K P R G
ENVIRONMENTAL CONSULTATION & REMEDIATION
KPRG and Associates, Inc.

PFAS and 1,4-DIOXANE SAMPLING WORK PLAN

October 17, 2023

Mr. Mark Drews, P.G.
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, WI 53188

VIA E-MAIL and FEDEX

KPRG Project No. 11717

Re: Former Navistar/RMG Foundry Site – 1401 Perkins Avenue, Waukesha, WI
FID# 268005430, BRRTS # 02-68-098404

Dear Mr. Drews:

KPRG and Associates, Inc. (KPRG) is submitting this Work Plan, on behalf of Navistar, Inc. (Navistar), for the initial sampling of groundwater for the emerging contaminants of per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. This Work Plan provides a project objective, documents the scope of the proposed work to be performed, and specifies the associated reporting. Each item is discussed separately below.

PROJECT OBJECTIVE

The objective of this initial sampling is to provide a screening of existing groundwater quality conditions for the potential presence of PFAS and 1,4-dioxane. The screening will be based on a subset of monitoring wells selected to provide data across the defined trichloroethene (TCE) impacts area(s). The results of the sampling will be used to assess whether expanded sampling needs to be considered to further define impacts, determine if their presence is endemic to the overall area, or if the noted emerging contaminants are not an issue at this site.

SCOPE OF WORK

Groundwater Sample Locations

To fulfill the stated project objective, KPRG has selected a subset of seven monitoring wells. Specifically, these wells are:

- North Plume – MW-33, MW-30, MW-15 and MW-36
- South Plume – MW-52, MW-35 and MW-37

The rationale for the selection of this subset of wells is provided in Table 1 and the locations are highlighted on Figure 1. It is noted that Figure 1 includes the most recent TCE isoconcentration map of the North and South Plumes based on June 2023 sampling data.

Sample Collection Procedures

The sample collection will be completed by KPRG. Samples will be collected employing sampling procedures specific to PFAS sample collection protocol, with consideration for elimination of PFAS cross-contamination potentials during sample collection (e.g., in accordance with the Michigan Department of Environmental Quality General PFAS Sampling Guidance and Wisconsin Department of Natural Resources (WDNR) NR 716.13 general sampling requirements). Samplers will wash their hands and don a new pair of powderless nitrile gloves prior to sampling at each location. All exterior clothing will be cotton (no synthetic materials and no GORE-TEX© treated materials). Samples will be collected using low flow groundwater sampling techniques with bladder pumps. The pump will be decontaminated between each sample location along with new bladders for each sample.

All samples will be labeled, placed on ice and transported by courier directly to the analytical laboratory under a properly completed chain-of-custody.

Sample Containers/Preservatives

PFAS water samples will be poured directly into laboratory prepared, 250-milliliter unpreserved plastic bottles (high density polyethylene with non-Teflon caps). The 1,4-dioxane samples will be poured directly into laboratory prepared, 250-milliliter unpreserved amber glass bottles.

Quality Assurance/Quality Control Samples

For quality assurance/quality control (QA/QC) purposes, the following additional samples will be collected:

- Duplicate – One field duplicate sample will be collected from a randomly chosen well. The sample will be collected using the same method used for investigative sample collection. The sample will be identified in a manner so that the analytical laboratory will not know from which well the sample was collected.

- Trip/Field Blank – One laboratory-provided PFAS-free water blank will be provided. The PFAS-free water will be transferred into laboratory prepared containers in the field during sampling activities.

Sampling Frequency/Schedule

The proposed sampling will be included as part of ongoing quarterly groundwater sampling. The proposed PFAS and 1,4-dioxane sampling will include an initial sampling round and a second follow-up verification sampling round. If it is determined and verified that there are no PFAS above the currently established WDNR guidelines and 1,4-dioxane concentrations are below the established NR 140 Enforcement Standard (ES), then no further sampling will be deemed necessary relative to these compounds. If detections of PFAS and/or 1,4-dioxane are documented and verified above the currently

established guidelines or ES, respectively, an expanded sampling program may be necessary to define such impacts to assess whether they may be related to the subject site. The sampling will be scheduled to occur after Work Plan approval by the WDNR.

