	POET-14	RL < ES
WS-024	POET-11	> ES
WS-025	POET-28	> ES
WS-030	POET-31	> ES
WS-032	POET-25	< RL
WS-036	POET-3	> ES
WS-037	POET-32	> ES
WS-038	POET-19	> ES
WS-049	POET-35	RL < ES
WS-052	POET-2	> ES
WS-053	POET-21	RL < ES
WS-054	POET-30	> ES
WS-057	POET-34	> ES
WS-058	POET-1	> ES
WS-061B	POET-27	> ES
WS-067	POET-39	RL < ES
WS-068	POET-12	> ES
WS-090	POET-4	> ES
WS-092	POET-22	< RL
WS-096	POET-6	> ES
WS-097	POET-13	RL < ES
WS-099	POET-15	RL < ES
WS-100	POET-24	RL < ES
WS-106	POET-37	> ES
WS-109	POET-17	> ES
WS-111	POET-18	RL < ES
WS-115	POET-20	< RL
WS-121A	POET-16	> ES
WS-121B	POET-36	RL < ES
WS-126	POET-23	< RL
WS-129	POET-38	RL < ES
WS-133	POET-33	RL < ES
WS-146A	POET-8	> ES
WS-146B	POET-9	> ES
WS-163	POET-41	> ES

**Notes:**

Data compared against Cycle 11 proposed groundwater standards;  
 not all compounds with proposed criteria were analyzed

ES = Wisconsin Department of Natural Resources proposed Enforcement Standard

OM&M = Operations, Maintenance and Monitoring



**Table 2**  
**Private Drinking Water Wells in POET OM&M Program**  
**Marinette, Wisconsin**

Well Sample ID	POET ID	Most Conservative Category
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POET = Point of Entry Treatment

ID = Identification

RL = Reporting Limit

**Table 3**  
**Private Drinking Water Well Results By Category - All Private Wells**  
**Marinette, Wisconsin**

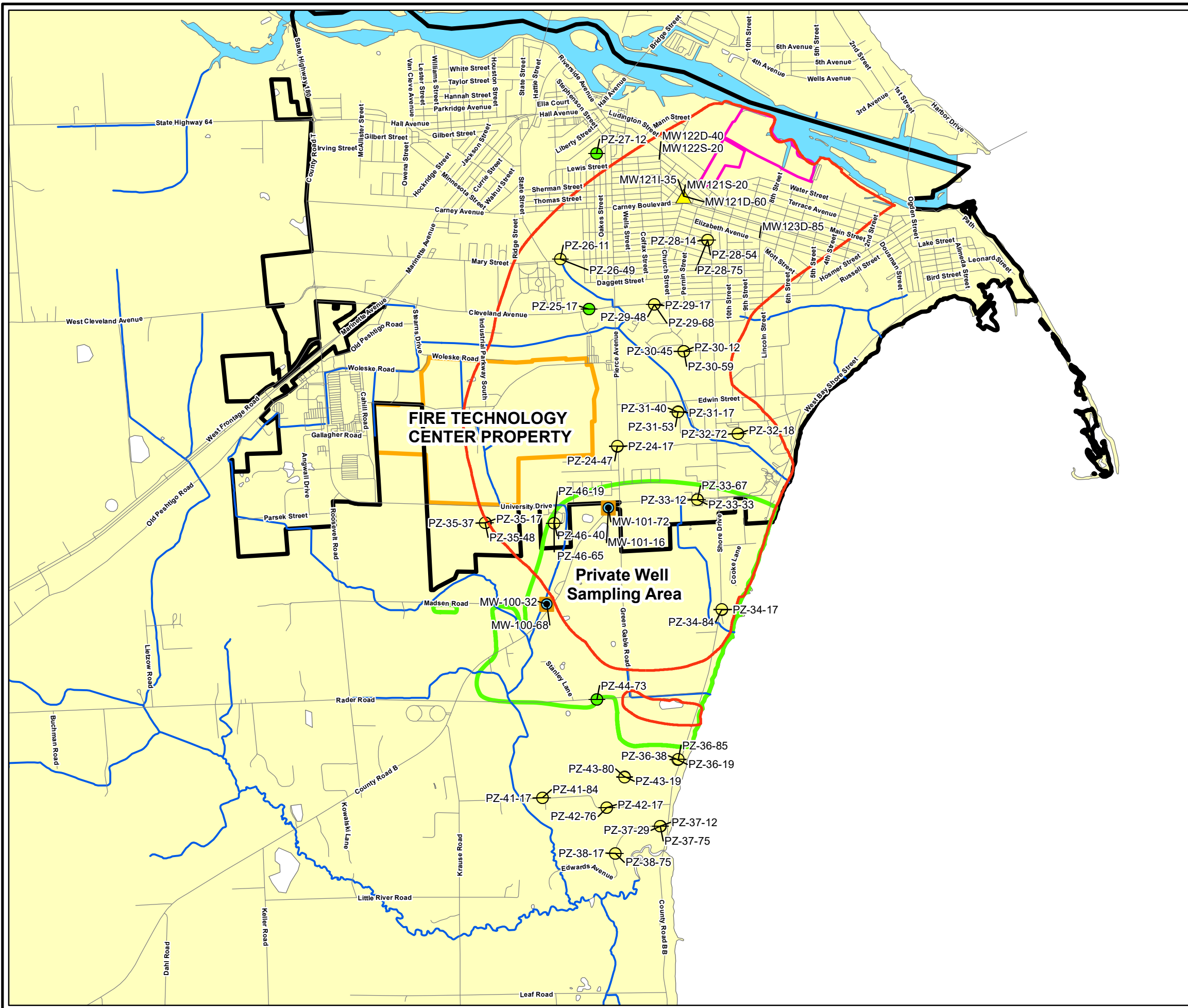
Private Wells With Results Below RL		Private Wells with Results Between RL and Proposed ES	Private Wells with Results Exceeding the Proposed ES
WS-001	WS-085	WS-013	WS-007A
WS-002	WS-086	WS-017	WS-007B
WS-004	WS-087	WS-023	WS-008
WS-005	WS-088	WS-035	WS-009
WS-005B	WS-089	WS-048	WS-018
WS-006	WS-091	WS-049	WS-019
WS-010	WS-092	WS-053	WS-024
WS-011	WS-093	WS-060	WS-025
WS-012	WS-095	WS-064	WS-030
WS-014	WS-098	WS-067	WS-036
WS-015	WS-102	WS-069B	WS-037
WS-016	WS-103	WS-094	WS-038
WS-020	WS-104	WS-097	WS-052
WS-021	WS-105	WS-099	WS-054
WS-022	WS-107	WS-100	WS-057
WS-026	WS-108	WS-111	WS-058
WS-027	WS-110A	WS-121B	WS-061B
WS-028	WS-112	WS-124	WS-062
WS-029	WS-113	WS-129	WS-068
WS-031	WS-114	WS-133	WS-070
WS-032	WS-115	WS-140	WS-082D
WS-033	WS-116	WS-143	WS-090
WS-034	WS-117	WS-157	WS-096
WS-039	WS-118A		WS-101
WS-040	WS-118B		WS-106
WS-041	WS-119		WS-109
WS-042	WS-120		WS-121A
WS-043	WS-122		WS-146A
WS-044	WS-123		WS-146B
WS-045	WS-125		WS-147
WS-046	WS-126		WS-158
WS-047	WS-127		WS-159
WS-050	WS-128		WS-163
WS-051	WS-130		
WS-055	WS-131		
WS-056	WS-132		
WS-059	WS-134		
WS-061A	WS-135		
WS-063	WS-136		
WS-065	WS-137		
WS-066	WS-138		
WS-069A	WS-139		
WS-071	WS-141		
WS-072	WS-142		
WS-073	WS-144		

