



RCRA Corrective Action

Focused Corrective Measures Study

RACER – Fiero Assembly Site

USEPA Site Identification No: MID005356910

Also included in Pontiac North Corrective Action

**– USEPA Site Identification No's: MID085470102,
MID005356886**

Pontiac, Michigan

June 30, 2015



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RCRA Corrective Action

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RACER Fiero Assembly Site
USEPA Site Identification No:
MID005356910
Pontiac, Michigan

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AOC	Administrative Order on Consent
AOI	Area of Interest
bgs	below ground surface
CA	Corrective Action
CCR	Current Conditions Report
cm/sec	centimeter/second
CMI	Corrective Measures Implementation
FCMS	Focused Corrective Measures Study
°F	degrees Fahrenheit
ft/ft	foot per foot
GMC	General Motors Corporation
GSI	groundwater surface water interface
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
MLC	Motors Liquidation Company
PNC	Pontiac North Campus
RACER	Revitalizing Auto Communities Environmental Response Trust
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
USEPA	United States Environmental Protection Agency
UST	undergroundstorage tank
WMU	waste management unit

1. Introduction

In October 2000, prior to Revitalizing Auto Communities Environmental Response Trust (RACER) ownership, the United States Environmental Protection Agency (USEPA) and General Motors Corporation (GMC) entered into a Voluntary Corrective Action Agreement (Voluntary Agreement) for the Pontiac North Campus (PNC property) located in Pontiac, Michigan (Figure 1). The PNC property includes the Fiero Assembly Site that is the subject of the Focused Corrective Measures Study (FCMS). Pursuant to the Voluntary Agreement, GMC worked independently and voluntarily to investigate and, as necessary, stabilize and remediate releases of hazardous waste or hazardous constituents at or from the PNC property in accordance with the Resource Conservation and Recovery Act (RCRA) and relevant USEPA corrective action guidance documentation.

To satisfy the Voluntary Agreement, GMC conducted a RCRA Facility Investigation (RFI) in accordance with an RFI Work Plan (ENCORE 2001b) to investigate the areas of interest (AOIs) identified in the PNC Property Current Conditions Report (CCR; ENCORE 2001a) for releases of hazardous waste or hazardous constituents that could pose an unacceptable risk to human health and/or the environment. GMC submitted an RFI Report (ENCORE 2002b) and Supplemental RFI (ENCORE 2003) detailing the RFI.

In June 2009 GMC filed for bankruptcy and on July 10, 2009 changed its name to Motors Liquidation Company (MLC). Also on July 10, 2009, General Motors Company, which subsequently changed its name to General Motors LLC (GM LLC), was created and purchased certain GMC assets pursuant to Section 363 of the Bankruptcy Code. MLC maintained ownership and managed the assets (89 properties) that were not sold to GM. As a result of the July 10, 2009, 363 sale, the PNC property was split, with MLC owning some portions and GM LLC owning the remainder (GM LLC Site). Effective March 31, 2011, RACER was created through a Bankruptcy Settlement Agreement, and the MLC-owned portion of the PNC property was transferred to RACER Properties LLC, a wholly owned subsidiary of RACER, (now called the RACER PNC Site, which included the Fiero Assembly Site). An Administrative Order on Consent (AOC) was executed on September 29, 2011 between USEPA and RACER calling for RACER to complete Corrective Action (CA) at the RACER PNC Site. As part of the AOC, RACER was required to submit a final RFI Report for the AOIs that remained within the RACER PNC Site property boundaries. The Draft RFI for the RACER PNC Site (RACER PNC RFI) was submitted to USEPA Region V on July 9, 2012.

The former Fiero Assembly Site occupies three parcels associated with historical Fiero operations (Figure 2): the southern parcel (Parcel I), which includes the Powerhouse that is currently leased to DTE; the northern parcel (Parcel II), which includes former Plant 17; and the parking lots located west of Baldwin Avenue and south of Kennett Street. Parcel II was sold to North American Dismantling in 2012. Following the partial demolition of Plant 17 in 2013, North American Dismantling sold Parcel II in 2014 to RIZZO Environmental Services. RIZZO Environmental Services is in the process of evaluating different



redevelopment alternatives. In accordance with the sales agreement between RACER and North American Dismantling, RACER retains responsibility for certain below-grade environmental conditions for Parcel II.

In accordance with the 2011 AOC, ARCADIS has prepared this RCRA Focused Corrective Measures Study (FCMS) on behalf of RACER to describe the proposed corrective measures for the former Fiero Assembly Site which is a part of the larger RACER PNC Site. A CMS for the remainder of the RACER PNC Site will be submitted under separate cover. This FCMS references information that can be found in the RACER PNC Site RFI Report (ARCADIS 2012) and in other documents submitted to USEPA during the RCRA Corrective Action process and cited herein. For the purposes of this document, the Site is defined as the Former Fiero Assembly Site, including Plant 17, the Powerhouse and associated west and south parking lots [USEPA Site Identification No MID005356910 and Tax Parcel Identification No's : 14-17-384-003, 14-20-130-018, 14-17-453-035, 14-20-201-003, 14-20-202-002, 14-20-202-003, 14-20-202-005, and 14-20-202-007 (Figure 2)].

2. Site Background

This section presents information on Site characteristics, including location, climate, surface water hydrology, geology and hydrology, water supply, and land use, and summarizes the RFI.

2.1 Site Location

Occupying approximately 70 acres located in the southwestern portion of the larger RACER PNC Site, the Site is located in the City of Pontiac, Oakland County, Michigan (see Figure 1). The Site is generally bounded to the south by Montcalm Street to the west by Baldwin Avenue and Hollywood Avenue, to the east by Saginaw Street and to the north by East Beverly Avenue (Figure 2). Surrounding areas consist of residential subdivisions and mixed commercial and light and heavy industrial use properties. The majority of the Site is paved (some concrete paving, foundations, asphalt paving), with small areas covered by soil and grass/weeds.

2.2 Climate

Oakland County's weather is generally temperate, with an average winter temperature of 25.3 degrees Fahrenheit (°F) and an average summer temperature of 70.2° F. The sun shines 38 percent of the time during the winter and 67 percent of the time in the summer. Average seasonal snowfall is 34.6 inches. Average annual precipitation is 29.6 inches, with 58 percent (17.2 inches) occurring between the months of April and September. The average relative humidity for Oakland County is 80 percent (Feenstra 1982). The prevailing winds are typically from the northwest in the winter months and the southwest in the summer months.

2.3 Surface Water Hydrology

Within the Site boundaries, surface water drainage is controlled by building and paved area drainage patterns. Storm water from structure roofs is directed through roof drains and downspouts to exterior surfaces or through underground piping to the storm sewer system. The majority of the Site is paved; therefore, a majority of the storm water runoff from exterior surfaces enters into catch basins that discharge to the storm sewer system. There are currently three storm water discharge points from the Site, as shown on Figure 3-5 in the RACER PNC Site RFI Report (ARCADIS 2012). The storm water outfalls from the Site are:

- Fiero Outfall 001 to Harris Lake
- Fiero Outfall 002 to Osmun Lake
- Fiero Outfall 003 to Harris Lake

The surface water bodies closest to the Site are Harris Lake, Terry Lake, and Osmun Lake, which are approximately 600 to 3,200 feet south to southwest to west of the Site (Figure 1). These lakes eventually discharge into the Clinton River, via the Augusta Drain, which is located approximately 5,200 feet south of the Site.

On a regional scale, the Site is located within the Clinton River watershed, which includes an area of approximately 760 square miles within Oakland and Macomb Counties. The Clinton River discharges into Lake St. Clair (approximately 25 miles to the east), which is used as a municipal water supply for the City of Detroit and surrounding communities.

2.4 Geology and Hydrogeology

2.4.1 Regional Geology

East-central Oakland County is characterized by glaciofluvial deposits common to Oakland County. The regional overburden material consists of glacial till composed mainly of clay and some sands. Overburden material is regionally underlain by the Coldwater Shale of Early Mississippian age. Details related to the overburden and bedrock are included in Section 3 of the RACER PNC Site RFI Report (ARCADIS 2012).

2.4.2 Regional Hydrogeology

Regional groundwater flow is typically to the south and east, corresponding in general to flow within the Clinton River watershed. Water-bearing formations exist in both the unconsolidated and bedrock formations.

Four distinct water-bearing units are identified in the Site area: unconfined water table aquifer, glacial aquifer, sand and gravel outwash aquifer, and bedrock aquifer. Each unit is described in detail in Section 3 of the RACER PNC Site RFI Report (ARCADIS 2012).

2.4.3 Site Geology and Hydrogeology

This section describes the geologic setting for the Site based on available monitoring well and borehole data. Data developed during previous investigations, along with information obtained during the implementation of the RACER PNC Site RFI, were used for this assessment.

