

August 27, 2018

Mr. Conor Neal
Geologist and Project Manager
Remediation and Reuse Branch
Land & Chemicals Division
US Environmental Protection Agency, Region 5
77 West Jackson Blvd
Chicago, IL 60604-3590

RE: Responses to Agency Comments on 2017 Barrier Monitoring Annual Report, Tyco Fire Products LP Stanton Street Facility, EPA RCRA Administrative Order Docket No. RCRA-05-2009-0007; EPA ID No. WID 006 125 215

Dear Mr. Neal:

Tyco Fire Products LP (Tyco), has prepared this correspondence in response to the US Environmental Protection Agency (EPA) comments on the document referenced above. The comments were provided in a letter attached to an email delivered on July 30, 2018. For ease of review, the EPA comments are presented in italics followed by the Tyco response in plain text. This response document will serve as an addendum to the referenced report; a revised 2017 Barrier Monitoring Annual Report document that incorporates the below information will not be prepared and submitted to the agencies.

Response to Comments

1. *Section 1.0 Introduction – The text indicates a separate report will be submitted to include information on the stormwater system upgrades. Tyco last provided an update on this project to the Agency at the December 20, 2017 meeting. The meeting summary describes ongoing activities including: catch basin repair and lining, installation and modification of a catch basin near Building 14 and another near building 70, installation of a gate valve at Outfall 5 and 6, seam sealing in the areas of Outfalls 3, 5, and 6, and post-improvement sampling. Please describe the work that remains and a schedule for completion, including dates for post-improvement stormwater sampling. This work is necessary to continue ensuring that contaminated groundwater is not leaving the site.*

Due to unavailability of the stormwater system lining subcontractor, work to complete the catch basin repair and lining had been delayed. Catch basin repair was completed the week of August 20, 2018. According to recent discussions with the prime contractor, the stormwater system lining may be completed as early as the week of August 27, 2018, but is highly dependent on weather conditions. The installation of the additional catch basins near Buildings 14 and 70 are not required to complete the stormwater system lining activities and may be completed as the installation contractor becomes available. The gate valve associated with Outfall 6 was installed on May 17, 2018. Seam sealing associated with Outfalls 3, 5, and 6 will be completed as necessary. At this time, no seam separation or visible cracks have been observed in these areas.

Following completion of the repair and lining work, system sampling will be completed. Based on the Outfall Investigation Plan, sampling activities will be conducted within 72 hours of a rain event. As such, a specific date for the sampling cannot be pre-determined; however, will be conducted as soon as conditions allow. Sampling will be completed in time for inclusion of the results in the 5-year Technical Review document, due December 31, 2018.

- 2. Section 3.2. Pump Down System Operation – Please include a description of the over-winter operations of EW-2 and EW-3, including operation times and gallons removed, as well as a description of EW-12 operations for 2017.*

As previously discussed and documented in prior correspondence regarding the pump down program, extraction wells EW-2 and EW-3, which are directly connected to the groundwater treatment system, are not operated during pump down operations. As presented in the December 22, 2017 correspondence regarding the winter optimization efforts for the pump down area, extraction wells EW-2 and EW-3 recommenced pumping activities following winter shut down of the temporary pumping system. All extraction wells located in the pump down area including extractions wells EW-2 and EW-3 were proposed to have general maintenance and attempts to increase the hydraulic connection between the aquifer and the well. These maintenance activities were completed by January 10, 2018.

However, limited recovery has continued in EW-2 and EW-3 after general maintenance activities were completed. Extraction well operating time for the period from October 9, 2017 through April 19, 2018 (the start of the 2018 pump down pumping) is estimated at 1,629 hours. Total groundwater volume removed from extractions wells EW-2 and EW-3 during this period is reported as 202 gallons and 6,351 gallons, respectively.

Extraction well EW-12 is located in the eastern portion of the Main Plant area and was installed for the performance of aquifer testing only. This extraction well is not connected to the groundwater treatment system and has never been used for groundwater recovery operations associated with groundwater level management at the site.