Analytical Requirements

The samples will be analyzed by Pace Analytical Services which is Wisconsin certified for the required analyses. The PFAS samples will be analyzed using Modified EPA Method 537 with detection limits below 2 nanograms/liter. The full list of PFAS compounds to be analyzed is provided in Attachment 1. In addition, 1,4-dioxane will be analyzed using Method 8270 SIM with a method detection limit of 0.10 micrograms/liter (ug/l). The analytical laboratory will be requested to provide a Level 2 deliverable package.

REPORTING

PFAS and 1,4-dioxane reporting will be done under separate cover from the standard quarterly monitoring data reporting. Sampling results will be provided to WDNR within 10-days of the receipt of the analytical data packages. Within 30-days of receipt of the analytical data from the verification sampling round, the WDNR will be provided with a data summary report. The report will include, but not be limited to:

- Objective of sampling;
- Documentation of field procedures;
- Data summary (tabular and descriptive form); and
- Conclusions/Recommendations.

A full hard copy of the analytical data package will be provided as an Attachment to the report. The data will also be submitted electronically through the established WDNR electronic reporting portal.

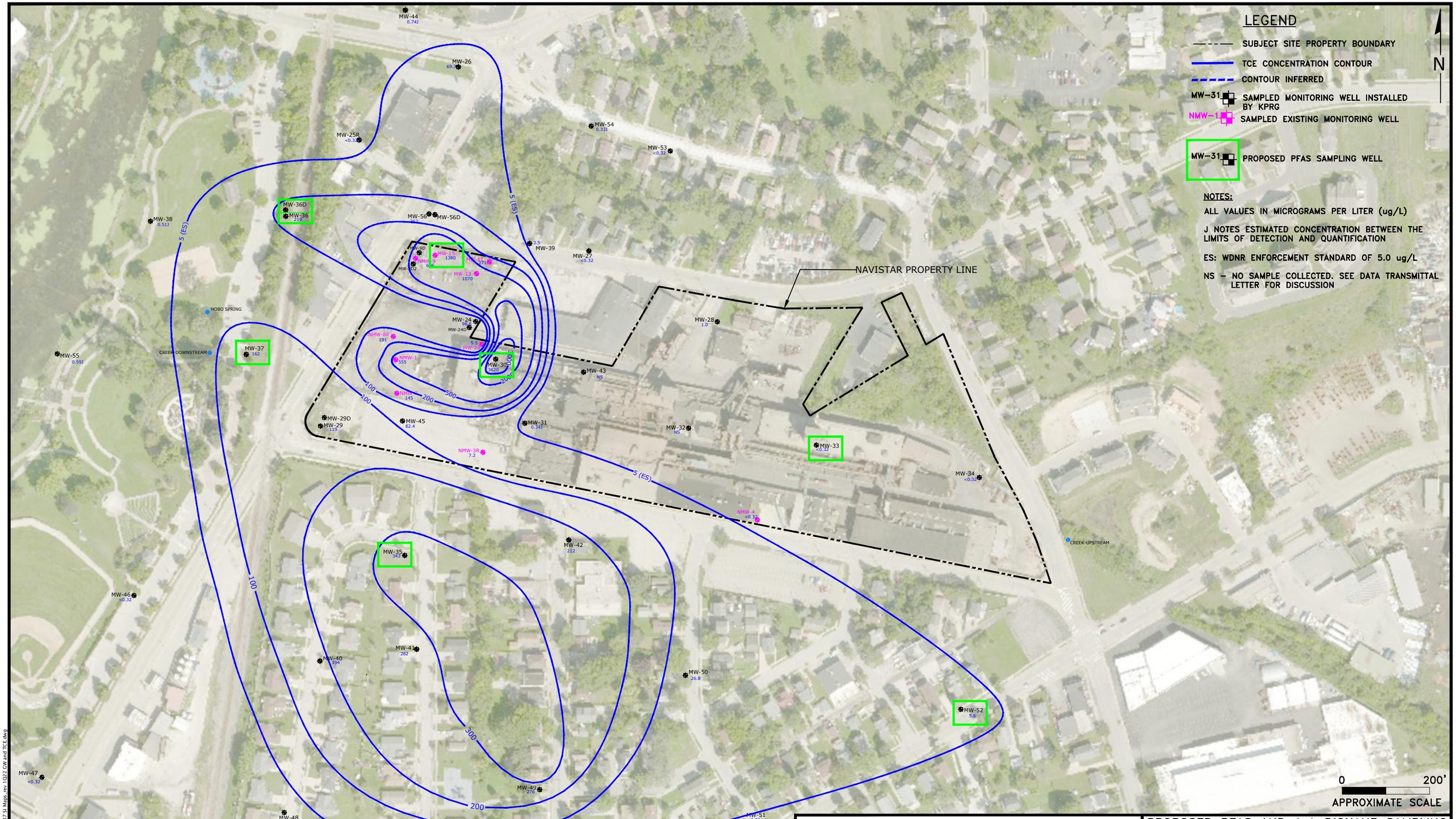
KPRG and the Navistar, Inc. look forward to cooperatively working with the WDNR in completing the required site investigation work. If there are any questions, please contact me at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R Gnat

