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Subject:
Plant 6 Monitoring Well Installation Workplan

Environment

Dear Christine:

Date:
October 6, 2020

This scope of work has been prepared by Arcadis on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust for Plant 6 located in Lansing, Michigan (Site). This proposed scope of work describes additional monitoring well installation at Plant 3 for evaluation of per- and polyfluoroalkyl substances (PFAS) detected in groundwater. Previous investigations of PFAS at Plant 6 included sampling of monitoring wells as summarized in *the Monitoring Well PFAS Summary- Plants 2 and 6* (Arcadis 2018) summary, as well as soil, groundwater and storm sewer sampling summarized in the *PFAS Phase 1 Investigation Summary Memo* (Arcadis 2019a) and the *Plant 6 PFAS Investigation – Phase 2 Summary Memo* (Arcadis 2019b).

Contact:
Patrick Curry

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Email:
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Our ref:
30042872

The results of the previous investigations have been compared to the updated Michigan Part 201 Drinking Water (DW) criteria for Perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA), perfluorobutanesulfonic acid (PFBS), perfluorohexanoic acid (PFHxA), perfluorohexanesulfonic acid (PFHxS), and perfluorononanoic acid (PFNA). The results show that PFOA exceeds the DW criteria of 8 nanograms per liter (ng/l) along the southern, eastern, and northern Site boundaries as well as in off-site VAP samples collected to the north and east of Plant 6. PFOA analytical results from previous investigations are compared to the 2020 DW criteria on **Figure 1**.

This objective of this proposed scope of work is to install monitoring wells at the perimeter of Plant 6 to verify concentrations and monitor stability of PFAS impacts. Additional work to evaluate off-site extent will be proposed as part of a separate submittal.

SCOPE OF WORK

Based on the results of the sampling completed to date at Plant 6, installation of monitoring wells is proposed at the eastern and southern boundaries to facilitate monitoring. The proposed monitoring wells are shown on **Figure 1**. Cross-sections that provide the basis for well locations and depth intervals are included as **Attachment 1**. The proposed scope of work includes the following:

- A total of six (6) additional monitoring wells will be installed using rotary drilling methods. The monitoring wells will be screened to target intervals identified during Phase 1 and 2 investigation. Four of the wells will be installed within the first encountered water, and two will target deeper saturated zones identified during the VAP sampling. Target depths of the monitoring wells are included on **Figure 1**.
 - Three monitoring wells will be installed on Plant 6 along the eastern property boundary to facilitate monitoring of PFAS, primarily PFOA, identified during previous investigations.
 - Three monitoring wells will be installed within the southern Michigan Avenue right-of-way to determine if impacts identified along the southern boundary of Plant 6 have migrated off-site.
- Continuous soil cores will be obtained from the ground surface to the target well depth at each boring location. Arcadis will log and describe the soils in accordance with the Arcadis Soil Description Standard Operating Procedures included with the MDEQ-approved FSP (Arcadis 2011). Boring logs will be generated based on the field descriptions.
- Monitoring wells will be constructed with a 5-foot stainless-steel wire-wrapped 0.010-slot screens and 2-inch PVC riser. An appropriate sand pack will be placed around the screen interval to a depth of 1 foot above the well screen followed by 1 to 2 feet of choker sand and then bentonite grout to grade.

Monitoring wells installed as part of the above described work will be integrated into the revised Interim Groundwater Monitoring Plan (Arcadis 2019c).

If you have any questions regarding the scope of work described above, please contact Patrick Curry (Arcadis) at 810-225-1926 or Dave Favero (RACER Trust) at 734-879-9525.