- 3. Section 3.3 Groundwater Treatment System Testing – The RCRA Corrective Action program understands that updates to the Groundwater Collection and Treatment System (GWCTS) are awaiting permit approval from other programs. On July 11, 2018, EPA was copied on a Preliminary Design Plan submittal for Phase I of the Groundwater Collection and Treatment System Modifications. Please provide an update on the permit inquiries Tyco has made about the conveyance line plans (including State, County, Municipality, etc.), the status of the design, and any changes to the schedule for construction of the system provided in Appendix B of the above referenced document.*

Tyco has been in communication with the WDNR, the City of Marinette, and Marinette County regarding necessary permits for completion of the conveyance line component of the pump down program. Presented in the attached table is a summary of the communications and status of the work and projected schedule for conveyance system installation and commencement of operations.

4. *Section 4.3 Total Arsenic in Groundwater – Please describe/address the impact of surface water infiltration into MW040 and MW105 well nest (as described in Sections 4.2.2 and 4.2.3) on groundwater sampling and analysis for Arsenic.*

Monitoring well nest MW040 and MW105 are located along Stanton Street, the main entrance of the manufacturing plant. Due to the fact that significant vehicular traffic occurs on this roadway, each monitoring well is completed as a flush-mount well. Settlement of the area around each well of the MW040 nest has resulted in some surficial cracking of the concrete pads around the flush-mounts that apparently is allowing some infiltration under the flush-mount base and into the well casing area. The MW105 well nest is located adjacent to the curbing along the edge of the road, with stormwater surface pooling frequently observed over the wells. In addition, the casing of the wells that contained transducers are unable to be secured with a geocap to prevent surface water infiltration due to the presence of the transducer and instrument securing cable. These conditions affect the quality of the data obtained from the well nests. As a result, Tyco suggested, and received EPA approval, to relocate the transducers to well nest MW003 and MW106, located in the northwest corner of the site. Tyco is currently working with a contractor to convert the MW105 nest of wells to stick-up completions and repair the settled asphalt/concrete and flush-mounts surrounding the MW040 nest of wells, with activities scheduled for the week of August 27, 2018. This repair work should reduce/prevent further concerns with the data quality from these wells.

5. *Section 4.4 2017 Barrier Wall Visual Inspection and Surveys – Please include a figure indicating the locations where horizontal deflections exceeding general tolerances were measure, and the size of the deflections.*

Figure 1 shows the dimple locations where horizontal or vertical deflections exceeded 1 inch and the size of the deflections when comparing 2015 (baseline) and 2017 survey data. After reviewing the second paragraph in Section 4.4, there are a few clarifications needed to best present the survey comparison results as indicated below:

A survey of the wall was completed in August 2017. The August 2017 survey was compared against the baseline survey completed in June 2015 (conducted after completion of the sediment removal activities). The table below indicates the maximum horizontal and vertical deflection when comparing the August 2017 survey with the June 2015 baseline (the 2017 annual report text had compared the August 2017 survey against the prior year’s April 2016 survey, and comparison to the baseline survey provides a better representation of overall movement).

Table 1. Barrier Wall Monitoring Survey Comparison (2015 to 2017)

Tyco Fire Products LP, Marinette, Wisconsin

Description	June 2015 - August 2017 Comparison		
	Northing	Easting	Elevation
Maximum Deflection (inches)	1.250	1.148	0.592
Dimple Locations > 1 inch	D-1 D-2 D-3 D-50 D-52 D-53	D-23	None

The deflections reported are less than 1 inch with the exception of the locations listed in Table 1 and shown on Figure 1 that slightly exceeded 1 inch. The greater than 1 inch of deflection is being used as an indicator to continue to watch those locations as part of subsequent surveys for additional movement or changes noted during inspections. Note that after construction around the wall (the sediment removal work) an inch of movement along the wall the first several of years is common (due to soil conditions adjusting to additional dredging or riprap placement on the water side or loading on the land side). Indications of movement could also be attributed to survey accuracy, temperature stress in the steel, seasonal effects (when comparing surveys conducted in different seasons), and movement in the soil due to short-term loading activities occurring near the wall (such as stockpiling of snow or heavy equipment used in the area). These points will continue to be monitored as part of future surveying and wall inspection activities, paying particular attention for changes such as surface cracks during inspections that can be a sign of movement as well.

6. *Appendix C Phyto-Pumping System Inspection Report – Please include a figure or brief description of where each of the phytoremediation zones 1-6 are located on the site.*

Figure 2 showing the locations of the referenced phyto-pumping plots is attached.

