



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



Sent Via Email: hendershotta@michigan.gov

File No. 16.0062335.52

May 4, 2018

Ms. Abigail Hendershott
Acting District Supervisor – Remediation and Redevelopment Division
Michigan Department of Environmental Quality (MDEQ)
350 Ottawa Avenue NW #10
Grand Rapids, MI 49503

Re: Wolverine World Wide, Inc. – House Street CSM Update and Status Report

Dear Ms. Hendershott:

On behalf of Wolverine World Wide, Inc. (Wolverine), this letter responds to your April 4, 2018 letter entitled *House Street Per- and Polyfluoroalkyl Substance (PFAS) Investigation – 1855 House Street, Rockford, Kent County, Michigan, Conceptual Site Model Update and Status Report*. These responses are presented in order by the bullet point listing used in your letter.

- 1) Additional soil sampling at the site is being planned under the EPA UAO Work Plan (WP). Once this WP has been approved by the EPA, R&W/GZA will submit a supplemental letter to the MDEQ better describing the PFAS sampling that will be conducted in conjunction with the EPA WP at the House Street parcel. Regarding the soil sampling requested at the MDOT property, the CSM relates specifically to the House Street parcel. Additional soil sampling is already planned for the MDOT property. The verification sampling was previously proposed to the MDEQ on January 26, 2018. Since that time the EPA has also engaged with Wolverine on the MDOT parcel. R&W/GZA is currently evaluating EPA requirements for this parcel as well. Once a combined sampling effort can be approved, this task will be completed.
- 2) The CSM was completed for the House Street parcel only. The investigation of the MDOT parcel has been and will continue to be handled separately. The excavation and earthwork activities that have taken place on the MDOT property have not identified tannery-related waste similar to that found on the House Street parcel. The solid debris (metal, leather, buffing dust) identified on the MDOT parcel is distinctly different than that on the House Street parcel (tannery related wastewater treatment residuals).

Enclosed is an aerial showing the MDOT parcel with the solid waste removal area and the “trenches” shown on the 1965 aerial photograph overlain. An aerial photograph from 1960/1961 shows general soil disturbances in the area of the solid waste debris. The 1968 aerial photograph shows cleared land in the area covered with low lying vegetation. The areas of disturbance do not appear to be consistent with the types of trenching completed on the House Street parcel. Again, the EPA has engaged with Wolverine on the MDOT parcel. Once the EPA required scope



has been established for the MDOT parcel this issue will be revisited to determine additional steps, if any, are required by the MDEQ.

- 3) At your request, R&W/GZA recently sampled six additional residential wells along the west side of Freska Lake. Those analytical results are currently being received. Once all are available, R&W/GZA will provide an additional response to bullet #3. Note, however, no wells north-northwest of the House Street parcel have detections of PFOS/PFOA above the MDEQ 70 ppt criteria.
- 4) Sampling of surface water has been discussed extensively at numerous DEQ/Wolverine meetings. R&W/GZA has indicated that sampling for PFOA and PFOS in targeted surface water bodies (i.e. the listed Freska Lake, Duck Lake, Clear Bottom Lake, and the ponds in Rogue River Park) is not beneficial investigation without additional context, in particular PFOS concentrations in comparable surface water bodies. We propose working with the MDEQ surface water division and/or the Department of Natural Resources to identify appropriate surface water bodies so “background” sampling at other surface water bodies throughout the area may be conducted by the agencies in conjunction with the targeted sampling listed above.
- 5) It appears the drainage ditch/swale from Freska Lake to the Rogue River traverses five parcels with residential homes. R&W/GZA believes shallow surface drainage is not sufficient to warrant sampling of these wells.
- 6) While only PFOS and PFOA are currently regulated, a figure illustrating the PFAS impact in the House Street area (by detection ranges) is enclosed.
- 7-10) Regarding the requested cross-section plume length; cross-section MW-11 – MW-10 nest – MW-9 nest transect; cross-section MW-21 – MW-15 nest – MW-19 nest transect; and Figure B revisions, R&W/GZA is working on these as data is available and the investigation progresses. The intent is to include these updated cross sections in the next submittal to the MDEQ. We are proposing submittal of tri-annual progress report summaries to the MDEQ every four months as the investigation continues. The next of these will be submitted mid-June 2018.
- 11) Ground elevations for MW-15 nest, MW-19 nest, and MW-21 nest are enclosed.
- 12) R&W/GZA believes there is not sufficient data or reason to provide the information requested in bullet no. 12. The information regarding residential well depth is irregular, insufficient (logs are only available for approximately 30% of wells), and relies on drillers well logs, not geologic well records. R&W/GZA is in the process of installing numerous groundwater monitoring wells for the purpose of defining the PFOS/PFOA plume. Using partial residential well information poses the risk of improper or skewed interpretation.
- 13/14) As you know, R&W/GZA is diligently working to install monitoring wells to delineate the PFOS/PFOA plume (over 30 have already been installed). We prefer not to utilize residential well sampling to define the plume.