Sincerely,

Arcadis of Michigan, LLC



Patrick Curry, PG, CPG
Technical Expert/Associate Vice President

Ms. Christine Matlock
Michigan Department of Environment, Great Lakes & Energy
October 6, 2020

Copies:

Dave Favero, RACER Trust
John McCabe, EGLE
Joe Rogers, EGLE

Enclosures:

Figures

- 1 PFOA Summary and Proposed Monitoring Well Locations

Attachments

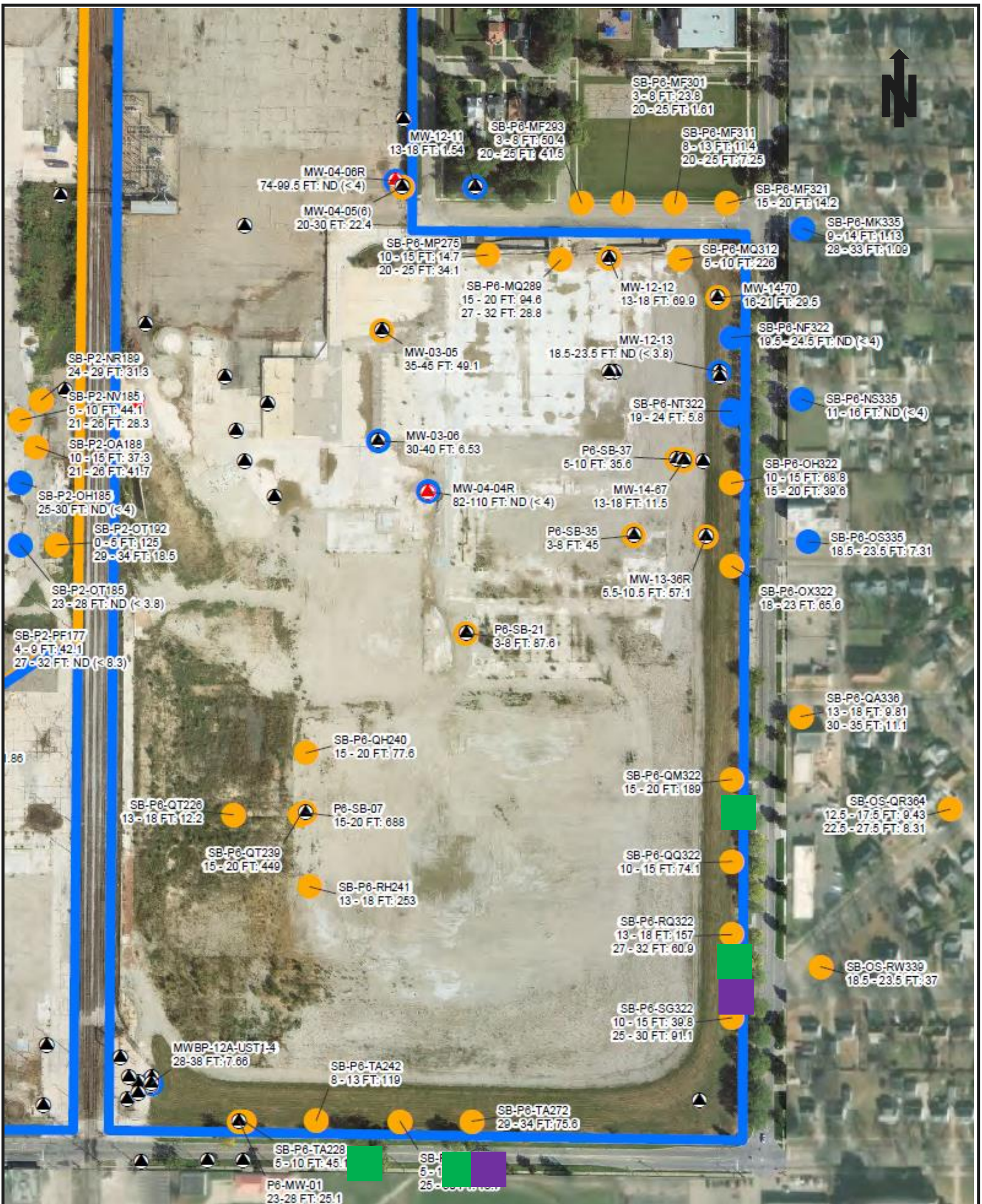
- 1 Plant 6 Cross Sections

REFERENCES:

- Arcadis. 2018. Monitoring Well PFAS Summary. RACER Trust, Lansing, Michigan, Plants 2 and 6. September 14.
- Arcadis. 2019a. PFAS Investigation Phase I Summary. RACER Trust, Lansing, Michigan, Plant 6. January 29.
- Arcadis. 2019b. PFAS Investigation -Phase 2 Summary. RACER Trust, Lansing, Michigan, Plant 6. August 23.
- Arcadis. 2019c. Revised Interim Groundwater Monitoring Plan - 2019. RACER Trust, Plants 2, 3 and 6, Lansing, Michigan. October 28.