2.4.3.1 Site Geology

The Site overburden geology consists of four principal units: fill material, glaciolacustrine, upper sand and gravel outwash, and basal till.

- Fill material (typically 5 to 10 feet thick, when present): Generic term referring to reworked native soils, foundry sands, and imported soils resulting from preparation for construction and reworking of the land over time.
- Glaciolacustrine deposits (70 to 100 feet thick): Composed of silts, clays with lenses of sands, and gravels, are the most laterally continuous and thickest type of deposit present.
- Upper Sand and gravel outwash (5 to 30 feet thick): Areal extensive glacial outwash deposits immediately above the basal till. There are two outwash deposits present beneath some portions of the PNC property; referred to as the upper and lower zones. Drilling at the Site has indicated that only the upper sand and gravel outwash zone is present beneath this portion of the Site.
- Basal till (80 to 100 feet below ground surface): Generally described as dense gray clay with silt, fine to medium sand, and some gravel.

Additional details related to the overburden geology including subsurface stratigraphic data and geologic cross-sections are provided in Section 3 of the RACER PNC Site RFI Report (ARCADIS 2012).

2.4.3.2 Site Hydrogeologic Setting

Unconfined Water Table Zone

Site groundwater is typically found at depths ranging from 16 to 22 feet below ground surface (ft bgs) in the unconfined water table zone. In general, the groundwater flow direction follows the topography of the

RACER PNC Site, with the horizontal component of the groundwater flow to the south and southwest toward a series of small lakes (Harris, Terry, and Osmun). The approximate horizontal hydraulic gradient across the RACER PNC Site, including the Site, is 0.005 (foot per foot [ft/ft]) as calculated between MWS1 and MWD6. These monitoring wells are located in the northeast and southwest corners of the RACER PNC Site, respectively, along the main axis of groundwater flow.

Upper Sand and Gravel Outwash Zone

Site wide, the groundwater potentiometric surface in the upper sand and gravel outwash zone is typically measured at depths ranging from 40 to 75 ft bgs. In general, the horizontal component of the groundwater flow is to the south-southeast toward the Clinton River, which is the regional groundwater discharge point. The horizontal hydraulic gradient across the RACER PNC Site was 0.005 ft/ft in February 2002 and 0.004 ft/ft in September 2011 as calculated between GWM3 to GWP3. These monitoring wells are located in the northwest and southeast corners of the PNC Property, respectively, along the main axis of groundwater flow.

Vertical Groundwater Flow

Vertical hydraulic gradients were calculated for each of the nested sets of monitoring wells across the RACER PNC Site and range from 0.12 to 0.37 ft/ft downward between the water table zone and the upper sand and gravel outwash zone. Details related to the calculation of the vertical hydraulic gradients are provided in Section 3 of the RACER PNC Site RFI Report (ARCADIS 2012).

2.4.3.3 In Situ Hydraulic Conductivity Test Results

Hydraulic conductivity values were estimated from the data obtained from monitoring wells during low-flow sampling. In addition, in situ rising-head hydraulic conductivity tests (slug tests) were also performed on a select number of monitoring wells installed during the RFI for which the above method was unable to accurately estimate the hydraulic conductivity. A summary of hydraulic conductivity data for the monitoring wells at which hydraulic conductivity tests were conducted is presented in Section 3 of the RACER PNC Site RFI Report (ARCADIS 2012).

Results from slug tests completed at MWF12-01 and MWF12-02 by Encore in 2002 suggest that the hydraulic conductivity of the upper sand unit ranges from 2.1 to 3.4E-2 centimeters per second (cm/sec).

2.5 Water Supply

Groundwater in the area near or on the RACER PNC Site is not used as a municipal water supply source or for any other potable or non-potable purposes. Local drinking water is supplied by the City of Detroit, which is obtained from Lake Huron. The expected future use of groundwater at the property is consistent with the

current use and will be maintained via a deed restriction placed on the property. The deed restriction is a component of the proposed corrective measures alternatives. In addition, the area south of the Site is included in a City of Pontiac Ordinance that prohibits the installation or use of a well to supply water.

There are no municipal drinking water supply wells within a 5-mile radius of the RACER PNC Site including the Site (Michigan Department of Environmental Quality [MDEQ] 2012). The area surrounding the RACER PNC Site is on municipal water supply from the City of Detroit (Michigan Department of Natural Resources [MDNR] 1987). The nearest private well is approximately 5,000 feet from the RACER PNC Site (Superior 2000).

There are no production wells currently at the Site.

2.6 Land Use

The Site is zoned for industrial use, and areas surrounding the Site are zoned for residential, commercial, or industrial use. Two city-owned parks (Perry Park and Oakland Park) are located south of the Site. Residential neighborhoods are located north and west of the Site. The RACER PNC Site, south and east of the Site, is also zoned for industrial use.

The Site future use is expected to remain consistent with the current use and will be maintained via a deed restriction placed on the property. The current zoning designation for the RACER PNC Site, including the Site and surrounding area, is presented on Figure 3-1 of the RACER PNC Site RFI Report (ARCADIS 2012). The deed restriction is a component of the proposed corrective measures alternatives.

2.6.1 Population and Housing Trends

The population of Pontiac has steadily dropped over the last 10 years, falling from 66,337 in 2000 to 59,515 in 2010 (10.3 percent drop), reflecting a downturn in manufacturing as well as a trend in migration from older urban areas like Pontiac (U.S. Census Bureau 2010).

With the declining population, the number of vacant housing units has increased from 2,102 in 2000 to 5,011 in 2010, even though the total number of housing units decreased from 26,336 to 22,220 over the same period. Of the 22,220 occupied housing units, 48 percent are occupied by the owner and 52 percent are occupied by renters (U.S. Census Bureau 2010).

2.7 Summary of RACER PNC Site RFI

2.7.1 Pre-RFI

The CCR (ENCORE 2001a) and the CCR Addendum (ENCORE 2002a) identified 14 AOIs at the Site based on a review of historical and current usage information that indicated a potential for known or suspected areas of prior release of hazardous waste or hazardous constituents. The CCR and the CCR Addendum discussed each AOI with respect to description, historical and current operations, previous remedial investigations and actions, and current status, and identified five AOIs (F-7, F-8, F-12, F-13, and F-14) at the Site requiring further action. Available information is sufficient to support No Further Action for the nine remaining AOIs (Figure 4).

Two of the AOIs which were determined to require No Further Action are former RCRA hazardous waste management units (WMUs) (AOIs F-3 and F-6) (Figure 4). The northern WMU, also known as AOI F-6, was a tank farm located north of Plant 17, directly west of the paint mix building consisting of three product underground storage tanks (USTs) which stored xylenes, purge thinner, and cellosolve acetate and a waste purge thinner UST (RCRA Interim Status Unit). The three product USTs were removed and closed in 1989.

The WMU located in the southern portion of the property, also known as AOI F-3, is a former hazardous waste drum storage pad which was constructed to the south of the assembly plant and northeast of the former coal storage area. The former hazardous waste drum storage area consists of a concrete pad approximately 65 feet by 90 feet. The area is partially contained with a 1- to 4- foot- high concrete berm with sealed joints. When the Fiero plant ceased automobile assembly activities in August 1988, GMC closed the drum storage area.

The original RCRA Closure Report for the Facility was submitted to the Michigan Department of Natural Resources and Environment (MDNRE) (n/k/a Michigan Department of Environmental Quality (MDEQ)) by General Motors Corporation (GM). MLC received a Notice of Deficiency (Notice) letter for the Facility from the MDNRE on August 26, 2010; the Notice indicated the need for additional delineation of soil and groundwater in the vicinity of the RCRA Pad located on the south end of the property (AOI F-3).

The additional investigation of soil and groundwater of AOI F-3 are summarized in the RCRA Closure Report - Addendum No. 1 ARCADIS (2012). The report concluded that concentrations detected in soil and groundwater beneath and outside the boundaries of the former RCRA Pad can be addressed as part of the USEPA Region V Corrective Action including groundwater monitoring and institutional controls. The groundwater monitoring and institutional controls will provide adequate protection for public health from the concentrations detected in relation to this AOI. The closure of the WMU's have been included in this CMS in order to address the area through the RCRA Corrective Action process, thus fulfilling closure requirements.

2.7.2 RFI

The RACER PNC Site RFI Report provides a detailed discussion of the AOIs and all previous investigations at the Site. Three new AOIs (F-15, F-16, and F-17; Figure 4) were identified during the RFI and recommended as requiring further action. RFI activities performed and results for all Site AOIs, including the eight AOIs for which further action was recommended (F-7, F-8, F-12, F-13, F-14, F-15, F-16, and F-17), are presented in Table 1. Based on the results of the RFI, none of the AOIs at the Site were identified with constituent concentrations that exceeded the applicable Michigan Part 201 screening criteria. Screening criteria were designated based on the assumption that deed restrictions will be put in place for soil and groundwater as part of the selected corrective measures for the Site and the assumption that a complete exposure pathway must be feasible after these restrictions are in place for a criterion to be considered in exceedance of the screening criteria.

