

MEMO

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Date:

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Arcadis Project No.:

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Subject:

Outfall 001 and 006 Sample Results
RACER Buick City Site Flint, Michigan

This memo summarizes the results of the continued investigation activities to assess areas of potential per- and poly-fluoroalkyl substances (PFAS) impacts at the RACER Buick City Site (the Site) located in Flint, Michigan.

OUTFALL 001

Please note that the portion of the Buick City Site that currently drains to Outfall 001 was sold to American SpiralWeld (ASW) in 2014. Therefore, this property is referred to herein as the ASW property.

Data Review

In April 2019 a dry weather storm sewer sample was collected from Outfall 001 at the Flint River, located approximately 3,000 feet downgradient of the ASW property and analyzed for PFAS. The lab reported perfluorooctanoic acid (PFOA) at a concentration of 32 nanograms per liter (ng/L) and perfluorooctane sulfonate (PFOS) at a concentration of 30 ng/L. The location of the sample and an outline of the Outfall 001 drainage area are shown on the attached **Figure 1**.

ASW Property Evaluation

Historic General Motors (GM) related activities conducted in Outfall Drainage Area 001 include a manufacturing warehouse for engines and engine parts, car washing and waxing, vehicle emission testing, and light vehicle repair. Car waxing has recently been shown to be a potential source of PFAS impacts. Historic documents indicate that the approximate location of the car washing and waxing operation occurred in the northern portion of the former GM building. All but the western most 50-100 feet (under a parking area) of the Outfall Drainage Area 001 storm sewer main is above the groundwater table as it traverses the ASW property.

Downgradient of ASW

Between ASW's eastern property boundary and the Outfall 001 discharge to the Flint River, there is limited data available regarding the groundwater potentiometric surface. However, based on available data the section of the Outfall Drainage Area 001 storm sewer from Dort Highway along West Boulevard to where it curves to the north, is below the water table. There are several industries along this reach that discharge surface water runoff to the storm sewer. Furthermore, groundwater likely infiltrates into the storm sewer in areas where it is below the water table. However, there is no evidence that PFAS-impacted groundwater from the Site is entering the storm sewer in this area.

Unregulated Contaminant Monitoring Rule (UCMR) Data

US EPA administers the UCMR program and every 5 years requires certain public water systems to sample for selected unregulated contaminants – in 2014 PFAS was on the UCMR list. In October 2014 while the Flint River was serving as the City of Flint's water supply, UCMR samples were collected from the entry point to the City of Flint water distribution system – all results were non-detect for PFAS.

In a November 14, 2018 email from the EPA the following summary from the water division was provided of the Flint results of UCMR3 for PFAS:

*Attached is the Flint PFAS data from the third cycle of the Unregulated Contaminant Monitoring Rule (UCMR3). **BACKGROUND:** In early 2014, Flint was a consecutive system using source water from Detroit and served greater than 100,000 people. As such, Flint was required to monitor under the UCMR3 for 28 chemicals including 6 PFAS analytes (PFOA, PFOS, PFBS, PFHpA, PFHxS, and PFNA) during a limited, designated time period. All PFAS analytes were to be sampled at the entry point to the distribution system (EPTDS)- i.e., the consecutive connection to Detroit (CC DWSD).*

Flint completed two full quarters of EPTDS monitoring as a consecutive system in January and April 2014. However, after switching their source water to the Flint River on 4/24/2014, they were no longer a consecutive system, and therefore, required to conduct their EPTDS monitoring with the new source water [Flint Water Treatment Plant (WTP)]. As you'll see in the spreadsheet, their EPTDS monitoring in October 2014 occurred at the Flint WTP. All results were non-detects.

The publicly available data of Flint Drinking water for UCMR3 data is located at -

<https://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule>

Flint River PFAS Sampling

In 2016 and 2017, the MDEQ sampled multiple locations in the Flint River for PFAS compounds both upstream and downstream of the Buick City storm sewer outfalls. A sample collected from the river just

upstream of Outfall 001 detected PFOS at 16 ng/L. The relative contribution from Outfall 001, if PFAS had been discharged at the time the Flint Water Treatment Plant was operating, would not have been significant given the comparative flow rates in the Outfall 001 storm sewer and the Flint River and the background concentration of PFOS in the River. Outfall 001 discharges to the Flint River approximately 1,600 feet upgradient of the former intake to the Flint Water Treatment Plant. Although no samples were collected from Outfall 001 during the time the Flint Water Treatment Plant was active (April 2014 through October 2015), as noted above during that time PFAS was not detected in the City of Flint water distribution system.

Summary

The ASW property is located approximately 3,000 feet upgradient of the Outfall 001 discharge to the river and there are multiple other properties/potential contributors between the ASW property and Outfall 001. Car waxing and washing that occurred on this property during the period of active car manufacturing in the northern portion of the former GM building. However, there is only a 50 to 100-foot portion of the storm sewer (located in a historic roadway/parking area) which may intersect the groundwater table.

OUTFALL 006

Data Review

In April 2019 a dry weather storm sewer sample was collected from Outfall 006 at the Flint River, located approximately 500 feet downgradient of the Buick City Site and analyzed for PFAS compounds. The lab reported PFOA at a concentration of 13 ng/L and PFOS at a concentration of 96 ng/L. The location of the sample is shown on **Figure 2**.

