ARCADIS
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ENVIRONMENT

Mr. Pete Quackenbush
Michigan Department of Environmental Quality
525 West Allegan Street
Constitution Hall, Atrium North
Lansing, MI 48909-7741

Subject:
Storm Sewer Investigation Work Plan
RACER Trust, Plants 2, 3 & 6, Lansing, Michigan

Date:
October 2, 2012

Contact:
Amy Hoeksema

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810-225-1911

Email:
Amy.Hoeksema@acadis-us.com

Our ref:
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Dear Mr. Quackenbush:

In support of the RCRA Investigation at the RACER Trust Plants 2, 3 and 6 located in Lansing, Michigan (Site), ARCADIS is providing this work plan that provides an assessment of the on-site storm sewer collection system and as well as a sampling plan. The goal of the evaluation is to assess whether groundwater is entering the storm sewers with concentrations of constituents of concern (COCs) that could ultimately discharge to the Grand River above Groundwater-Surface Water Interface (GSI) Criteria. It is noted that the GIS Criteria are the water quality standards for surface water developed pursuant to Part 31 of the of the Michigan Natural Resources and Environmental Protection Act (Act 451, 1994, as amended).

Shallow groundwater and soil impacts above Groundwater/Surface Water Interface (GSI) and GSI Protection Criteria, respectively, have been identified at the Sites. The GSI criteria exceedances have been shown to exist in the shallow fill and clay, and in perched groundwater at depths consistent with the storm sewer inverts. In order to assess whether COCs, that may be entering the sewer via groundwater, are at concentrations that could exceed surface water standards at the river, ARCADIS proposes to sample the storm sewer system at strategic points on the Site during dry weather flow conditions (see following section). Water samples will be submitted for analysis of Target Compound List (TCL) Volatile Organic Compounds (VOCs), TCL Semi-Volatile Organic Compounds (SVOCs), Target Analyte List (TAL) Metals, and Polychlorinated biphenyls (PCBs).

Storm Sewer System Assessment

An assessment of the existing storm sewer system has been completed for each Plant. The approximate locations of the storm sewers are provided as Figures 1 through 3. Based on the utility drawings, the central storm sewers at Plant 2 converge to a manhole near the northwest corner of Plant 2 before continuing north under Saginaw Avenue to Plant 3. Sewers on the eastern portion of Plant 2 move north and then converge to the main Plant 2 outfall near Saginaw Ave. The Plant 2 storm system continues north through Plant 3 and then exits the Plant 3 property into the residential neighborhood located northwest of Plant 3 continuing north towards the Grand River.

The Plant 3 storm sewers flow north across the Site and ultimately converge at a manhole near the northeast corner of Plant 3 near the former clarifier prior to heading north under Willow Street and continuing to the Grand River.

Most of the utilities at Plant 6 have been capped and abandoned, including the storm sewers. The as-built demolition plan indicates that post demolition sewers at Plant 6 consist of five on-site catch basins that are located near the southern and eastern property boundaries. Each of these catch basins is connected directly to the City of Lansing's storm water collection system. Based on conversations with the City of Lansing's Public Service Department, the storm sewers adjacent to Plant 6 are combined storm sewer / sanitary sewers which discharge into the City's Wastewater Treatment Plant during normal flow conditions. During storm events, the overflow from the city sewer, consisting primarily of surface runoff, discharges directly to the Grand River. Therefore, based on the fact that base flow (or storm sewer flow that may be related to groundwater) from Plant 6 is treated prior to discharge, the GSI pathway does not apply to Plant 6 groundwater.

Based on this assessment the storm sewers will be sampled at manholes located on Plant 2 and Plant 3. Proposed sample locations are included on Figures 1 and 2. Figure 3 provides the current Plant 6 storm sewer layout.

Sampling Work Plan

ARCADIS will collect storm water samples at the following locations. The sample locations are provided on Figure 1:

- Plant 2 – the system converges at a manhole near the northwest corner of Plant 2 prior to discharging north under Saginaw Ave. A grab sample will be collected from a manhole in the northwest part of Plant 2.

- Plant 2 – flow from the eastern portion of Plant 2 joins the Plant 2 outfall at Saginaw Ave. A grab sample will be collected from a manhole located on the northern part of Plant 2 before the flow merges, if possible.

- Plant 3 – A sample will be collected from where the Plant 3 storm water converges at a manhole located near the northeast corner of Plant 3, near the former clarifier.

At each location described above a grab water sample will be collected using a long handled dipper sampler. The sampler will be comprised of a cup attached to the end of a pole. Water samples will only be collected from the structures after an extended period (5 days or more) of less than ¼-inch per day of precipitation. Samples will be submitted to Merit Laboratories in Lansing for analysis of TCL VOCs, SVOCs, TAL Metals and PCBs.