Three off-site areas were identified during the RFI that are potentially associated with the activities at the Site; Harris Lake, Terry Lake, and Osmun Lake. Off-site areas were screened against the more restrictive residential criteria. Off-site areas exceeding these restrictive residential criteria included off-site groundwater. On-site downgradient groundwater, which was used to represent groundwater immediately downgradient of the southern RACER PNC property boundary (along Montcalm Avenue and south of Fiero) but upgradient of the off-site wells, also exceeded residential criteria. Finally, groundwater closest to Harris Lake (the nearest surface water body to the site) exceeded groundwater surface water interface (GSI) criteria. The findings of the field investigations are discussed in Section 4 of the RACER PNC Site RFI Report. The potential health significance of the Constituents of Potential Concern found in soil, groundwater, and sediment are discussed in a risk evaluation provided in Section 5 of the RACER PNC Site RFI Report (ARCADIS 2012). The risk evaluation concluded that evaluation of off-site groundwater would be required in the CMS based on risks from ingestion of groundwater, and risk to ecological receptors through the groundwater surface water pathway.

2.7.3 Summary of Risk Evaluation

A human health risk evaluation was completed to assess potential risks and hazards to humans based on a comparison of on- and off-site data to generic risk-based screening criteria. This evaluation does not provide numerical risk estimates or site-specific criteria, but rather discusses the potential for unacceptable risks and hazards to occur and recommendations for further assessment or corrective action.

The risk evaluation was based on the screening of the maximum detected concentration in each area of evaluation presented in Section 4 Investigation Results and Discussion of the RACER PNC Site RFI Report (ARCADIS 2012). This included the eight AOIs at the Site (F-7, F-8, F-12, F-13, F-14, F-15, F-16 and F-17), Terry and Osmun Lakes, off-site groundwater, and GSI at applicable wells. None of the AOIs located at the Site had a significant release of hazardous constituents to the environment based on the applicable criteria

for each AOI. This determination was based on a conservative approach in which the highest concentration of a constituent at an area was compared with applicable generic risk-based screening criteria in scenarios in which there was an exposure pathway in existence after the deed restrictions are in place. Because the maximum detected concentration of a constituent in areas of evaluation at the Site did not exceed an applicable screening criterion, there was no need for the risk to be further assessed.

Off-site groundwater yielded an exceedance of an applicable screening criterion for at least one constituent; therefore, it was evaluated further in the risk evaluation. In addition, evaluation of vapor intrusion via the groundwater volatilization to indoor air pathway for off-site residential groundwater areas was included and determined to not be a risk.

Based on the conclusions of the risk evaluation, exceedances detected in on-site downgradient property boundary groundwater and GSI groundwater were potentially related to the Site and required an evaluation of potential corrective measures alternatives. The risk evaluation in Section 5 Human Health Risk Evaluation of the RACER PNC Site RFI Report (ARCADIS 2012) concluded that constituents of concern at Terry and Osmun Lakes do not pose a significant risk to human health and the environment and therefore require no corrective measures alternatives evaluation.

3. Summary of Corrective Measures Alternatives

The human health risk evaluation in the RACER PNC Site RFI Report concluded that there was a potential for significant exposure to groundwater via drinking water or through the GSI pathway. The RACER PNC Site RFI Report concluded that evaluation of potential corrective measures alternatives for on-site and off-site groundwater was required.

The human health risk evaluation in the RACER PNC Site RFI Report assumed no current or future uses of groundwater would occur at or in the vicinity of the RACER PNC Site. This assumption is supported by the proposed implementation of institutional controls. The alternatives evaluated for addressing groundwater are designed to meet the corrective measures objective of demonstrating no migration of groundwater with constituents at concentrations higher than the Michigan Part 201 generic criteria for nonresidential groundwater drinking water criteria to potential users.

An overview of the remedial technologies is presented in Table 2, and Table 3 details the corrective measures alternatives considered for evaluation.

3.1 Site-Wide Management Controls

The corrective measure alternative for soil is institutional controls focusing on managing potential risk associated with impacted soil. Institutional controls can also be applied more broadly to limit land use and

groundwater use on and off- site. In addition, management systems may be needed to verify that the corrective measures have been effective.

The following alternatives were evaluated for use as the Site-wide management controls, to be applied in conjunction with the soil and groundwater corrective measures alternatives:

Alternative 1: Land Use Restriction – The human health risk evaluation discussed in Section 5 of the RACER PNC Site RFI Report assumed that future land at the Site will remain consistent with the current use (nonresidential). To reduce the likelihood of a change in land use, a land use restriction would be recorded on the deed, limiting future land use to nonresidential.

Alternative 2: On-site Groundwater Deed Restriction – Contaminants in groundwater exceed the drinking water standards at the Site. If the use of contaminated groundwater for drinking water is prevented, the groundwater will not pose a risk to human health. A groundwater deed restriction could be placed on the property. This institutional control notifies potential future owners that the groundwater contamination is present, and that the installation of a water supply well is prohibited.

Alternative 3: Off-site Groundwater Use Restriction Institutional Control – Contaminants in groundwater at concentrations exceeding the drinking water standards also extend off- site, beneath multiple properties. It would be impractical to file a groundwater use restriction for each individual property. A groundwater ordinance prohibiting the installation of groundwater wells could be used to restrict groundwater use on a regional basis. On August 16, 2013 the City of Pontiac adopted a groundwater restriction ordinance that covers this area.

Alternative 4: Groundwater Monitoring – Groundwater sampling conducted since 2003 has shown stable groundwater conditions on site. In the absence of active corrective measures, groundwater monitoring is expected to demonstrate that contaminant concentrations and distribution are stable and/or decreasing. A groundwater monitoring program will be developed (as a separate document). Analytical results will be compared to drinking water criteria groundwater data; however, an evaluation of the trends and concentrations will be used to identify any adjustment in the monitoring scope or frequency. The groundwater monitoring program will include three additional years of sampling. Groundwater samples will be collected and submitted for laboratory analysis for target compound list (TCL) volatile organic compounds (VOCs) using USEPA Method 8260B, polychlorinated biphenyls (PCBs) using USEPA Method 8082, and select site-specific parameter list (SSPL) metals (Antimony, Lead, Manganese, Vanadium) using USEPA Method 6020 and 7470A. The specific details of the monitoring program will be provided in the Corrective Measures Implementation Work Plan (CMI Work Plan).

3.2 Soil

The results of the RACER PNC Site RFI and baseline human health risk evaluation found that contaminant concentrations in soil do not pose a potentially significant future risk through any pathways at the Site assuming that deed restrictions are in place.

3.3 Groundwater

The human health risk evaluation concluded that no potential significant exposures to groundwater, including vapor intrusion, exist under current and reasonably expected future land use at the Site or off-site in the residential area assuming that deed restrictions and groundwater ordinance are in place. The human health risk evaluation assumed that no current or future uses of contaminated groundwater would occur at the Site. No drinking water wells are registered with the State of Michigan in the vicinity of the Site, and all nearby residents and businesses are supplied with water from the City of Detroit, effectively mitigating any risk associated with on-site or off-site groundwater.

With the Site-Wide Management Controls implemented, no potential significant exposures to groundwater would be assured.

4. Evaluation of Corrective Measures

The evaluation of corrective measures identified in Section 3 considered the degree to which each potential corrective measure alternative satisfies the nine criteria outlined in the USEPA document entitled "Risk Management Strategy for Corrective Action Projects" (USEPA 2005). The RCRA Corrective Action evaluation criteria and the results of the evaluation for each of the potential corrective measures alternatives are presented in Table 3.

In addition to the RCRA evaluation criteria, corrective measures were also evaluated based on community acceptance, state acceptance, and sustainability.

4.1 Criteria for Evaluation of Corrective Measures Technologies

The RCRA Corrective Action evaluation criteria and the results of the evaluation for each of the potential corrective measures alternatives are summarized below.

1. Overall Protection

This criterion considers the ability of the remedial alternatives to protect both human health and the environment.

2. Attainment of Media Cleanup Standards

This criterion considers the ability of the remedial alternatives to attain the cleanup standards for that specific medium.

3. Controlling the Sources of Releases

To the extent practicable, the remedial alternative must control the source of the release. This criterion considers the ability of the remedial alternatives to reduce or eliminate any further releases of hazardous substances that would pose a risk to human health and the environment.