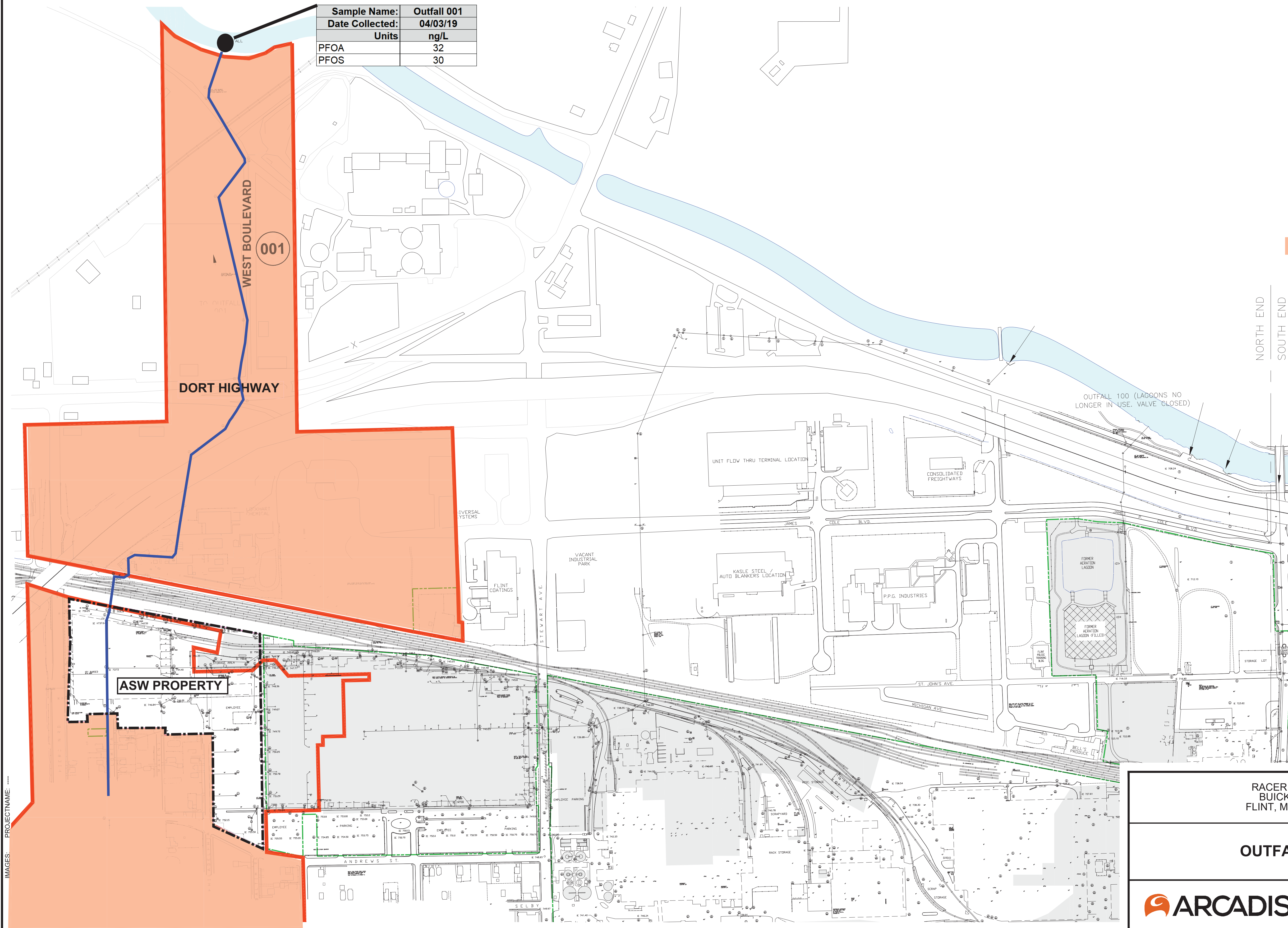
Site Evaluation

Although PFOA and PFOS have been detected at Outfall 006, there are no known historical PFAS-related activities conducted at the Site in Outfall Drainage Area 006. Historic activities conducted in Outfall Drainage Area 006 include employee parking. Moreover, as noted on **Figure 2** only a small portion of the drainage area from the Site (near James P Cole Blvd) remains active. Almost the entire Outfall Drainage Area 006 that remains connected to the storm sewer is on property not owned by RACER including, multiple properties adjacent and downgradient to the Site. While the active portion of the Outfall Drainage Area 006 storm sewer main intersects the groundwater table, there are no known PFAS impacts in the portion of the Site served by that storm sewer.

Summary

The Site is located approximately 500 feet upgradient of the Outfall 006 discharge to the river and there are multiple other properties/potential contributors downgradient and adjacent to the Site. Only a small portion of the Site's contribution to the Outfall Drainage Area 006 storm sewer remains connected and there are no known PFAS sources on the Site within Outfall Drainage Area 006.

IMAGES: PROJECTNAME:



Sample Name:	Outfall 001
Date Collected:	04/03/19
Units	ng/L
PFOA	32
PFOS	30

LEGEND:

- ▲ SOIL BORING
- ✕ ABANDONED MONITORING WELL
- MONITORING WELL (ACTIVE)
- PIEZOMETER
- RECOVERY WELL
- SOIL GAS POINT
- SUB-SLAB MONITORING POINT
- TRANSECT POINT
- ⊕ SURFACE WATER
- ⊙ RIVER GAUGE
- ✕ UNABLE TO LOCATE

PORTION OF DRAINAGE AREA ON PROPERTY OWNED BY OTHERS

0 250' 500'
APPROXIMATE SCALE IN FEET

RACER TRUST
BUICK CITY
FLINT, MICHIGAN

OUTFALL 001

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
1

