August 2018

PROJECT UPDATE

RACER TRUST LANSING INDUSTRIAL LAND

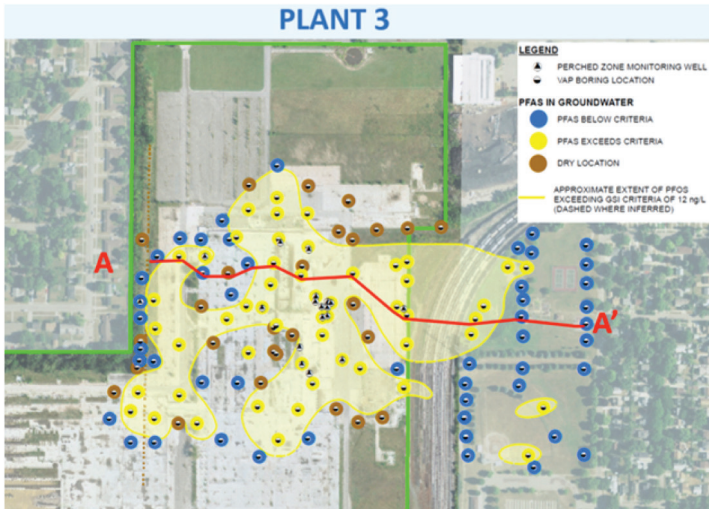
(FORMERLY GENERAL MOTORS)

RACER Trust prepared this project summary and overview to provide a status update on environmental work being performed at the former General Motors Lansing Plants 2, 3 and 6, known collectively as RACER Trust Lansing Industrial Land and located in Lansing and Lansing Township, Michigan (Site). All work at the Site is performed under the authority and oversight of the Michigan Department of Environmental Quality (MDEQ). The purpose of the work is to evaluate and, where necessary, remediate soil and groundwater impacts associated with former manufacturing operations at the Site.

BACKGROUND

On June 1, 2009, General Motors Corporation (GM) filed for protection under Chapter 11 of the U.S. bankruptcy code. RACER Trust was created as a result of the bankruptcy settlement in March 2011 and assumed ownership and environmental remediation obligations for the Site.

- The plants were built between 1900 and 1930 with operations consisting of gear manufacturing, machining, heat treating, foundry operations, assembly, metal stamping, painting and coating, as well as various materials storage.
- Decommissioning and demolition of the buildings on the Site began in 2006. Following demolition, environmental investigation of the sites began in 2011, shortly after the formation of RACER Trust.
- The geology at the site is complex, with shallow, intermittent groundwater in clays, sands and silts (aka shallow "perched" zone) that starts at 5 feet below grade and extends to a dense clay at about 30 feet below grade. The regional bedrock groundwater is deeper, encountered at depths greater than 60 feet below grade.
- The Lansing Board of Water and Light (LBWL) obtains drinking water from the bedrock aquifer and distributes that water to the City of Lansing and Lansing Township. The Site is located partially within two wellhead protection areas for both municipalities.



PFAS IMPACTS

Per- and poly-fluoroalkyl substances (PFAS), such as perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), are part of a group of chemicals used globally during the past half century in manufacturing, firefighting and thousands of common household and other consumer products (USEPA, 2018). PFAS have emerged as potential carcinogens and have been shown to be bioaccumulative. PFAS dissolves in water, and in the subsurface will move with groundwater. They are stable and persistent in the environment, making them difficult to cleanup.

- In December 2016, PFAS associated with a historical plating line was identified in the shallow groundwater at Plant 3. In June 2018, PFAS associated with former painting and coating operations was identified at Plant 6.
- MDEQ has established Cleanup Criteria for two PFAS compounds — PFOA and PFOS — for surface water, drinking water and soil.
- At Plant 3, the highest concentrations of PFAS are in the area where shallow fill material was placed when the plating line was decommissioned. PFAS migrates with groundwater away from the fill in shallow sand and silt seams that thread through the near-surface clay.
    - — No exceedances of drinking water criteria have been identified in the bedrock aquifer

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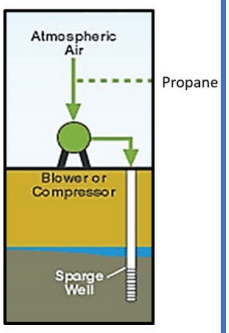
- The Plant 3 PFAS-impacted groundwater migrates off-Site to the east beneath Dunnebacke and West Side parks in Lansing. There are no exceedances of drinking water cleanup criteria beneath the parks, and no indication that PFAS-impacted groundwater is being consumed.
- The Plant 3 PFAS-impacted groundwater also seeps into storm sewers and then flows off-Site to the north under Willow Street at concentrations above the surface water quality criteria. The storm sewer lines will be plugged to prevent further off-Site flow of PFAS-impacted water.
- Additional groundwater monitoring for PFAS will be occurring at Plant 3 and the parks and the data reported to MDEQ. Future activity will be determined based on the monitoring results and MDEQ's review.
- The impacts at Plant 6 will require additional investigation, including off-Site investigation near the intersection of Osborn Road and Verlinden Avenue and sampling of storm sewers.

1,4-DIOXANE IMPACTS

1,4-dioxane was identified in the deeper groundwater beneath the Site in 2012, necessitating further investigation of the weathered bedrock zone, a technically challenging task. 1,4-dioxane also was identified in the shallow perched groundwater zone associated with an oil released in the central portion of the Plant 2 property. In addition to the central portion of the Plant 2 property, 1,4-dioxane impacts are known to originate in the southwest portion of the Plant 3 property. 1,4-Dioxane concentrations above MDEQ drinking water criteria are confined largely to the Site, with the exception of migrations beneath Saginaw Street and near the Adams Plating Site.

WHAT IS BIOSPARGING?

- Air and small amounts of propane are injected into the ground through wells
- Promotes biodegradation of chemicals in groundwater, much faster than it would occur naturally
- 1,4-dioxane is treated in the ground, so minimal waste is generated
- Nearby wells are sampled to make sure treatment is occurring



TREATMENT OBJECTIVES

- Reduce onsite concentrations of 1,4-dioxane in the top/weathered zone of the bedrock aquifer
- Prevent off-site migration of 1,4-dioxane

- 1,4-dioxane is an industrial solvent that is also found in many household cleaning products. It mixes easily with water and flows with ground water, creating long plumes. It is a suspected carcinogen.
- RACER Trust will work with MDEQ and LBWL to implement a cleanup.
- Testing of different cleanup strategies at the Site have confirmed a technology called "biosparging" (see description above) can be effective at reducing the concentrations of 1,4-dioxane in the weathered bedrock zone.

For more information, please contact:

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More information is provided in project reports that are available at the Reference Desk at the Capital Area Public Library or on RACER's website, http://www.racertrust.org/Properties/Detail?Id=13001