

Mr. David Neste
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
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Subject:
Surface Water Sampling Work Plan
Tyco Fire Technology Center (FTC) PFAS, 2700 Industrial Parkway South,
Marinette, Wisconsin
BRRTS Activity#: 02-38-580694

ENVIRONMENT

Date:
July 10, 2020

Dear Mr. Neste:

Contact:
Ben Verburg

On behalf of Tyco Fire Products LP (Tyco), Arcadis US, Inc. (Arcadis) has prepared this Surface Water Sampling Work Plan (Work Plan) to collect surface water samples for analysis of per- and poly-fluoroalkyl substances (PFAS) in Ditches A and B in the City of Marinette. As noted in the June 3, 2020 letter from Tyco to the Wisconsin Department of Natural Resources (WDNR), Tyco agreed to prepare a Work Plan and conduct a surface water sampling event in July 2020 in advance of sampling that will be outlined in the Comprehensive Site Investigation Work Plan for the Tyco Fire Technology Center (FTC) that will be submitted to WDNR in mid-August 2020. The proposed surface water sampling activities are outlined below.

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414.277.6231

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Our ref:
30015294.00002

SAMPLE COLLECTION

Surface water samples will be collected from within Ditches A and B on and near the Site to evaluate the extent of PFAS present in the ditch water downstream of the surface water treatment systems on these ditches. One sample will be collected from each ditch as shown on **Figure 1** (attached). The sample from Ditch A will be collected at location SW-40, downstream of the Ditch A treatment system. The sample from Ditch B will be collected from SW-39, downstream of the Ditch B treatment system. These sample locations were selected to assess PFAS concentrations in ditch water downstream of the treatment systems.

Samples will be collected using procedures similar to prior sampling events. Samples will be collected by hand using a clean beaker attached to a pole, then pouring the sample into appropriate lab-supplied containers. Sample locations will be accessed by walking or wading, as appropriate for field conditions. A

project Quality Assurance Project Plan (QAPP) was prepared and submitted to the WDNR on May 8, 2020, and the sampling will follow the protocols presented in the QAPP. Surface water samples will be analyzed for PFAS using a modified version of United States Environmental Protection Agency (U.S. EPA) Method 537 and Total Suspended Solids (TSS) using Standard Methods 2540D, following the Quality Assurance/Quality Control (QA/QC) and sample handling procedures described below.

QUALITY ASSURANCE AND QUALITY CONTROL

Special Considerations for PFAS Sampling

The detection of PFAS compounds at very low concentrations can be influenced by common PFAS-containing materials that may be present at the Site or introduced by sampling equipment or personnel. Therefore, sampling protocols are to be strictly followed by the sampling personnel. To minimize the potential for cross-contamination, attention will be given to sampling equipment, decontamination procedures, as well as clothing and personal care products used by sampling personnel.

Sampling for PFAS compounds will include the submission of one laboratory-supplied reagent field blank per day to analyze for the presence of ambient PFAS in the sampling area. PFAS-free water used for the reagent field blank sample will be brought to the Site in a laboratory-supplied bottle. Field staff will transfer the laboratory-supplied PFAS-free water into an empty sample bottle. This reagent field blank will be placed in the same cooler as other samples intended for PFAS analyses.

All sampling equipment will be decontaminated between sample locations using an Alconox®, Liquinox®, or methanol solution between locations then rinsed with laboratory-supplied PFAS-free water. To assess the adequacy of the decontamination process, a rinse blank will be collected every 20 samples or once per day, whichever is more frequent. To prepare a rinse blank, a sample of PFAS-free water will be poured over or through decontaminated field equipment prior to collection of environmental samples.

Laboratory Methods and Analysis

Samples will be placed in laboratory-supplied containers, stored and shipped on ice, and handled with chain of custody documentation. All samples will be sent to TestAmerica or an equivalent lab that is accredited for PFAS analysis. Samples will be analyzed for the 36 PFAS compounds that are reportable using a modified version of U.S. EPA Method 537, and Standard Methods 2540D for TSS analysis.

As part of the field QA/QC, one matrix spike (MS) sample and one matrix spike duplicate (MSD) sample will be collected for every 20 field samples collected and one field duplicate will be collected for every ten field samples.

Internal laboratory QA/QC will consist of one laboratory blank and one laboratory control sample (or blank spike) per batch of samples, and additional QA/QC as indicated by the laboratory QA/QC procedures.

After receipt from the laboratory, Arcadis will conduct a Stage 2 data quality review (Level 2 data validation). The sample results will be communicated to WDNR after completion of the Stage 2 data quality review.

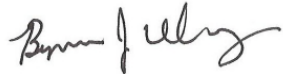
Mr. David Neste
Wisconsin Department of Natural Resources
July 10, 2020

REPORTING

After the investigation is complete and laboratory data are received, Arcadis will prepare a brief letter report summarizing the investigation results.

Sincerely,

Arcadis U.S., Inc.