FIGURES





- LEGEND**
- LNAPL MONITORING WELL
 - PERCHED ZONE MONITORING WELL
 - DEEP OVBURDEN MONITORING WELL
 - WEATHERED BEDROCK MONITORING WELL
 - BEDROCK MONITORING WELL
 - WELLS SAMPLED AND PFOA EXCEEDS DW CRITERIA
 - WELLS SAMPLED AND PFOA DOES NOT EXCEED DW CRITERIA

- APPROXIMATE PLANT BOUNDARIES**
- PLANT 2
 - PLANT 3
 - PLANT 6
- PROPOSED SHALLOW MONITORING WELL (<20' BELOW GRADE)
- PROPOSED INTERBEDDED ZONE MONITORING WELL (20-35' BELOW GRADE)

NOTES:

DATA FROM THE MOST RECENT SAMPLING EVENT IS SHOWN FOR EACH LOCATION.

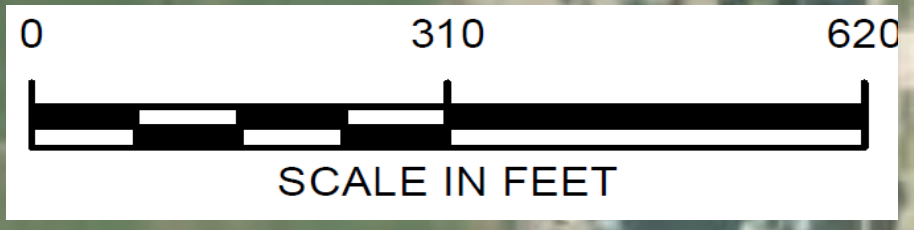
ALL ANALYTICAL DATA IS IN ng/L.

ALL SAMPLES ANALYZED VIA EPA METHOD 537 MODIFIED.

DW: EGLE PART 201 RESIDENTIAL DRINKING WATER CRITERIA.

EGLE DRINKING WATER CRITERIA FOR PFOA IS 8.0 ng/L.

FT: FEET
ND: NON-DETECT
ng/L: NANOGRAM PER LITER.



