Hamilton Ave Area

2018 PFOS Groundwater Data

**Legend:**
- RACER Property Boundary
- FORMER RACER Property
- Soil Boring
- Monitoring Well (Active)
- Groundwater Flow Direction

**PFOS Concentrations:**
- <12 ng/L
- >12 ng/L
- >1,000 ng/L
- >10,000 ng/L
- >50,000 ng/L
- >100,000 ng/L
Hamilton Ave Area

January – June 2020 PFOS Groundwater Data

Legend:
- RACER Property Boundary
- Former RACER Property
- Soil Boring
- Monitoring Well (Active)
- Groundwater Flow Direction

PFOS Concentrations:
- <12 ng/L
- >12 ng/L
- >1,000 ng/L
- >10,000 ng/L
- >50,000 ng/L
- >100,000 ng/L
Hamilton Ave Area

July – August 2020 PFOS Groundwater Data

LEGEND
- RACER PROPERTY BOUNDARY
- FORMER RACER PROPERTY
- SOIL BORING
- MONITORING WELL (ACTIVE)
- GROUNDWATER FLOW DIRECTION

PFOS CONCENTRATIONS
- <12 ng/L
- >12 ng/L
- >1,000 ng/L
- >10,000 ng/L
- >50,000 ng/L
- >100,000 ng/L
Hamilton Ave Area

September – October 2020 PFOS Groundwater Data
PFOS Groundwater Data

December 2020 – January 2021

LEGEND:
- RACER PROPERTY BOUNDARY
- FORMER RACER PROPERTY
- SOIL BORING
- MONITORING WELL (ACTIVE)
- GROUNDWATER FLOW DIRECTION
- PFOS CONCENTRATIONS
  - <12 ng/L
  - >12 ng/L
  - >1,000 ng/L
  - >10,000 ng/L
  - >50,000 ng/L
  - >100,000 ng/L
Hamilton Ave Area

February – April 2021 PFOS Groundwater Data

Legend:
- RACER Property Boundary
- Former Racer Property
- Soil Boring
- Monitoring Well (Active)
- Groundwater Flow Direction

PFOS Concentrations
- <12 ng/L
- >12 ng/L
- >1,000 ng/L
- >10,000 ng/L
- >50,000 ng/L
- >100,000 ng/L
Hamilton Ave Area

2019 PFOS Soil Data

LEGEND:
- RACER PROPERTY BOUNDARY
- FORMER RACER PROPERTY
- SOIL BORING
- MONITORING WELL (ACTIVE)
- GROUNDWATER FLOW DIRECTION

PFOS CONCENTRATIONS
- <240 ng/kg
- >240 ng/kg
- >1,000 ng/kg
- >10,000 ng/kg
- >50,000 ng/kg
- >100,000 ng/kg
Hamilton Ave Area

July – August 2020
PFOS Soil Data
Hamilton Ave Area

September – October 2020
PFOS Soil Data
Hamilton Ave Area

December 2020 – January 2021
PFOS Soil Data
Hamilton Ave Area

February – April 2021
PFOS Soil Data

LEGEND:
- RACER PROPERTY BOUNDARY
- FORMER RACER PROPERTY
- ▲ SOIL BORING
- ⬤ MONITORING WELL (ACTIVE)
- ← GROUNDWATER FLOW DIRECTION

PFOS CONCENTRATIONS

- <240 ng/kg
- >240 ng/kg
- >1,000 ng/kg
- >10,000 ng/kg
- >50,000 ng/kg
- >100,000 ng/kg
Hamilton Ave Area 3-D Model

PFOS in Groundwater

Posted Analytical Data
PFOS
- >250,000 ng/L
- >100,000 - 250,000 ng/L
- >50,000 - 100,000 ng/L
- >10,000 - 50,000 ng/L
- >1,000 - 10,000 ng/L
- >12 - 1,000 ng/L

PFOS in Soil

Posted Soil Analytical Data
PFOS
- >250,000 ng/kg
- >100,000 - 250,000 ng/kg
- >50,000 - 100,000 ng/kg
- >10,000 - 50,000 ng/kg
- >1,000 - 10,000 ng/kg
- >240 - 1,000 ng/kg
Hamilton Ave Area 3-D Model

PFOS in Groundwater

PFOS in Soil
Hamilton Ave Area 3-D Model

PFOS in Groundwater

PFOS in Soil
Cross Section Plan View
Conceptual Cross Section
Hamilton Avenue
Well Installation
Hamilton Avenue
Well Installation

Building 04 Area

North

Hamilton Avenue
Test Pits
Test Pits
PFAS Next Steps – Remedial Technologies

Developing Matrix of Remedial Technologies

Soil
- Stabilization in place – reduces potential for soil to leach PFAS
  - Chemical fixation
  - Encapsulation
- Soil washing and water treatment
- Containment – slurry wall
- On-site treatment and disposal in approved containment unit (concrete vault, landfill liner)
- Off-site disposal

Water
- Granular activated carbon
- Anion exchange resins
- Absorptive media
- Fractionation
- Membrane filtration
  - Nanofiltration/ultrafiltration
  - Reverse osmosis
Outfall 010
- MH 10-5 Filled with Concrete (red circle). Decreased concentrations at outfall.
- MH 10-2 and MH10-4 Bulkhead recently installed (White circle).

Outfall 011
- Temporary plug installed to eliminate contribution from the Site (green Rectangle).
- Additional temporary plugs installed in laterals (yellow rectangles).

Sanitary Sewer
- Temporary Plugs installed (green rectangle). Resulted in decreased concentrations at the WWTP.

On-Site Manholes
- 27 On-Site sewer manholes were filled with concrete to reduce flow through the area (red circles).
Outfall 005/Leith Street
Outfall 005/Leith Street
Site Activities

• We have completed the Outfall 003 sewer reroute – significantly reducing PFAS discharges to the Flint River and enhanced redevelopment opportunities.

• We have arranged to accept clean fill dirt from several road construction projects including I-69. These soils have been used for environmental remediation work and can be used to prepare building pads for new development.

• We have licensed portions of the site for vehicle parking and equipment storage and for an AJAX batch plant in support of the I-69 reconstruction. Site improvements to support those activities have been provided by the licensees.
Redevelopment

• RACER has positioned its Buick City property to capture a significant economic development opportunity, in terms of new investment, tax revenues & jobs, for the City of Flint and the Flint region

• RACER is actively marketing the Buick City property for end-uses which will maximize its value to the community

• RACER is collaborating with the Michigan Economic Development Corporation, Genesee Regional Chamber, City of Flint and others in pursuit of employers seeking a site to locate their investment in new manufacturing and warehouse/logistics capacity

• The Flint region and RACER’s Buick City property are becoming more attractive to potential investors as demand trends upward for these uses during the current economic expansion