Benjamin J. Verburg, PE
Principal Engineer

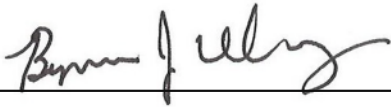
Enclosure:

Figure

- 1 Proposed Surface Water Sampling Locations

NR 712.09 CERTIFICATION

I, Benjamin J. Verburg, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



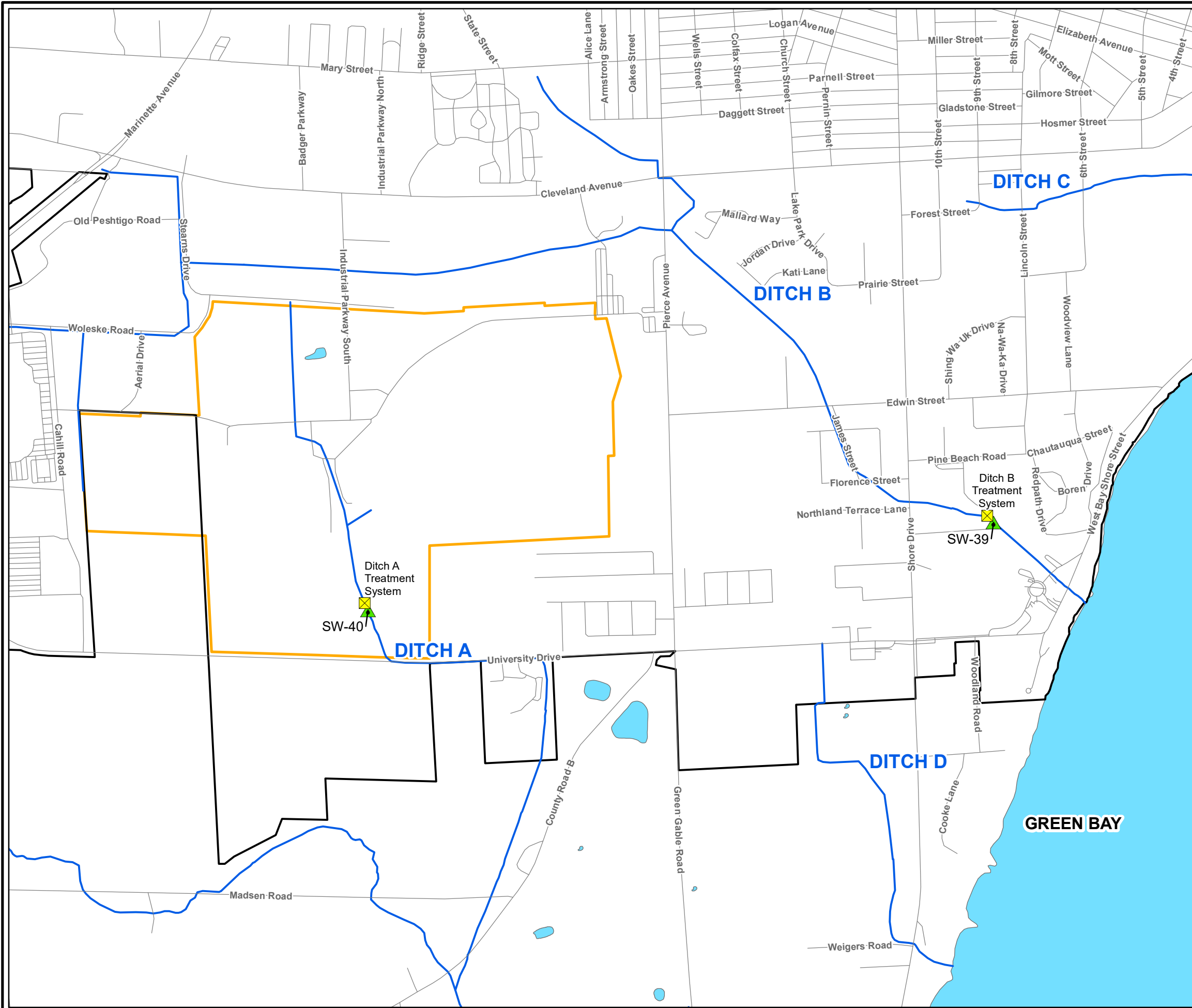
Signature, title and P.E. number









P.E. stamp

FIGURE



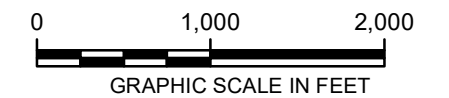


LEGEND:

-  JULY 2020 SURFACE WATER SAMPLING LOCATION
-  APPROXIMATE SITE PROPERTY BOUNDARY
-  APPROXIMATE MARINETTE CITY BOUNDARY
-  ROAD
-  DITCH/STREAM
-  WATERBODY

NOTES:

1. CITY BOUNDARY DATA SOURCE: WISCONSIN LEGISLATIVE TECHNOLOGY SERVICES BUREAU, WISCONSIN COUNTY CLERKS AND LAND INFORMATION OFFICES, ACCESSED FALL 2017.
2. DITCH/STREAM AND WATERBODY DATA SOURCE: U.S. GEOLOGICAL SURVEY NATIONAL HYDROGRAPHY DATASET, ACCESSED FALL 2017.
3. ROAD DATA SOURCE: OPEN STREET MAP, ACCESSED FALL 2017.



TYCO FIRE TECHNOLOGY CENTER MARINETTE, WISCONSIN	
PROPOSED SURFACE WATER SAMPLING LOCATION	
	FIGURE 1