4. Compliance with Applicable Standards for Waste Management

This criterion considers the ability of the remedial alternatives to comply with applicable standards for waste management (e.g., hazardous waste storage and transportation regulations, emissions limitations).

5. Long-Term Reliability and Effectiveness

This criterion considers the level of threat posed by hazardous constituents remaining in place, the adequacy of the remedial alternative, and the risk associated with any treatment residuals compared to untreated waste.

6. Reduction of Toxicity, Mobility, or Volumes of Wastes

This criterion considers the ability of the remedial alternatives to reduce the toxicity, mobility, or volume of waste significantly and permanently.

7. Short-Term Effectiveness

This criterion evaluates the effects of the remedial alternatives on human health and the environment during their implementation period. It considers factors such as impacts from remedy construction, transportation, and air quality.

8. Implementation

This criterion considers the technical and administrative feasibility of implementing the selected remedial alternative.

9. Costs

This criterion considers the cost effectiveness of each alternative. Cost effectiveness is evaluated by comparing the costs proportional to the effectiveness achieved by the remedial alternative.

10. Community Acceptance

This criterion evaluates the issues and concerns the local community may have regarding the alternatives. USEPA encourages community involvement in remedial alternatives, and community acceptance will be considered in the remedial alternative selection.

11. State Acceptance

This criterion evaluates the technical and administrative issues and concerns the state may have regarding the alternatives. USEPA encourages coordination with state agencies, and state acceptance will be considered in the remedial alternative selection.

12. Sustainability

This criterion considers the sustainability of each alternative with regard to energy requirements, air emissions, water requirements including impacts on water resources, land and ecosystem impacts, and material consumption and waste generation. The sustainability evaluation was used in conjunction with the core elements of the RCRA corrective action alternatives evaluation to factor sustainability into the evaluation process.

5. Proposed Corrective Measures

Table 3 presents the corrective measures evaluated as part of RCRA Corrective Action. Appendix A presents the detailed cost evaluation. The proposed final corrective measures for the Site are summarized below.

Site-Wide Controls/Monitoring for Groundwater and Soil

Deed Restriction - Groundwater Use (On Site) will prohibit use of groundwater on the property.

Institutional Control - Groundwater Use (Off-Site) will prohibit use of groundwater off- site through an existing groundwater ordinance (Appendix B).

Deed Restriction - Land Use (On Site) will limit the use of the property to commercial or industrial uses.

Deed Restriction - Excavation (On Site) will limit the ability to excavate or construct any sub-grade structures without properly managing/disposing of excavated material and implementing appropriate Health and Safety procedures as required by MDEQ soil management requirements.

Monitoring Program - Groundwater (On Site and Limited Off-Site) will provide data for confirmation of the contaminant concentrations in groundwater and evaluation of risks to potential receptors (via groundwater).

The following table lists the proposed corrective measures alternatives for the Site and their associated rationale.

Area	Medium	Proposed Remedial Alternative	Rationale
Site-wide	Soil	Deed Restriction	Need to restrict land use to non-residential use
Other areas on site – Hazardous WMUs	Soil and Groundwater	Deed Restriction	Need to restrict land use to non-residential use Need to restrict groundwater use (RACER PNC Site is served by a municipal system) Will complete RCRA closure by the inclusion of the former hazardous WMUs into the RCRA Corrective Action process.
On-site Groundwater	Groundwater	Deed Restriction and Groundwater Monitoring	Need to restrict land use to non-residential use Need to restrict groundwater use (RACER PNC Site is served by a municipal system)
Off-site Groundwater	Groundwater	Institutional control (existing ordinance) and Groundwater Monitoring	Need to restrict groundwater use (surrounding off-site properties are served by a municipal system)

With respect to the off-site lakes, an interim measure was completed at Harris Lake in 2003 where sediments were removed from the lake as described in Section 2.4 Interim Measures of the RACER PNC Site RFI Report (ARCADIS 2012). No additional remedial action is planned or necessary.



The risk evaluation in Section 5 Human Health Risk Evaluation of the RACER PNC Site RFI (ARCADIS 2012) concluded that constituents of concern at Terry and Osmun Lakes do not pose a significant risk to human health and the environment and therefore require no corrective measures alternatives evaluation. No remedial action is being planned.

Based on information currently available, these proposed final corrective measures alternatives provide the best balance with respect to the evaluation criteria. The proposed final corrective measures alternatives are presented in Table 3. As discussed above, a CMI Work Plan will be prepared and submitted to USEPA for the active corrective measures alternatives (groundwater monitoring). In the event that the selected corrective measures alternatives do not meet the target objectives, the corrective measures alternatives will be re-evaluated, and a supplemental CMS will be submitted to USEPA.

6. Schedule

A CMI Work Plan will be submitted within 30 days of USEPA issues a Response to Comments and Final Decision for the Proposed Corrective Measures or approval of the Proposed Corrective Measures as interim measures for the Fiero Site by USEPA. Implementation of final corrective measures alternatives will commence within 60 days of receiving USEPA's approval of the CMI Work Plan.

RACER will provide semi-annual progress reports to USEPA by the 15th day of the month after the end of each calendar half year, unless an alternate schedule is agreed upon. Each progress report will list work performed to date, data collected, problems encountered, project schedule, and percent project completed, unless otherwise agreed.

7. References

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- ENCORE. 2002a. Current Conditions Report Addendum #1, Pontiac North Campus. General Motors Corporation, Pontiac, Michigan. February 2002.
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- Michigan Department of Environmental Quality (MDEQ). 2012. Water Well Viewer Database. Available online at: <http://wellviewer.rsgis.msu.edu/viewer.htm>
- Michigan Department of Natural Resources (MDNR). 1987. Site Description/Executive Summary. GMC Pontiac Motor Division, Pontiac, Michigan. December 15, 1987.
- Superior. 2000. Leaking Underground Storage Tank Closure Report. CPC Pontiac – Car Wash, 985 Joslyn Road. February 2, 2000.
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- U.S. Census Bureau. 2010. State and County Quick Facts: Pontiac (city) Michigan. Available online at: <http://quickfacts.census.gov/qfd/states/26/2665440.html>.



**RCRA Corrective Action
Focused Corrective
Measures Study**

RACER Fiero Assembly Site
Pontiac, Michigan

U.S. Environmental Protection Agency (USEPA). 2005. Risk Management Strategy for Corrective Action Projects, EPA Region 5 RCRA Program. May.

Tables

Table 1
Summary of AOIs Included in the Focused Corrective Measures Study

**RACER Trust Pontiac Fiero
Pontiac, Michigan**

Area ID	AOI Description	Summary of Primary Materials Managed	RFI/IM Activities	Laboratory Analysis Performed	Analytical Results That Exceed Applicable Part 201 Criteria ¹		LNAPL Results	Remedial Activities/ Interim Measures Performed	Proposed Activity
					Soil	Groundwater			
F-3	Container Storage Area <i>Located on the south side of the storage dock of Plant 17</i>	Storage of chlorinated solvents, paint waste, waste sealers, and waste adhesives	Closure report was submitted to MDNR in Jan. 1995.	• VOCs • Inorganics	Not applicable	Not applicable	Not applicable	None needed	WMU Closure through the RCRA Corrective Action Process
F-6	Waste Purge Thinner UST and Three Product USTs • Located north of Plant 17, directly west of the Paint Mix Building • 60 yds3 of soil were removed and USTs closed in 1989; RCRA Closure report submitted to the MDNR by Techna Corp.	Spent purge thinner	Closure report for the waste purge thinner UST was submitted to MDNR in Jan. 1995.	• VOCs • Inorganics	No exceedances	Not applicable	Not applicable	None needed	WMU Closure through the RCRA Corrective Action Process
F-7	Wastewater Collection Sumps <i>Located in the basement of the Powerhouse</i>	Industrial wastewater	• Clean and inspect sumps • Installed 2 groundwater monitoring wells	• VOCs • SVOCs • PCBs • Inorganics	No exceedances	No exceedances	Not applicable	None needed	Deed Restrictions
F-8	Paint Sludge Storage Area <i>Located north of Plant 17 in an unbermed 12' x 24' concrete pad with a corrugated roof</i>	Storage of non-hazardous paint sludge and sludge from filtering waste bonderite	concrete pad, trench, and sump was inspected for integrity of concrete • Installed one groundwater monitoring well	• VOCs • SVOCs • PCBs • Inorganics	No exceedances	No exceedances	Not applicable	None needed	Deed Restrictions
F-12	Coal Storage Area <i>Located southeast of the Powerhouse</i>	Coal (Reported solvents added to coal to increase BTU)	Installed 2 groundwater monitoring wells	• VOCs • SVOCs • PCBs • Inorganics	No exceedances	No exceedances	Not applicable	None needed	No Further Action
F-13	Former Oily Pea Gravel, Concrete, and Debris Area <i>Located in the northeast corner of Plant 17</i>	Oily pea gravel, concrete, and debris	Completed three soil borings; oil material was removed in February 1996	• VOCs • SVOCs • PCBs • Inorganics	No exceedances	Groundwater not analyzed	Not applicable	None needed	Deed Restrictions
F-14	Fuel AST Area <i>Located west of the low- pressure fly ash storage silos The area includes three ASTs: 1,000-gallon diesel tank (relocated), 300-gallon diesel tank (removed), and a 560-gallon gasoline tank (removed) Current 1,000-gallon diesel tank has secondary containment Former location no containment</i>	Diesel fuel and gasoline	Completed 2 soil borings	• BTEX • SVOCs • Lead	No exceedances	Groundwater not analyzed	Not applicable	None needed	Deed Restrictions
F-15	Oil/Solvent Catch Basin <i>Located in the Fiero Loading dock</i>	Unknown oil sludge	• Completed 2 soil borings • Installed 1 groundwater monitoring well • Catch basin cleaned and	• VOCs • SVOCs • PCBs • Inorganics	No exceedances	No exceedances	Not applicable	None needed	Deed Restrictions
F-16	Fiero Plant 17 VOCs • File review of historical NPDES permit indicated effluent limits for PCE; PCE was used as a degreaser and in metal fabrication operations.	PCE	• Completed seven soil borings • Installed seven groundwater monitoring wells	• VOCs	No exceedances	No exceedances	Not applicable	None needed	Deed Restrictions
F-17	Parking Lot West of Fiero <i>Located west of Plant 17</i>	Unknown - former businesses on the property included a filling station, automotive repair and agricultural	• Completed 21 soil borings • Installed 5 groundwater piezometers (only for groundwater levels)	• VOCs • SVOCs • PCBs • Inorganics	No exceedances	Groundwater not analyzed	Not applicable	None needed	Deed Restrictions