As noted above, many of the items summarized in your April 4 letter are on-going or will be addressed in either supplemental submittals associated with the CSM or stand-alone documents for individual tasks (i.e. specifically the MDOT property).



May 4, 2018

16.0062335.52

Wolverine – House Street CMS Comments Response

Page | 3

If you have any questions, please feel free to contact us.

Very truly yours,

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

Mark A. Westra
Associate Principal

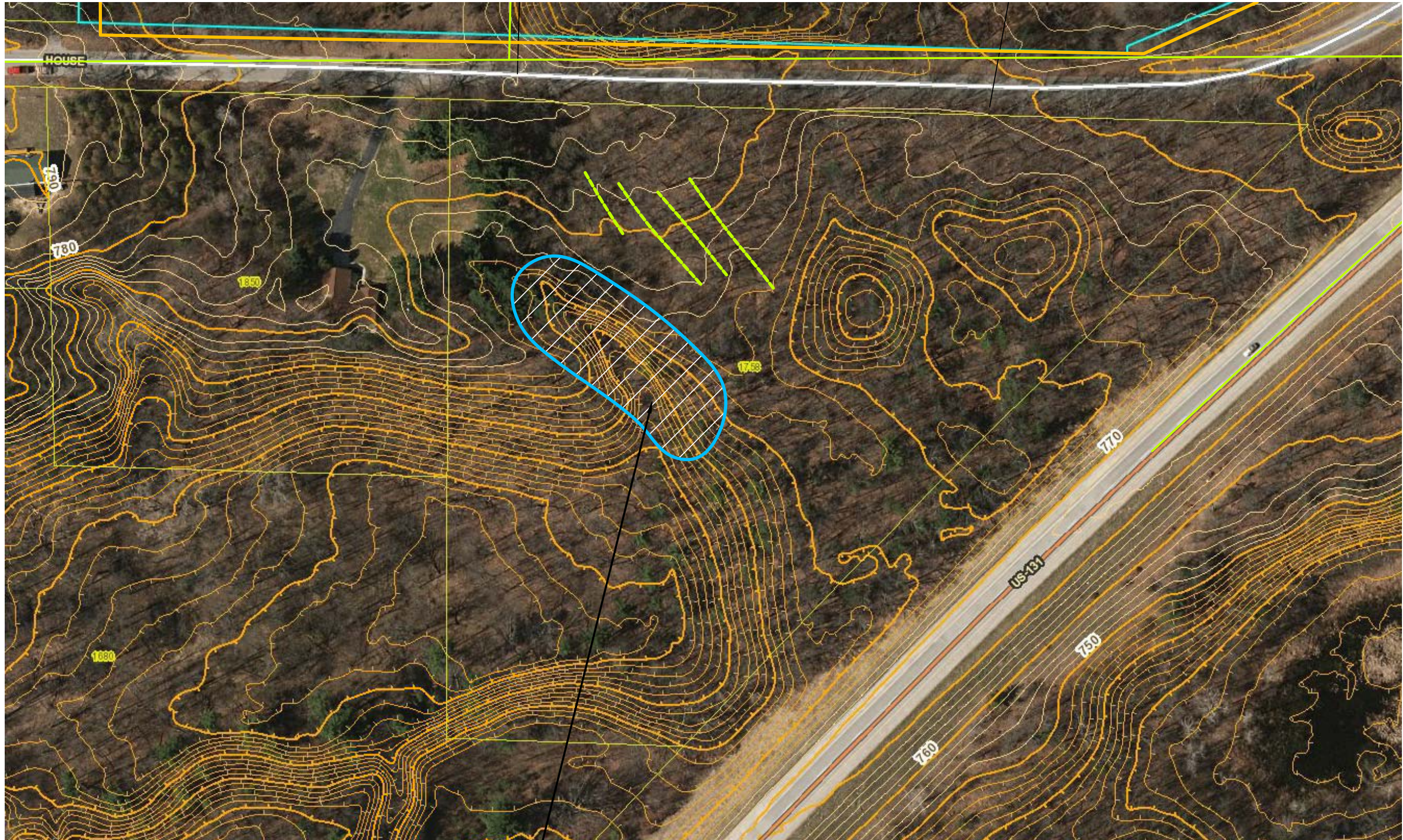
maw/ljp

Loretta J. Powers
Senior Project Manager/Consultant Reviewer

c: Mr. Dave Latchana – Wolverine Worldwide, Inc. *via email David.Latchana@wwwinc.com*
Mr. John V. Byl – Warner Norcross & Judd LLP *via email jbyl@wnj.com*

Enclosures: MDOT Parcel Aerial
Total PFAS Concentration Mapping
Monitoring Well Elevations

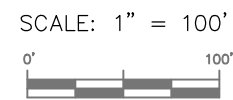
J:\62000\623xx\62335.52 - House St Pre-Inv\CSM_WP_REPORT\CSM2018\MDEQ-CSMUpdate-Comments-Response.docx