Richard R. Gnat, P.G.
Principal

cc: Ferdinand Alido, Navistar, Inc.
Ned Witte, Godfrey & Kahn, S.C.



NOTES: Isoconcentration Map for TCE based on June 2023 Sampling

W:\Projects\Navistar\Navistar Drawings\11717 SI Maps_rev 1Q22 GW and TCE.dwg

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

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PROPOSED PFAS AND 1,4-DIOXANE SAMPLING LOCATIONS MAP

RMG WAUKESHA FOUNDRY
1401 PERKINS AVE, WAUKESHA, WI

Scale: 1” = 200’ | Date: October 10, 2023

KPRG Project No. 11717 | FIGURE 1

Table 1. PFAS and 1,4-Dioxane Well Sampling Location Rationale

Well Location	Rationale
MW-33	North Plume - Upgradient location
MW-30	North Plume - Source Area (Core Room)
MW-15	North Plume - Source Area (North Yard)
MW-36	North Plume - Downgradient approaching plume edge
MW-52	South Plume - Upgradient location
MW-35	South Plume - Central location within plume
MW-37	South Plume - Downgradient location in area of possible commingling with North Plume

ATTACHMENT 1
PFAS List

WISCONSIN DNR PFAS LIST - 1.1.21

#	Acronym (EPA)	Name [# carbons] (*trade name*)	CAS #	ES (ng/L) *	PAL (ng/L) *	Acronyms (other)
		Carboxylic Acids				
1	PFBA	Perfluorobutanoic acid [C4] (*FC 23, Fluorad FC 23*)	375-22-4	10,000	2,000	HFBA
2	PFPeA	Perfluoropentanoic acid [C5]	2706-90-3			
3	PFHxA	Perfluorohexanoic acid [C6]	307-24-4	150,000	30,000	
4	PFHpA	Perfluoroheptanoic acid [C7]	375-85-9			
5	PFOA	Perfluorooctanoic acid [C8]	335-67-1	20 [c]	2 [c]	8PF
6	PFNA	Perfluorononanoic acid [C9]	375-95-1	30	3	
7	PFDA	Perfluorodecanoic acid [C10]	335-76-2	300	60	Ndfda, PFDeA
8	PFUnA	Perfluoroundecanoic acid [C11]	2058-94-8	3,000	600	PFUdA, PFUnDA
9	PFDoA	Perfluorododecanoic acid [C12]	307-55-1	500	100	PFDoDA. PFDOA, PFDDA
10	PFTrDA	Perfluorotridecanoic acid [C13]	72629-94-8			PFTriA, PFTrA
11	PFTA	Perfluorotetradecanoic acid [C14]	376-06-7	10,000	2,000	PFTeDA, PFTDA, PFTeA, PFTetA, PFTreA
		Sulfonic Acids				
12	PFBS	Perfluorobutanesulfonic acid [C4] (*FC-98*)	375-73-5	450,000	90,000	PFBuS
13	PFPeS	Perfluoropentanesulfonic acid [C5]	2706-91-4			
14	PFHxS	Perfluorohexanesulfonic acid [C6]	355-46-4	40	4	PFHS
15	PFHpS	Perfluoroheptanesulfonic acid [C7]	375-92-8			
16	PFOS	Perfluorooctanesulfonic acid [C8] (*FC 95, Fluorad FC 95*)	1763-23-1	20 [c]	2 [c]	nPFOS, P8S
17	PFNS	Perfluorononanesulfonic acid [C9]	68259-12-1			