Notes:

(1) Assumes deed restrictions are in place for soil and groundwater. Soil and groundwater were screened against the criteria listed in Table 4-2 of the RACER Site RFI Report where there were exposure pathways present following the institution of deed restrictions and the groundwater ordinance.

AOI = Area of Interest

IM = Interim Measure

LNAPL = light non-aqueous phase liquid

NPDES = National Pollutant Discharge Elimination System

PCB = polychlorinated biphenyl

PCE = tetrachloroethene

RCRA = Resource Conservation Recovery Act

RFI = RCRA Facility Investigation

SVOC = Semi-volatile organic compound

VOC = Volatile organic compound

Table 2
Overview of Corrective Measures

RACER Pontiac Fiero
Pontiac, Michigan

Remedial Strategy	Description of the Remedial Strategy	Advantages of the Remedial Strategy	Limitations of the Remedial Strategy	Timeframe	Health and Safety Considerations	Feasible Technology for this Project?
Institutional Controls	This option would restrict land use to non-residential uses, which is consistent with zoning and the current and potential future uses of the property. The deed restriction also would include a prohibition on excavating, unless the impacted material is properly dispose of, MIOSHA regulations for health and safety are followed, and requires the consultation of a trained professional if excavation is proposed. Prohibit wells or other devices to extract groundwater for potable use. Wells only for remediation or investigation as approved by USEPA or MDEQ.	• Effective mechanism to restrict land use • Effective mechanism to inform future owners of site conditions and restrictions	Does not treat impact	Not applicable	Any excavation would require proper health and safety precautions per MIOSHA	Feasible
Groundwater Monitoring	This option would allow the remaining petroleum constituents in groundwater to degrade naturally. Monitor the progress using the existing monitoring well network until stability has been established and then monitoring would be discontinued.	Effective in monitoring conditions	• Longer remedial timeframe than source treatment options • No active source treatment • Less effective at treating inorganic constituents	3 years	Minimal health and safety concerns during monitoring	Feasible

Notes:

MIOSHA - Michigan Occupational Safety and Health Administration

Grantor as current fee title holder of the Property, hereby declares and covenants that the Property, shall be subject to those restrictions on use described below, and intends that said restrictions and covenants shall run with the land, and may be enforced in perpetuity against the Owner by the following entities: (1) Grantor, if it is no longer Owner; (2) MDEQ; and (3) USEPA.

1. Land Use Prohibitions. The Owner shall prohibit all uses of the Property that are not compatible with or are inconsistent with the assumptions for the nonresidential cleanup criteria established pursuant to Section 324.20120a(1)(b) of NREPA. Uses that are compatible with nonresidential cleanup criteria are generally described in Exhibit 4 (Description of Allowable Uses).

Part 201 cleanup criteria for land use-based response activities are located in the Government Documents Section of the State of Michigan Library, MCL 324.201201 et seq. effective December 27, 2012, and listed for the summarized in Exhibit 3. These environmental protection standards which are necessary for cleanup and protection of soil, groundwater, surface water, sediments, and ambient air can be used as long as the cleanup criteria are not less stringent than allowed pursuant to RCRA.

2. Activities Prohibited. Owner shall prohibit activities on the Property that may result in exposures to hazardous substances above the nonresidential cleanup criteria. These prohibited activities include:

a. No drinking water wells may be installed or used on the Property.

b. No groundwater extraction wells may be installed or used on the Property, except for wells and devices that are part of an MDEQ- or USEPA-approved response activity, and for short-term dewatering for construction purposes, provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable environmental laws and does not cause or result in a new release, exacerbation of any pre-existing environmental condition, or any other violation of environmental laws.

c. No contaminated soils may be relocated on the Property except as provided for under Part 201, Section 20120c, MCL 324.20120c.

d. Owner shall not "treat", "store", "dispose", or release any Hazardous Substances, on, at, or below the Property, in a manner that would require a permit under RCRA, 42 U.S.C. §§ 6901 et seq. or Part 111, except pursuant to a plan, permit, or license approved in writing by MDEQ or USEPA, pursuant to these statutory authorities.

e. If Owner elects to remove any slabs, pavement or other impervious surface on the Property, Owner shall be responsible for any and all obligations under environmental laws arising from any such removal, alteration or disturbance, whether or not caused by, arising from or related to, an environmental condition.

3. Monitoring Wells. The Owner shall not remove, disturb, or damage any monitoring wells on the Property without MDEQ or USEPA approval.

4. Contaminated Soil Management. The Owner shall manage contaminated soils, media and/or debris and all other soils located on the Property in accordance with the requirements of Part 111 and RCRA Subtitle C, the administrative rules promulgated pursuant to Part 111 and RCRA, and all other relevant state and federal laws, including but not limited to MCL 324.20120c; this provision regarding contaminated soil management also applies in the event that the Owner elects to remove any slabs, pavement, or other impervious surface on the Property.

Table 3
Evaluation of Site-Wide Controls/Monitoring for Soil and Groundwater

RACER Pontiac Fiero
Pontiac, Michigan

Options:	Institutional Controls - Land Use and Groundwater Use Restriction		Institutional Controls - Offsite Groundwater Ordinance		Groundwater Monitoring	
Description	This option would restrict land use to non-residential uses, which is consistent with zoning and the current and potential future uses of the property. The deed restriction also would include a prohibition on excavating, unless the impacted material is properly disposed of, MIOSHA regulations for health and safety are followed, and requires the consultation of a trained professional if excavation is proposed. Groundwater use would also be restricted.		This option would prohibit the installation of wells for groundwater use within the institutional control area off site.		Groundwater monitoring is expected to demonstrate that contaminant concentrations and distribution are stable and/or decreasing. This option would allow the remaining petroleum constituents in groundwater to degrade naturally while monitoring the progress using the existing monitoring well network.	
Effectiveness	Deed restrictions are effective in restricting land use and groundwater use.		An institutional control is an effective mechanism to restrict groundwater use.		- Natural attenuation is expected to occur via physical and biological mechanisms. - Certain geological layers (e.g., till) may hinder the effective attenuation via physical mechanisms (dispersion, diffusion). - Based on an evaluation of the current groundwater geochemical conditions, petroleum constituents would degrade via physical and biological mechanisms.	
Reliability	Deed restrictions are a reliable legal mechanism to restrict property use and groundwater use.		- An institutional control is an effective mechanism to restrict groundwater use. - The City of Pontiac is already on a municipal system, making the installation of groundwater wells unnecessary.		Natural attenuation can reliably degrade petroleum constituents in groundwater over time.	
Implementability	- This option would be easy to implement, as the institutional controls just need to be recorded with Oakland County. - Restriction Agreements with the new Property Owner may be necessary		A groundwater ordinance is in place with the City of Pontiac.		This option would be simple to implement, because the existing groundwater monitoring well network would be used.	
Reduction of Toxicity, Mobility or Waste Volume	- This option reduces any direct contact with the impacted soil or groundwater. - The volume, mobility, or toxicity of the impacted soil or groundwater is not reduced with this option.		The volume, mobility, or toxicity of the impacted soil is not reduced with this option.		This option allows for verifying the concentrations and discern any trends and demonstrating stability.	
Cost	Item	Cost	Item	Cost	Item	Cost
	Deed Restrictions	\$1,912	Ordinance (1)	\$0	Groundwater Monitoring	\$14,609
	Surveying	\$3,850	Surveying (2)	\$0	Reporting	\$9,900
	TOTAL	\$5,800	TOTAL	\$0	TOTAL	\$25,000
Community Acceptance	The institutional control for land use is consistent with zoning and the City's Master Plan; therefore, likely acceptable to the community.		- Water is available via a municipal system; therefore, it is unlikely anyone would install a well. - Minimizes risk, but does not eliminate it.		- May be readily acceptable. - Takes a long time to eliminate risk.	