We trust the information provided herein addresses your comments. Should you have any questions please do not hesitate to call at 262.951.6888. Tyco is also open to a call to discuss these responses to comments, if needed.

Respectfully,



Jeffrey H. Danko
Environmental Geologist

cc: Angie Carey – WDNR
Joseph Janeczek – Johnson Controls
Rich Mator – Johnson Controls
Ryan Suennen – Tyco Fire Protection Products
Heather Ziegelbauer – Jacobs
Mariel Carter – Stephenson Public Library

Permit Communications
Pump Down Program Conveyance Line Project
Tyco Fire Products LP Site

Date	Agency/Entity	Communication Type	Communication Activity/Result
May 24, 2018	Marinette County	Telecon	Shoreland Zoning Permit requirement/No permit required
June 6, 2018	City of Marinette	Telecon	Project communication and determination of potential permits and approval process
July 9, 2018	WDNR	Email	Determination of requirement for Chapter 30 permit/No permit necessary
July 11, 2018	WDNR	Email	Submittal of 30% design of conveyance system
July 13, 2018	City of Marinette	Email	Submittal to City of Marinette Inspector
July 17, 2018	Construction Contractors	Hard Copy	Submittal of 30% Design to potential contractors
July 18, 2018	WDNR	Email	Approval of 30% design received from agency
July 24, 2018	Construction Contractors	Site Visit	Subcontractor bid walk for conveyance system construction
July 26, 2018	City of Marinette	Email	City of Marinette Inspector approval received
August 1, 2018	City of Marinette	Hard Copy	30% design submittal to Planning Commission
August 8, 2018	City of Marinette	Personal	Meeting with Mayor/Only building permit needed for pump house
August 9, 2018	City of Marinette	Hard Copy	Submittal of additional design details on pump house
August 31, 2018	WDNR	Email/Hard Copy	90% design submittal
September 5, 2018	City of Marinette	Email	Planning Commission Presentation on Pump House
September 19, 2018	City of Marinette		Anticipated Planning Commission Approval
October 3, 2018	Construction Contractors		Estimated Contractor Mobilization
Early/Mid December 2018	Construction Contractors		System Start Up Completion

Bold Text - Pending Schedule of Activities

MENOMINEE RIVER
MAIN CHANNEL

SOUTH CHANNEL

TURNING BASIN

GROUNDWATER
TREATMENT
BUILDING

EXPECTED FLOW
DIRECTION

D-1
2015 - 2017 NORTHING VARIANCE (FEET) 0.091

D-2
2015 - 2017 NORTHING VARIANCE (FEET) 0.092

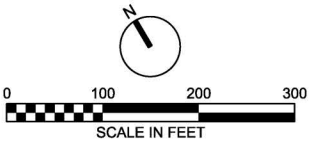
D-3
2015 - 2017 NORTHING VARIANCE (FEET) 0.089

D-23
2015 - 2017 EASTING VARIANCE (FEET) -0.096

D-50
2015 - 2017 NORTHING VARIANCE (FEET) -0.084

D-52
2015 - 2017 NORTHING VARIANCE (FEET) -0.088

D-53
2015 - 2017 NORTHING VARIANCE (FEET) -0.104



LEGEND:

- D-50 ● = DIMPLE ID AND LOCATION
- = SHEET PILE WALL
- = SLURRY WALL

NOTES:

1. OCTOBER 2015 SURVEY DATA WAS COLLECTED ON OCTOBER 15 AND IS FROM THE OCTOBER 29, 2015 MOUNTAIN ENGINEERING, INC. AND SURVEY REPORT.
2. AUGUST 2017 SURVEY DATA WAS COLLECTED ON AUGUST 15 AND IS FROM THE AUGUST 30, 2017 McMAHON ASSOCIATES, INC. EMAIL FILES.
3. MEASUREMENTS SHOW THE VARIANCE FOR EACH WALL LOCATION (DIMPLE LOCATION) WHERE THE VARIANCE WAS GREATER THAN 1-INCH (0.083 FEET) HORIZONTALLY (NOTHING OR EASTING) OR VERTICALLY (ELEVATION) WHEN SURVEY DATA FROM YEAR 2015 AND 2017 ARE COMPARED.