18	PFDS	Perfluorodecanesulfonic acid [C10]	335-77-3			
19	PFDoS	Perfluorododecanesulfonic acid [C12]	79780-39-5			PFDoDS, PFDOS
20	4:2 FTS	4:2 fluorotelomersulfonic acid [C6]	757124-72-4			4:2 FTSA, 4:2 FtS, FtS 4:2
21	6:2 FTS	6:2 fluorotelomersulfonic acid [C8]	27619-97-2			6:2 FTSA, 6:2 FtS, FtS 6:2, 6:2 PFOS, THPFOS
22	8:2 FTS	8:2 fluorotelomersulfonic acid [C10]	39108-34-4			8:2 FTSA, 8:2 FtS, FtS 8:2, 8:2 PFOS
		Sulfonamides, Sulfomidoacetic acids, Sulfonamidoethanols				
23	PFOSA	Perfluorooctanesulfonamide [C8]	754-91-6	20 [c]	2 [c]	FOSA, pfosa
24	NMeFOSA	N-Methylperfluorooctanesulfonamide [C9] (*Fluorad FX 12*)	31506-32-8			MeFOSA, N-MeFOSA, N-Me-FOSA
25	NEtFOSA	N-Ethylperfluorooctanesulfonamide [C10] (*Alstar, Finitron, Fluramin, FX 12, Mirex S, Sulfluramid, Volcano*)	4151-50-2	20 [c]	2 [c]	EtFOSA, N-EtFOSA
26	NMeFOSAA	N-Methylperfluorooctanesulfonamidoacetic acid [C11]	2355-31-9			MeFOSAA, N-MeFOSAA, NMe-PFOSA-AcOH
27	NEtFOSAA	N-Ethylperfluorooctanesulfonamidoacetic acid [C12]	2991-50-6	20 [c]	2 [c]	EtFOSAA, N-EtFOSAA, NEt-PFOSA-AcOH
28	NMeFOSE	N-Methylperfluorooctanesulfonamidoethanol [C11]	24448-09-7			MeFOSE, N-MeFOSE, MeFOSE Alcohol
29	NEtFOSE	N-Ethylperfluorooctanesulfonamidoethanol [C12] (*FC-10, Fluorad FC 10*)	1691-99-2	20 [c]	2 [c]	EtFOSE, N-EtFOSE, N-Et-FOSE
		Replacement Chemicals				
30	HFPO-DA	Hexafluoropropylene oxide dimer acid [C6] (*FRD-903, GenX*)	13252-13-6	300	30	PFPrOPrA
31	DONA	4,8-dioxa-3H-perfluorononanoic acid [C7]	919005-14-4	3,000	600	ADONA (sodium salt of DONA)
32	9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid [C8]	756426-58-1			F-53B Major, C8 Cl-PFESA
33	11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid [C10]	763051-92-9			F-53B Minor, C10 Cl-PFESA
		No recommended standard yet from cycle 11				

c = DHS recommends a combined ES of 20 ng/L and a combined PAL of 2 ng/L for PFOS, PFOA, PFOSA, NEtFOSA, NEtFOSAA, and NEtFOSE.

* The Enforcement Standard (ES) and Preventive Action Limit (PAL) listed in this table have been recommended by the Department of Health Services to the Department of Natural Resources. The Department of Natural Resources is in the rule making process to include these values into ch. NR 140. The standards presented in this table are not required on January 1, 2021 as the rule making process has not been completed yet.