Table 3
Evaluation of Site-Wide Controls/Monitoring for Soil and Groundwater

RACER Pontiac Fiero
Pontiac, Michigan

Options:	Institutional Controls - Land Use and Groundwater Use Restriction	Institutional Controls - Offsite Groundwater Ordinance	Groundwater Monitoring
State Acceptance (MDEQ)	- The state readily accepts deed restrictions. - The institutional control for prohibition on excavating contains the provision to properly dispose of waste, follow MIOSHA regulations for health and safety, and requires the consultation of a trained professional if excavation is proposed. - The institutional control for land use is consistent with zoning and the City's Master Plan. - Eliminates risk, under the deed restrictions.	- Groundwater use restrictions in areas with municipal service are accepted by the state. - Eliminates risk, under the institutional control	- The state accepts MNA as a remedial option. - Reduces risk, but timeframe is long.
Sustainability	- No waste generation, energy requirements, or air emissions. - Does not reduce the impact to land.	- No waste generation, energy requirements, or air emissions. - Does not reduce the impact to land.	- Minimal waste generation. - No energy requirements or air emissions.
Risks	- Zoning could change in the future; however, this is unlikely. - Future property owners may want to use the property for residential purposes, but it is unlikely. - Minimizes risk, but does not eliminate it.	Impacted groundwater is not treated.	Long monitoring time may be necessary.
Benefits	Least amount of cost in the short term and no disruption to existing operations.	No groundwater supply wells would be installed in the ordinance area.	Provides monitoring data and doesn't disrupt operations.
Timeliness	Once the deed restrictions are filed, they are maintained with the property deed in perpetuity.	The ordinance is in place with the City of Pontiac.	Plume stability and/or decreasing contaminant concentrations and distribution are demonstrated through groundwater monitoring. The estimated time needed for attenuation of petroleum constituents would be approximately 30 years, while the inorganics may not attenuate.

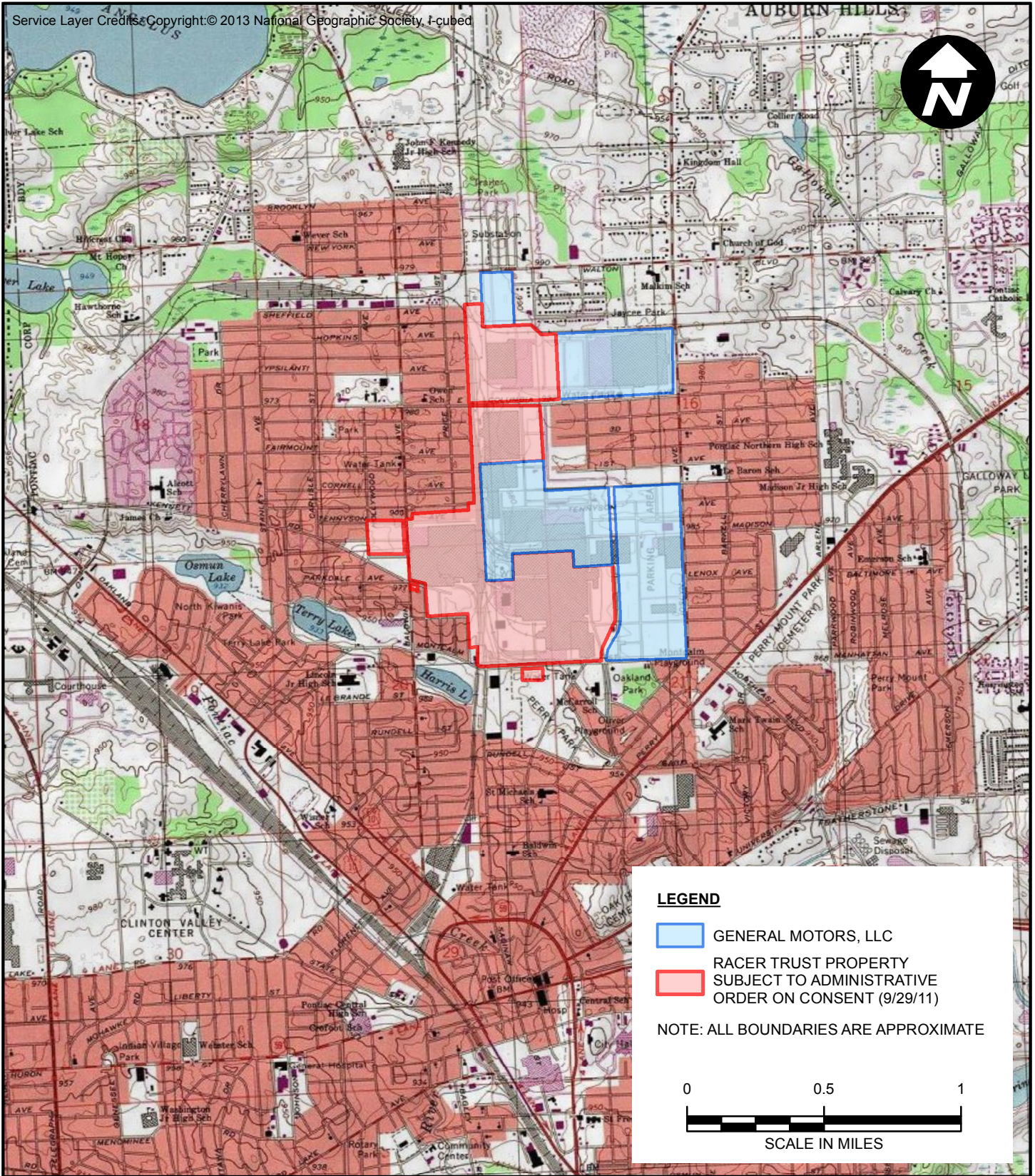
Notes:

MIOSHA - Michigan Occupational Safety and Health Administration
MNA - monitored natural attenuation

(1) Groundwater Ordinance with the City of Pontiac is in place.

(2) The survey for Land use restrictions are completed.

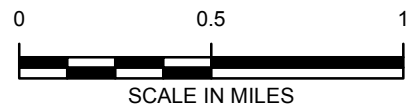
Figures



LEGEND

-  GENERAL MOTORS, LLC
-  RACER TRUST PROPERTY
-  SUBJECT TO ADMINISTRATIVE ORDER ON CONSENT (9/29/11)