FIGURE 1
BARRIER WALL MONITORING
SURVEY COMPARISON RESULTS
GREATER THAN 1-INCH

TYCO FIRE PRODUCTS LP
MARINETTE, WISCONSIN



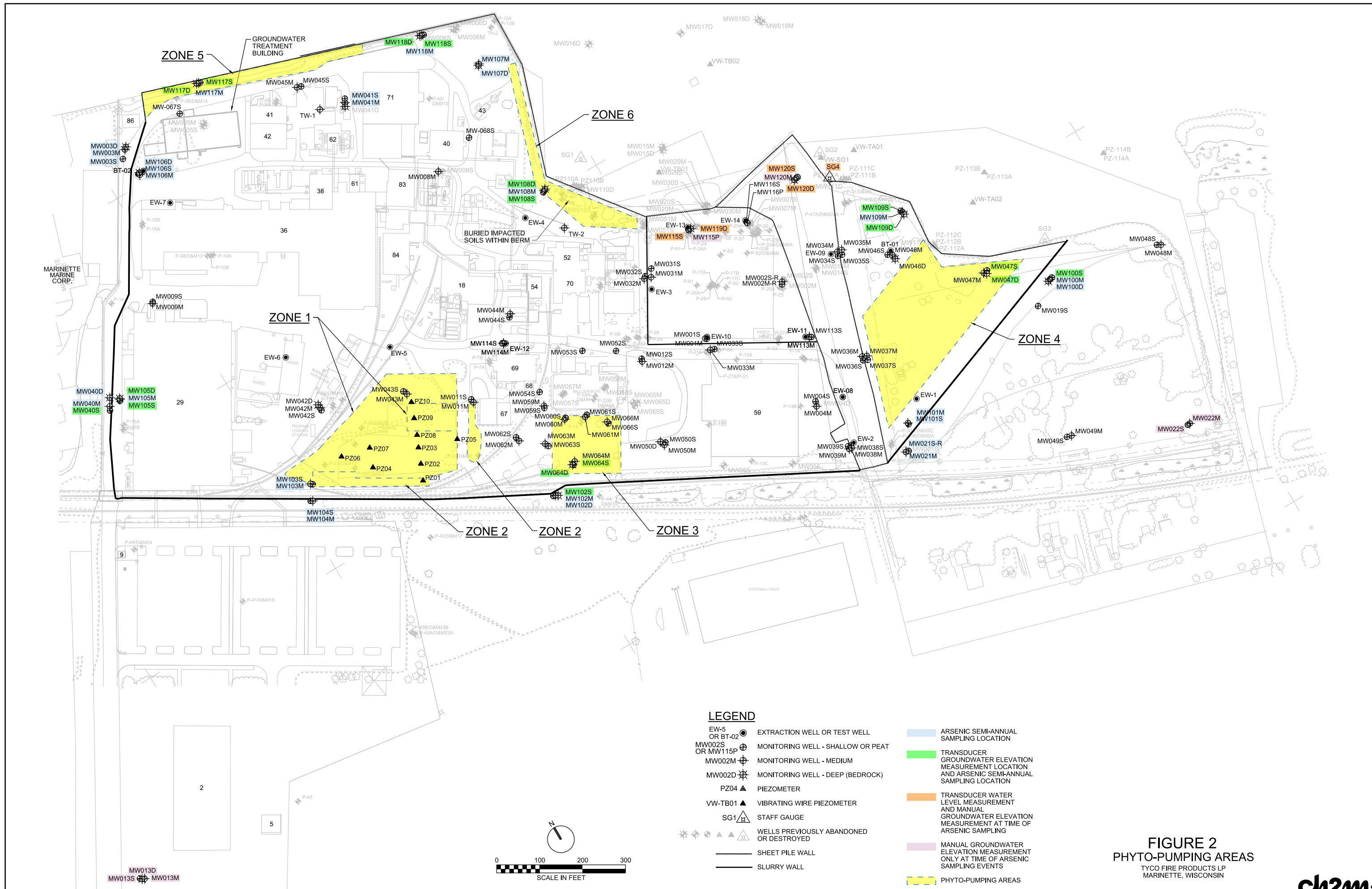


FIGURE 2
PHYTO-PUMPING AREAS
 TYCO FIRE PRODUCTS LP
 MARINETTE, WISCONSIN