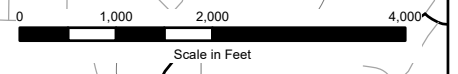
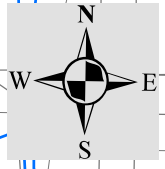
APPROX. LIMITS OF
REMEDiated AREA

LEGEND

--- = SOIL DISTURBANCE ON
1965 AERIAL PHOTOGRAPH



1965 AERIAL OVERLAY			
 NORTH NORTH ORIENTATION	 ROSE & WESTRA A DIVISION OF GZA Grand Rapids, Michigan GEOTECHNICAL-ENVIRONMENTAL-ECOLOGICAL WATER-CONSTRUCTION MANAGEMENT	1758 HOUSE STREET NE, ROCKFORD, MICHIGAN MDOT PROPERTY	PROJECT NO. 16.0062335.52 1 FIGURE NO.
	CREATED BY: KJB APPROVED BY: LMN DATE: 5/3/18 FILE NAME: 62335_52_EX_1758		



Legend

— Surface Water

Extent of PFAS Distribution (ng/L)

- ND
- Greater Than DL to 100
- Greater Than 100 to 1,000
- Greater Than 1,000 to 10,000
- Greater Than 10,000

NO.	ISSUE/DESCRIPTION	BY	DATE
<small>UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.</small>			
Rose & Westra, a Division of GZA 601 Fifth Street NW, Suite 102 Grand Rapids, Michigan 49504			
WATER WELL PFAS DATA HOUSE STREET DISPOSAL AREA			
GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: WOLVERINE WORLD WIDE, INC.	
PROJ MGR: LIP	REVIEWED BY: LIP	CHECKED BY: LIP	FIGURE 1
DESIGNED BY: JC	DRAWN BY: JC	SCALE: AS SHOWN	
DATE: 05-1-18	PROJECT NO. 16.0062335.52	REVISION NO.	

© 2018 - GZA GeoEnvironmental, Inc. C:\GIS_Mapping\01\GRGIS_CAD\KentCounty.mxd, 5/1/2018, 2:11:36 PM, Jim Cai

TABLE 1
SUMMARY OF WELL CONSTRUCTION INFORMATION
HOUSE ST DISPOSAL AREA
PLAINFIELD TOWNSHIP, MICHIGAN

WELL ID	GROUND SURFACE ELEVATION, FT	TOP OF CASING ELEVATION, FT	DEPTH TO TOP OF WELL SCREEN, FT	DEPTH TO BOTTOM OF WELL SCREEN, FT	TOTAL WELL DEPTH, FT	TOP OF WELL SCREEN ELEVATION, FT	BOTTOM OF WELL SCREEN ELEVATION, FT
MW-1S	788.8	790.01	68.4	73.1	75	720.4	715.7
MW-1D	788.7	790.73	170.1	174.7	175	618.6	614
MW-2S	797.6	799.66	78.5	83.1	83.4	719.1	714.5
MW-3P	788.1	790.62	19	24	25	769.1	764.1
MW-3S	787.5	790.07	69.7	74.6	75.1	717.8	712.9
MW-4S	782.3	784.88	71.1	75.7	76	711.2	706.6
MW-5P	778.9	781.45	17.1	21.8	22.3	761.8	757.1
MW-5S	778.8	781.61	61.9	66.6	67.1	716.9	712.2
MW-5D	779.1	781.84	188	198	198.5	591.1	581.1
MW-6S	770.3	772.76	57.1	61.8	62.3	713.2	708.5
MW-6D	770.6	773.33	155	160	162	615.6	610.6
MW-7S	788.9	791.09	70.1	74.7	75	718.8	714.2
MW-8	742.2	745.09	27.7	32.7	36	714.5	709.5
MW-9S	817.8	820.2	26	31	31	791.8	786.8
MW-9M	817.9	820.66	126	131	131	691.9	686.9
MW-9D	818.2	820.88	203	208	220	615.2	610.2
MW-10S	777.2	780.06	49	59	60	728.2	718.2
MW-10M	777.7	780.64	125	130	131	652.7	647.7
MW-10D	778.1	780.94	185	190	192	593.1	588.1
MW-11S	742.1	744.78	21	31	31.5	721.1	711.1
MW-11M	742.3	744.96	95	100	100	647.3	642.3
MW-11D	742.1	744.75	150	155	162	592.1	587.1
MW-15S	638	640.98	7	17	17	631	621
MW-15I	637.5	640.71	45	50	50	592.5	587.5
MW-15D	639.7	642.86	108	118	118	531.7	521.7
MW-19S	677.8	680.83	58	61	61	619.8	616.8
MW-19D	677.7	680.79	85	95	95	592.7	582.7
MW-21S	645.8	648.67	10	20	20	635.8	625.8
MW-21I	645.9	648.85	59	64	64	586.9	581.9
MW-21D	645.7	648.38	75.8	85.8	85.8	569.9	559.9