Schedule

ARCADIS can implement the storm water sampling immediately following MDEQ approval of this Work Plan.

Assessment Results

Results of the sampling, as well as information regarding the Site's storm sewer system will be used to assess whether a demonstration, as described in Act 451 324.20120e can be made to show no risk, or limited risk, to surface water with regards to storm outfall associated with the Site. In general, the demonstration may consist of the following, singly or in combination:

1. (1)(a) Meet Generic GSI criteria, which are the water quality standards for surface water developed pursuant to Part 31.

2. (1)(b) Apply for a variance from the surface water quality standards as approved by the department under Part 31.

3. (1)(c) Use of a mixing zone for criteria based on chronic-based or acute based surface water quality criteria.

4. (1)(d) Develop site specific criteria pursuant to 20120b or 20120e or a combination. Biological criteria may be used a site specific criteria.

5. (1)(e) Conduct an ecological demonstration under subsection (9).

6. (1)(f) Conduct a modeling demonstration under subsection (10).

7. (3)(a-h) Document the pathway is not complete. If a sewer is demonstrated to be “sufficiently tight” based on accepted industry construction standards, the GSI pathway with respect to the sewer is not relevant and does not apply.

8. (9)(e) Based on monitoring well data, show that the groundwater plume is not likely to migrate to surface water in a mass amount and rate that would impair designated uses or contribute to exceedances of surface water quality standards.

9. (14) Demonstrate venting groundwater has no effect or only a De Minimis effect on the surface water body.

10. (15) A technical impracticability waiver can be requested if the source of contamination has been controlled and compliance with GSI criteria is unachievable.

11. (11) Natural attenuation of hazardous substances in venting groundwater upgradient of the GSI is an acceptable form of remediation and may be relied upon in lieu of any active remediation of the groundwater.

We appreciate your prompt review of the work plan described herein. If you have any questions, please do not hesitate to contact me at 810.225.1926 or Amy Hoeksema at 810.225.1911.