NOTE: ALL BOUNDARIES ARE APPROXIMATE



SCALE IN MILES



RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

SITE LOCATION





**FORMER FIERO
PARKING LOT
TAX PARCEL ID NUMBER:
14-17-384-003
14-20-130-018**

**FORMER FIERO PLANT 17
TAX PARCEL ID NUMBER: 14-17-453-035**

**FORMER FIERO POWERHOUSE
TAX PARCEL ID NUMBER: 14-20-201-003**

**PARCEL ID'S
TAX PARCEL
ID NUMBER:
14-20-202-002
14-20-202-003
14-20-202-005
14-20-202-007**

LEGEND



PROPERTY BOUNDARY



SCALE IN FEET

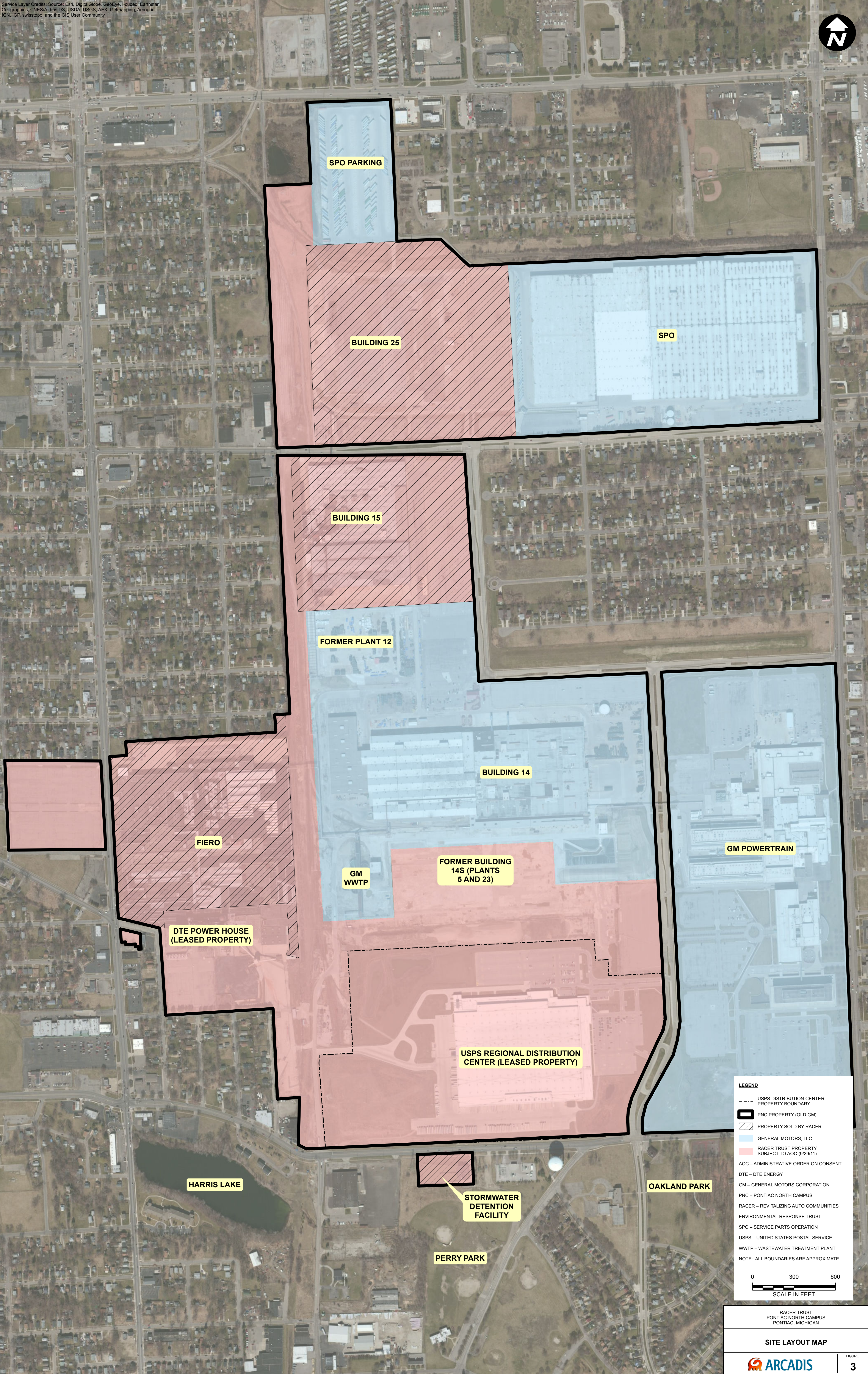
RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

FORMER FIERO PARCELS



FIGURE

2



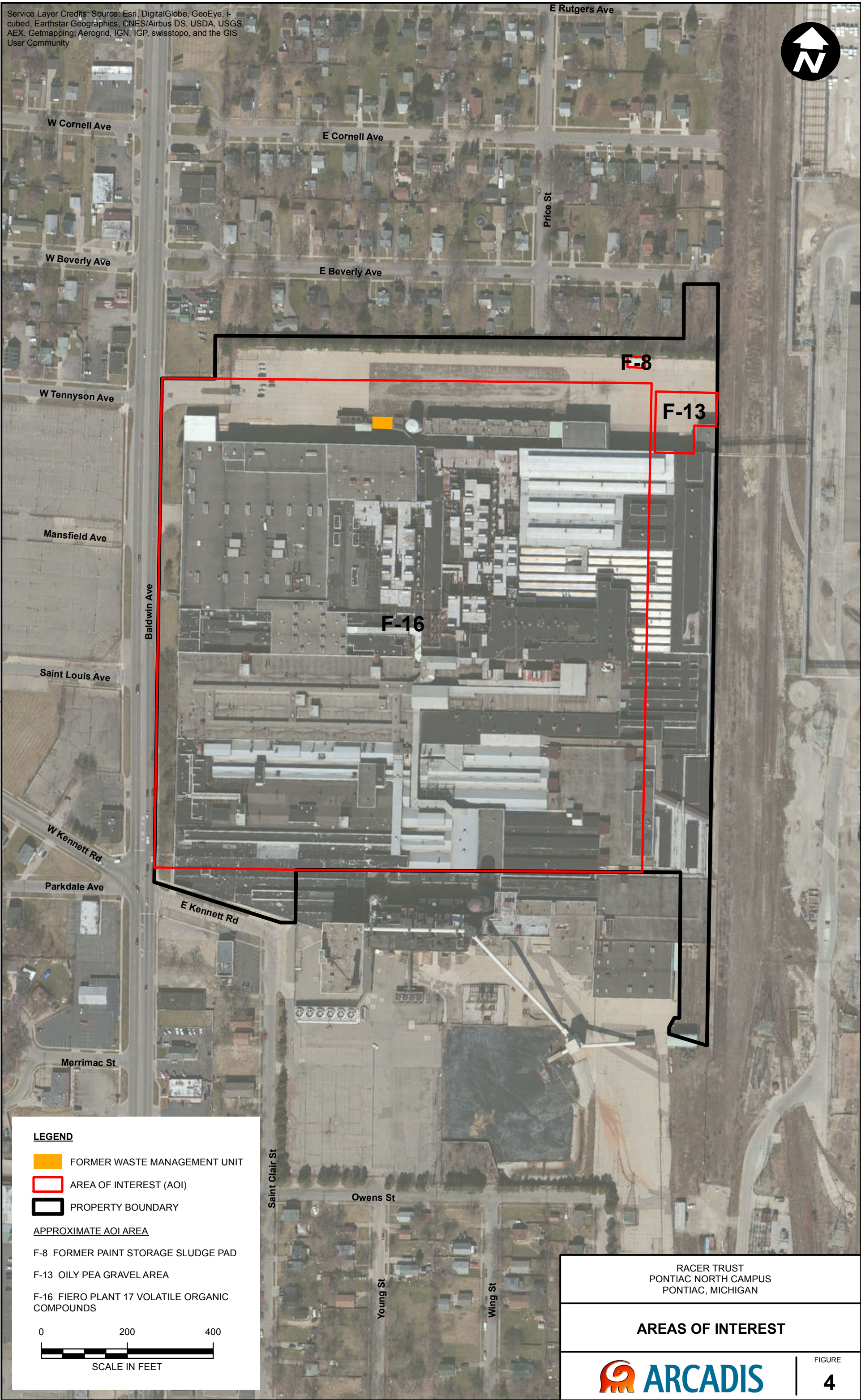
LEGEND

- USPS DISTRIBUTION CENTER PROPERTY BOUNDARY
- PNC PROPERTY (OLD GM)
- PROPERTY SOLD BY RACER
- GENERAL MOTORS, LLC
- RACER TRUST PROPERTY SUBJECT TO AOC (9/29/11)
- AOC – ADMINISTRATIVE ORDER ON CONSENT
- DTE – DTE ENERGY
- GM – GENERAL MOTORS CORPORATION
- PNC – PONTIAC NORTH CAMPUS
- RACER – REVITALIZING AUTO COMMUNITIES ENVIRONMENTAL RESPONSE TRUST
- SPO – SERVICE PARTS OPERATION
- USPS – UNITED STATES POSTAL SERVICE
- WWTP – WASTEWATER TREATMENT PLANT
- NOTE: ALL BOUNDARIES ARE APPROXIMATE

0300600

SCALE IN FEET

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



CITY: Novi DIV: ENV DB: TRY PIC: PM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet
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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



CITY: Novi DIV: ENV DB: TRY PIC: PM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet D:\GIS\Project Files\MotorsLiquidationCompany\PontiacNorthCampusDocuments\FormerPlant17\FierorParcel_DeedRestriction2.mxd PLOTTED: 6/26/2015 1:20:47 PM BY: TYabrough

LEGEND



GROUNDWATER ORDINANCE AREA



FORMER WASTE MANAGEMENT UNIT

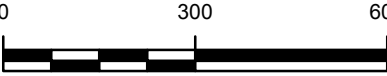


PROPERTY BOUNDARY



PROPERTY DEED RESTRICTION

NOTE: ALL LOCATIONS APPROXIMATE



0300600

SCALE IN FEET

RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

PROPOSED DEED RESTRICTION



FIGURE
5



Appendix A

Corrective Measures Detailed Cost
Backup



Appendix A
Corrective Measures Detailed Cost Backup
Evaluation of Treatment Technologies for Soil/Groundwater - Institutional Controls - Land Use and On-site Groundwater Use Restrictions