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PLANT 6
LANSING, MICHIGAN

PROPOSED MONITORING WELL LOCATIONS

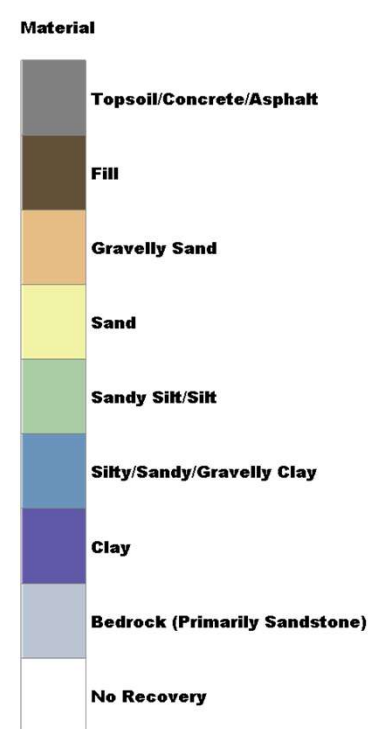
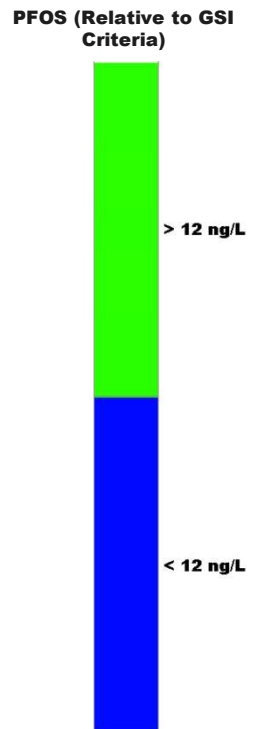