Sincerely,

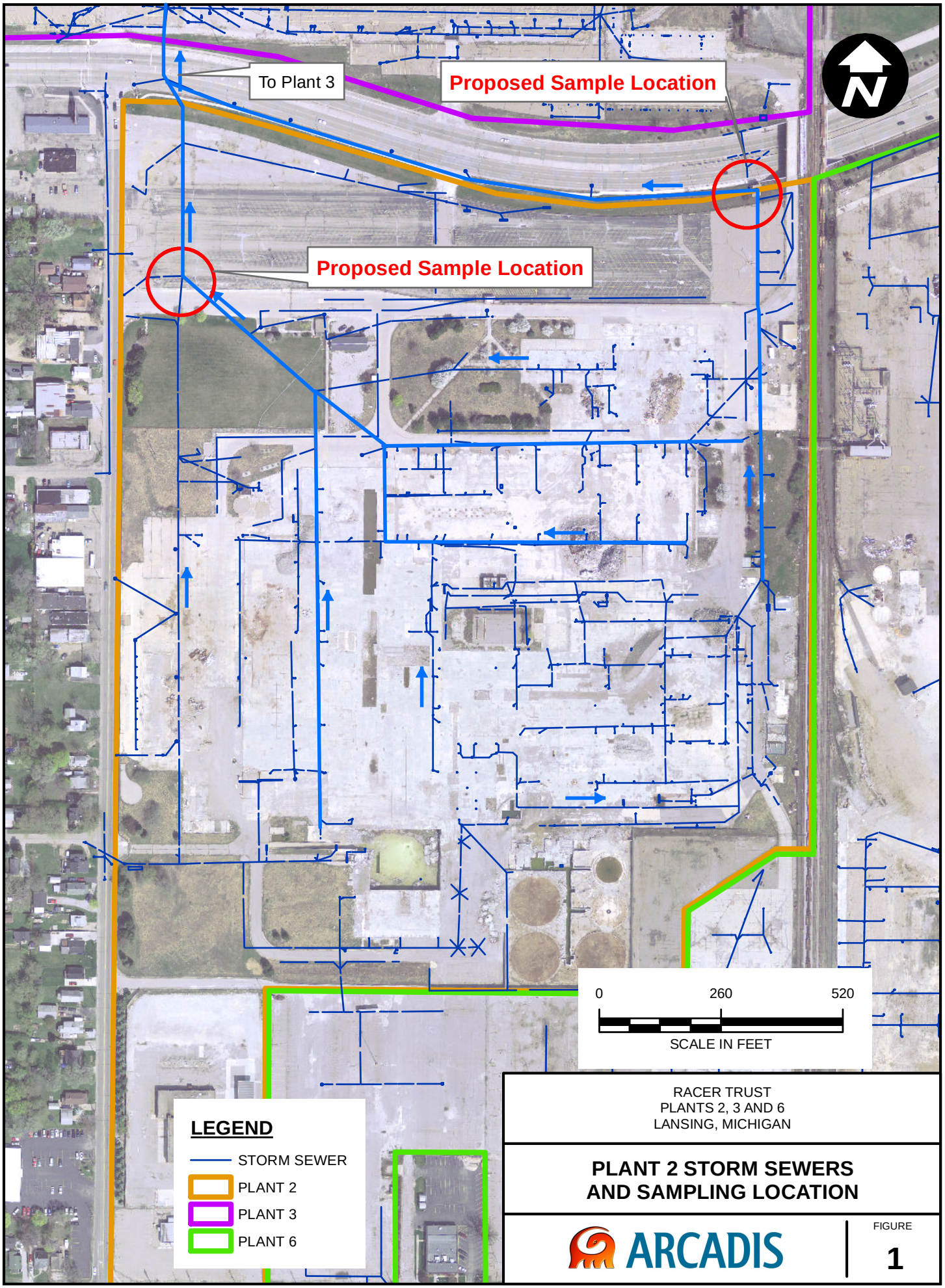
ARCADIS G&M of Michigan, LLC

Patrick Curry, CPG
Project Geologist

Amy L. Hoeksema, C.P.G.
Certified Project Manager / Vice President

Copies:
Dave Favero, RACER
Grant Trigger, RACER

Enclosures:
Figure 1 - Plant 2 Utility Location Map
Figure 2 - Plant 3 Utility Location Map
Figure 3 - Plant 6 Utility Location Map



RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 2 STORM SEWERS AND SAMPLING LOCATION

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FIGURE
1

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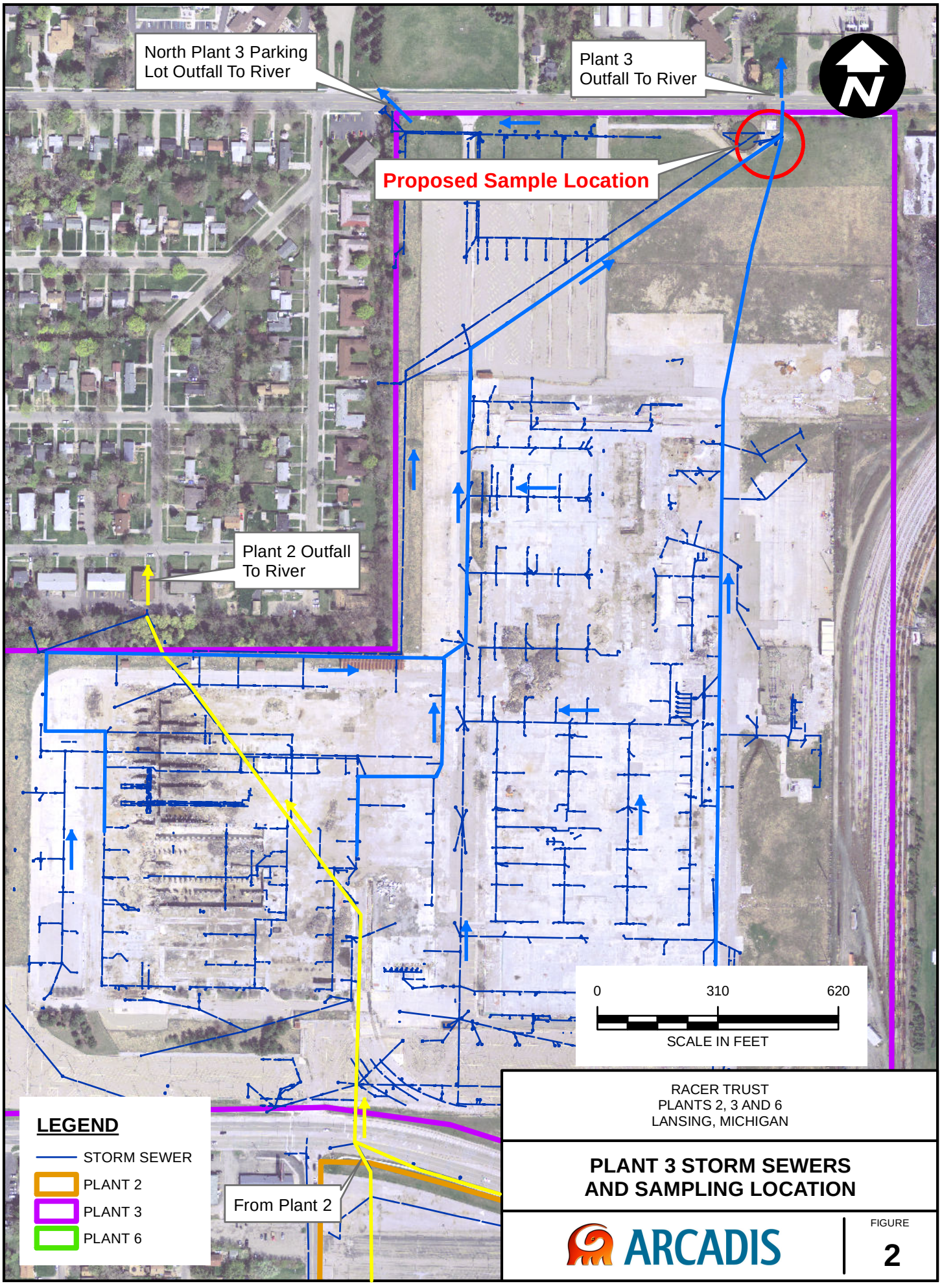

RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 3 STORM SEWERS AND SAMPLING LOCATION

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FIGURE
2

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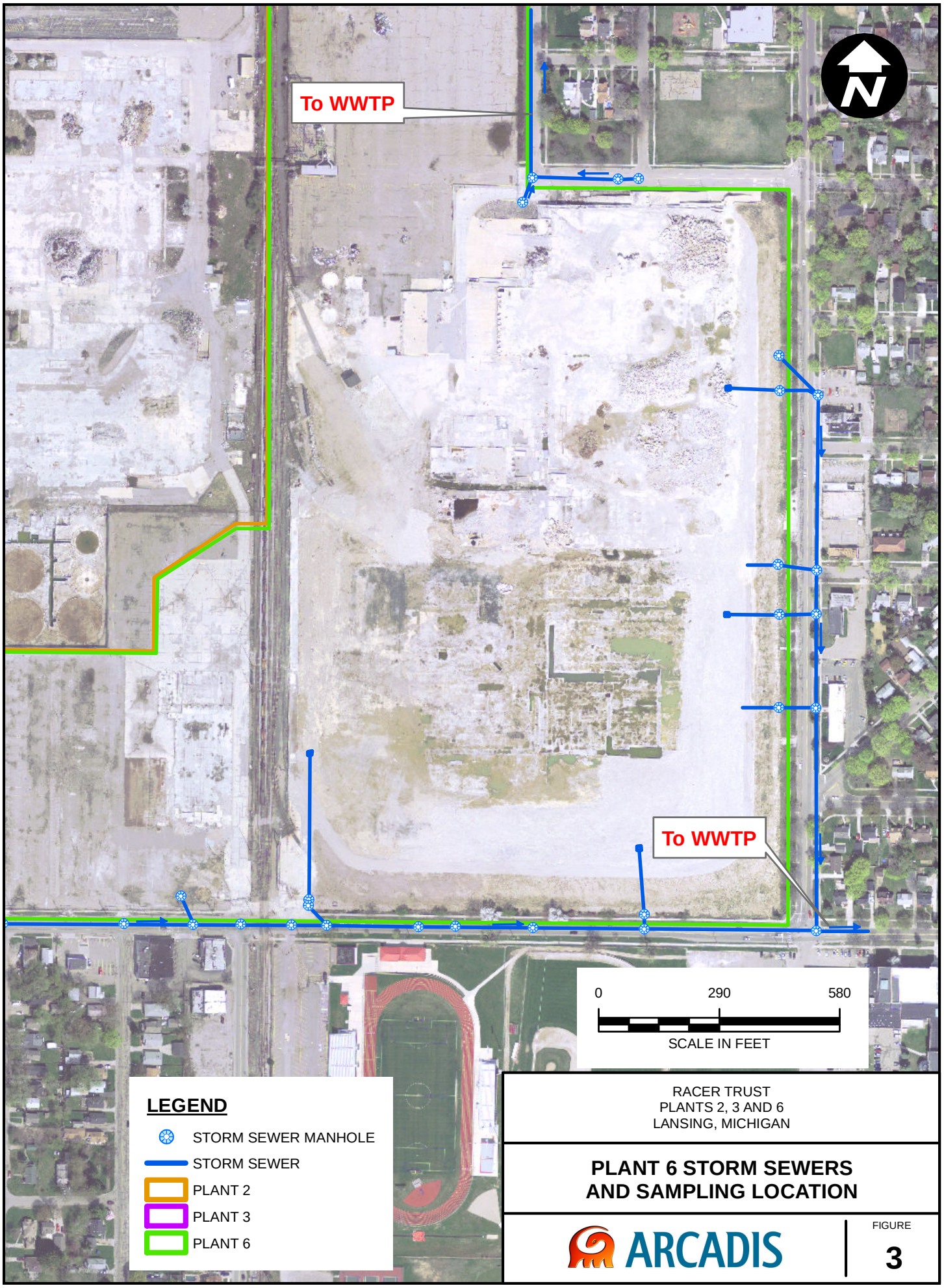

RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 6 STORM SEWERS AND SAMPLING LOCATION

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FIGURE
3

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