**Table 3**  
**Private Drinking Water Well Results By Category - All Private Wells**  
**Marinette, Wisconsin**

Private Wells With Results Below RL		Private Wells with Results Between RL and Proposed ES	Private Wells with Results Exceeding the Proposed ES
WS-074	WS-145		
WS-075	WS-148		
WS-076	WS-149		
WS-077	WS-150		
WS-078	WS-151		
WS-079	WS-152		
WS-080	WS-153		
WS-081	WS-154		
WS-082	WS-155		
WS-082B	WS-156		
WS-082C	WS-160		
WS-083	WS-161		
WS-084	WS-162		
116		23	33

**Notes:**

Data compared against Cycle 11 proposed groundwater standards;  
 not all compounds with proposed criteria were analyzed  
 ES = Wisconsin Department of Natural Resources proposed Enforcement Standard  
 RL = Reporting Limit

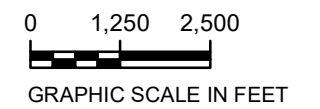


**LEGEND:**

- APPROXIMATE MONITORING WELL LOCATION<sup>1</sup>
- APPROXIMATE CLUSTERED MONITORING WELL LOCATION<sup>1</sup>
- PIEZOMETER LOCATION
- CLUSTERED PIEZOMETER LOCATION
- CLUSTERED MONITORING WELLS
- APPROXIMATE PLUME BOUNDARY
- APPROXIMATE SITE PROPERTY BOUNDARY
- APPROXIMATE MARINETTE CITY BOUNDARY
- PRIVATE WELL SAMPLING AREA
- STANTON STREET FACILITY BOUNDARY
- WATERBODY
- DITCH/STREAM
- ROAD

**1/12/2021**

- NOTES:**
1. WELL LOCATIONS HAVE NOT BEEN SURVEYED AND ARE APPROXIMATE
  2. ONLY OFFSITE WELLS ARE DEPICTED



TYCO FIRE PRODUCTS LP  
 MARINETTE, WISCONSIN

**PRIVATE DRINKING WATER  
 WELL SAMPLING AREA**