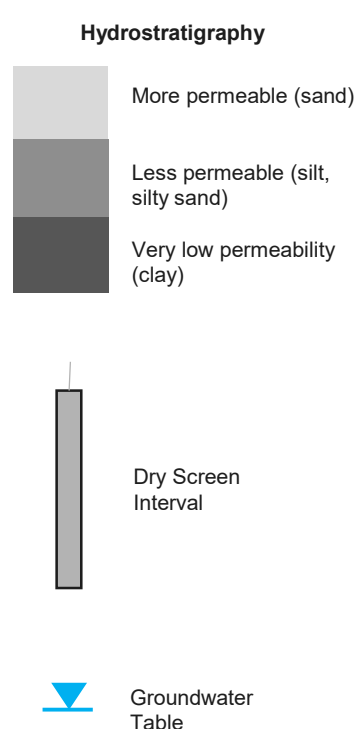
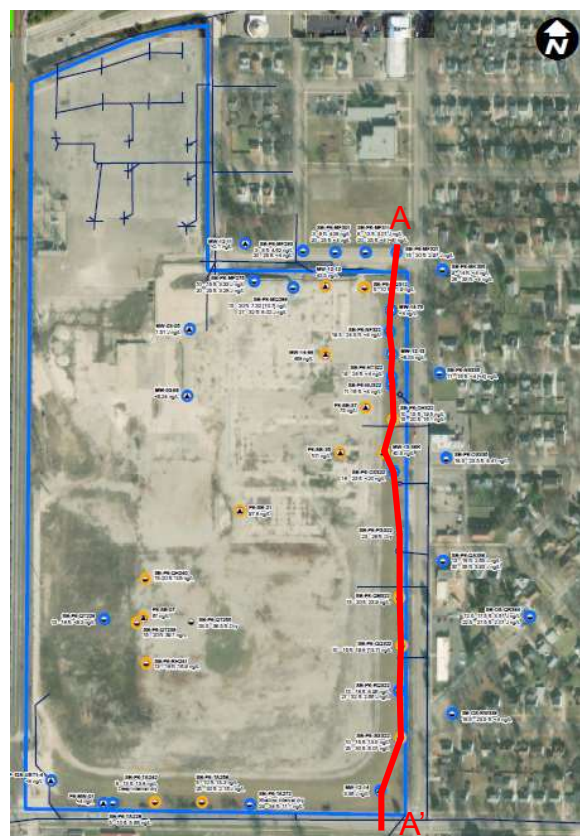
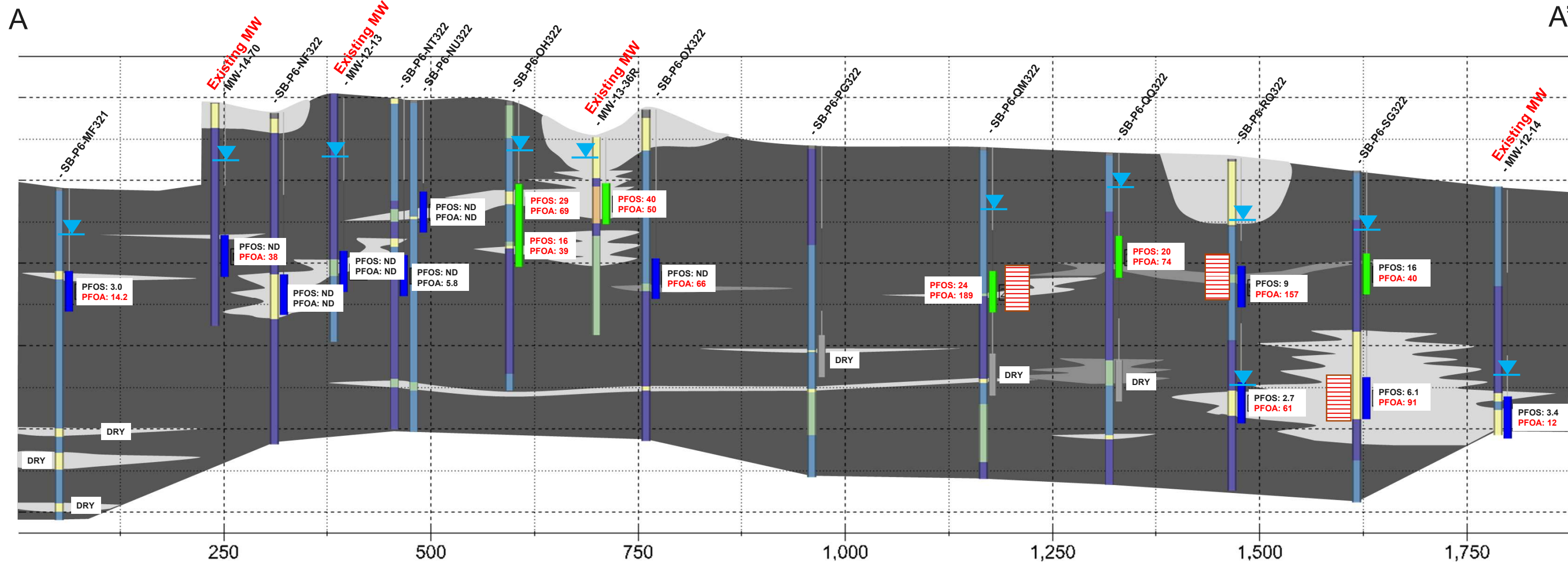
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FIGURE
1

ATTACHMENT 1

Plant 6 Cross Sections





Black: Below 2020 Drinking Water Criteria
Red: Above 2020 Drinking Water Criteria

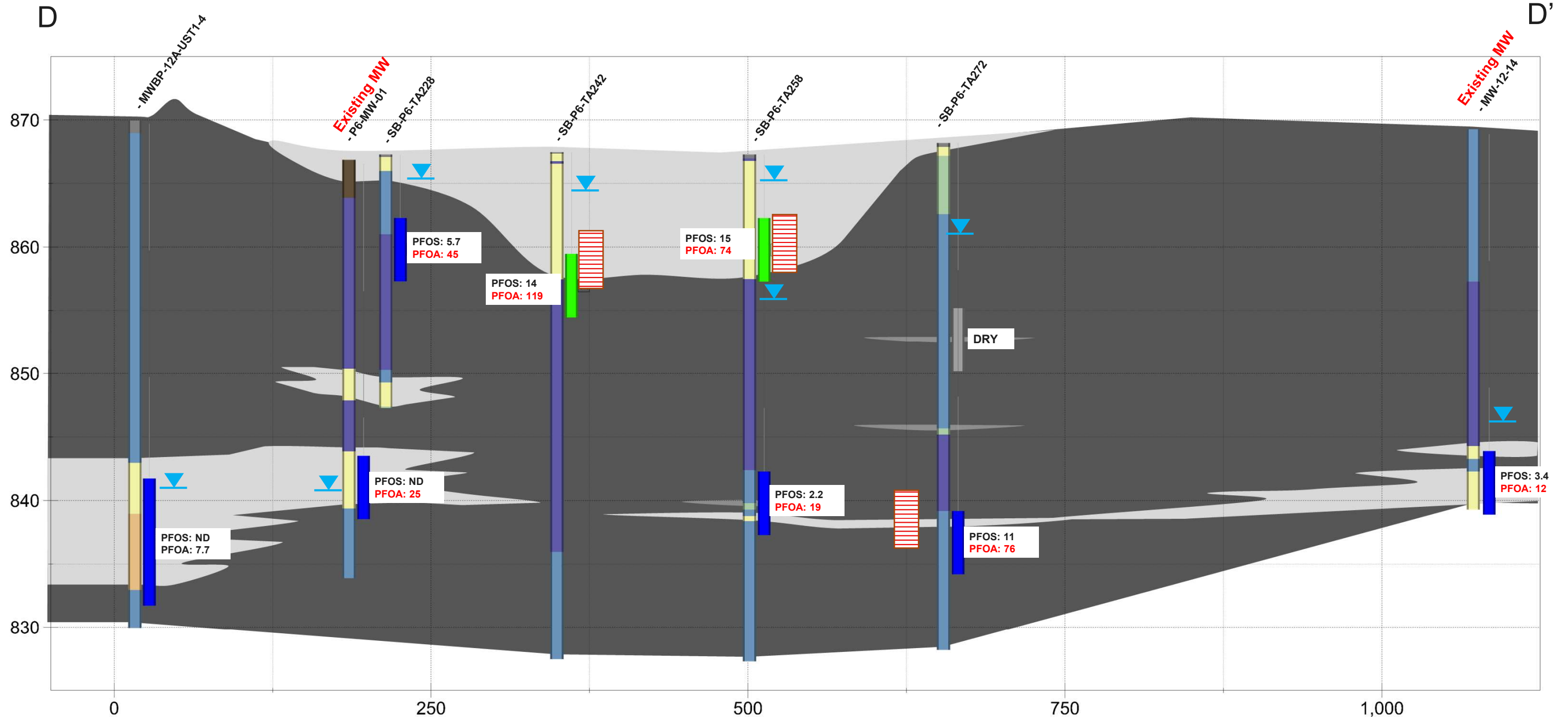


RACER TRUST PLANT 6
LANSING, MICHIGAN

PLANT 6 CROSS SECTION A – A'

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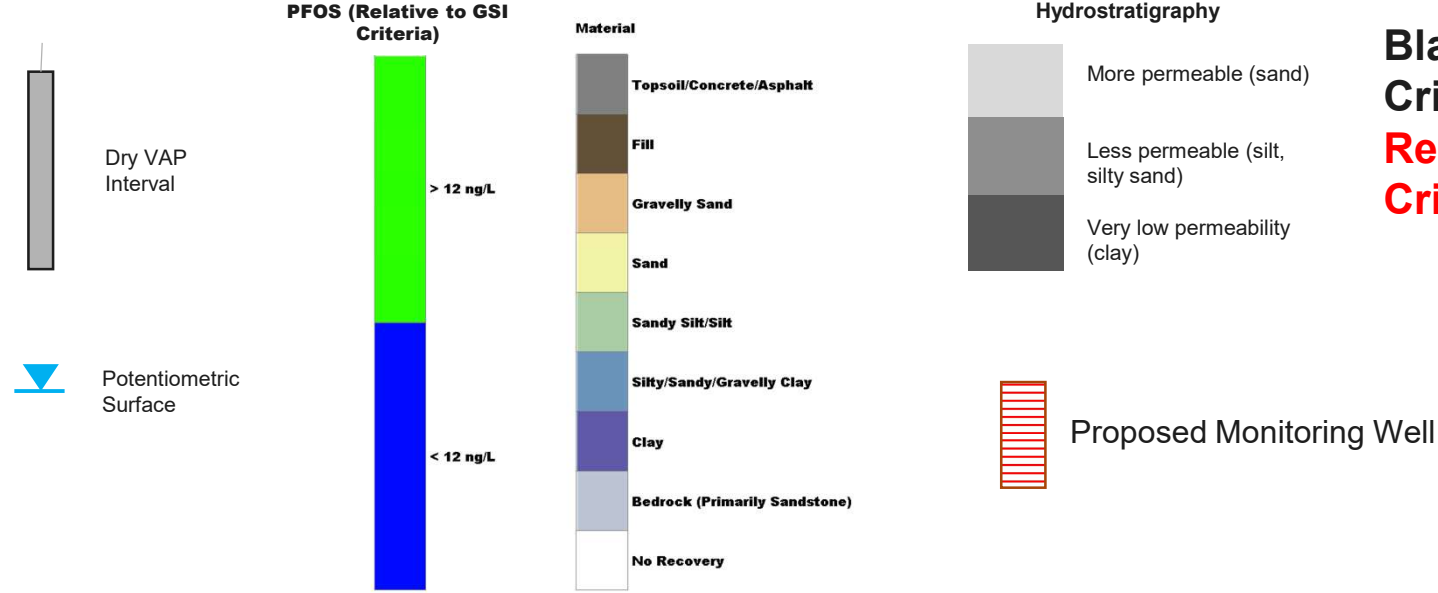
FIGURE 6



Black: Below 2020 Drinking Water Criteria
Red: Above 2020 Drinking Water Criteria



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RACER TRUST PLANT 6
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PLANT 6 CROSS SECTION D – D'

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FIGURE 9