Deed Restrictions	Unit Cost	Unit	Qty	Mark Up	Total Cost	Assumptions
Labor						
ARCADIS Labor (Prin. Eng./Sci.)	\$146	hour	1	0%	\$146	Project management
ARCADIS Labor (Sr. Eng II)	\$134	hour	2	0%	\$268	Review deed restrictions, file deed restrictions
ARCADIS Labor (Sr. Eng I)	\$127	hour	4	0%	\$508	Review deed restrictions
ARCADIS Labor (Sr. Proj. Eng II)	\$110	hour	0	0%	\$0	
ARCADIS Labor (Sr. Proj. Eng I)	\$99	hour	8	0%	\$792	Prepare deed restrictions
ARCADIS Labor (Proj. Eng./Sci.)	\$91	hour	0	0%	\$0	
ARCADIS Labor (Eng./Sci.)	\$75	hour	0	0%	\$0	
ARCADIS Labor (Tech. 3)	\$76	hour	0	0%	\$0	
ARCADIS Labor (Sr. Drafter)	\$70	hour	2	0%	\$140	Cad support
ARCADIS Labor (Admin.)	\$58	hour	1	0%	\$58	Document preparation
Subcontractor Costs						
Surveyor	\$3,500	I.s.	1	10%	\$3,850	Surveying for deed restrictions
Subtotal					\$5,762	

Institutional Control Total	\$5,800
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Notes:

I.s. = lump sum



Appendix A
Corrective Measures Detailed Cost Backup
Evaluation of Treatment Technologies for Soil/Groundwater - Institutional Controls - Land Use and On-site Groundwater Use Restrictions

Labor

ARCADIS Labor (Prin. Eng./Sci.)	\$146	hour	1	0%	\$146	Project management
ARCADIS Labor (Sr. Eng II)	\$134	hour	6	0%	\$804	Project management; project kick off
ARCADIS Labor (Sr. Eng I)	\$127	hour	0	0%	\$0	
ARCADIS Labor (Sr. Proj. Eng II)	\$110	hour	0	0%	\$0	
ARCADIS Labor (Sr. Proj. Eng I)	\$99	hour	10	0%	\$990	Project coordination
ARCADIS Labor (Proj. Eng./Sci.)	\$91	hour	0	0%	\$0	
ARCADIS Labor (Eng./Sci.)	\$75	hour	0	0%	\$0	
ARCADIS Labor (Tech. 3)	\$76	hour	16	0%	\$1,216	Sampling
ARCADIS Labor (Sr. Drafter)	\$70	hour	1	0%	\$70	Cad support
ARCADIS Labor (Admin.)	\$58	hour	1	0%	\$58	Document preparation

Subcontractor Costs

Laboratory Analysis

VOC Analysis	\$60	sample	6	5%	\$378	Annually
Metals	\$72	sample	6	5%	\$454	Annually
PCBs	\$80	sample	6	5%	\$504	Annually

Field Equipment (pumps, water levels, YSI)	\$250	lump sum	1	0%	\$250	Annually
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Subtotal **\$4,870**



Appendix A

Corrective Measures Detailed Cost Backup

Evaluation of Treatment Technologies for Soil/Groundwater - Institutional Controls - Land Use and On-site Groundwater Use Restrictions

Reporting (yearly)	Unit Cost	Unit	Qty	Mark Up	Total Cost	Assumptions
ARCADIS Labor (Prin. Eng./Sci.)	\$146	hour	1	0%	\$146	Project management
ARCADIS Labor (Sr. Eng II)	\$134	hour	8	0%	\$1,072	Report review
ARCADIS Labor (Sr. Eng I)	\$127	hour	0	0%	\$0	
ARCADIS Labor (Sr. Proj. Eng II)	\$110	hour	0	0%	\$0	
ARCADIS Labor (Sr. Proj. Eng I)	\$99	hour	16	0%	\$1,584	Annual report
ARCADIS Labor (Proj. Eng./Sci.)	\$91	hour	0	0%	\$0	
ARCADIS Labor (Eng./Sci.)	\$75	hour	4	0%	\$300	Annual report
ARCADIS Labor (Tech. 3)	\$76	hour	0	0%	\$0	
ARCADIS Labor (Sr. Drafter)	\$70	hour	2	0%	\$140	Cad support
ARCADIS Labor (Admin.)	\$58	hour	1	0%	\$58	Document preparation
Subtotal					\$3,300	

Well Maintenance/Replacement	Unit Cost	Unit	Qty	Mark Up	Total Cost	Assumptions
ARCADIS Labor (Prin. Eng./Sci.)	\$146	hour	0	0%	\$0	
ARCADIS Labor (Sr. Eng II)	\$134	hour	1	0%	\$134	Project management
ARCADIS Labor (Sr. Eng I)	\$127	hour	0	0%	\$0	
ARCADIS Labor (Sr. Proj. Eng II)	\$110	hour	4	0%	\$440	Project management; project kick off
ARCADIS Labor (Sr. Proj. Eng I)	\$99	hour	0	0%	\$0	
ARCADIS Labor (Proj. Eng./Sci.)	\$91	hour	0	0%	\$0	
ARCADIS Labor (Eng./Sci.)	\$75	hour	10	0%	\$750	Oversite
ARCADIS Labor (Tech. 3)	\$76	hour	0	0%	\$0	
ARCADIS Labor (Sr. Drafter)	\$70	hour	1	0%	\$70	Cad support
ARCADIS Labor (Admin.)	\$58	hour	1	0%	\$58	Document preparation

Subcontractor Costs

Laboratory Analysis						
Drilling Subcontractor	\$5,000	l.s	2	3%	\$10,300	Maintenance/well replacement (over 3 years)
Subtotal					\$1,452	

Groundwater Monitoring (3 years)	\$14,608.80
Reporting (3 years)	\$9,900

Total Estimated Cost	\$25,000
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Appendix B

Groundwater Ordinance



CITY OF PONTIAC
OFFICE OF THE EMERGENCY MANAGER
LOUIS H. SCHIMMEL

47450 Woodward Avenue
Pontiac, Michigan 48342
Telephone: (248) 758-3133
Fax: (248) 758-3292

Dated: August 16, 2013

ORDER NO. S-326

RE: Adopt ordinance to amend the Code of Ordinances of the City of Pontiac by amending Chapter 58, Article VIII to regulate the use of groundwater in certain areas of the City.

TO: Sherikia Hawkins, City Clerk
Charles Smith, Project Manager, Wade Trim

The Local Financial Stability and Choice Act, 2012 PA 436, MCL 141.1541 to 141.1575 ("Act 436") in Section 10(1) states that "[a]n emergency manager shall issue orders to the appropriate local elected and appointed officials and employees, agents, and contractors of the local government the orders the emergency manager considers necessary to accomplish the purposes of [the] act, including, but not limited to, orders for the timely and satisfactory implementation of a financial and operating plan... or to take actions, or refrain from taking actions, to enable the orderly accomplishment of the financial and operating plan." Any such orders are binding on the local elected and appointed officials and employees, agents, and contractors of the local government to whom they are issued.

Section 12(1) of the Act provides that "[a]n emergency manager may take 1 or more of the following additional actions with respect to a local government that is in receivership, notwithstanding any charter provision to the contrary: (dd) [e]xercise solely, for and on behalf of the local government, all other authority and responsibilities of the chief administrative officer and governing body concerning the adoption, amendment, and enforcement of ordinances...."

WHEREAS, Emergency Manager Schimmel introduced the attached emergency ordinance at a public meeting on August 16, 2013; and,

WHEREAS, the Emergency Manager at a public meeting on August 16, 2013 announced that he is adopting the proposed emergency ordinance.

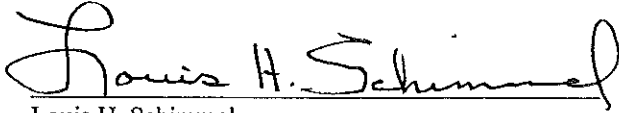
It is hereby ordered:

1. That the attached Ordinance No. 2311, an ordinance to amend the Code of Ordinances of the City of Pontiac by amending Chapter 58, Article VIII to regulate the use of groundwater in certain areas of the City, is adopted.
2. That the City Clerk shall take all actions required under the law to reflect the attached ordinance changes on the City books and records, including publication of the adopted ordinance.

The Order shall have immediate effect.

Copies of the documents referenced in this Order are to be maintained in the offices of the City Clerk and may be reviewed and/or copies may be obtained upon submission of a written request consistent with the requirements of FOIA and subject to applicable or available FOIA exemptions.

This order is effective as indicated and is necessary to carry out the duties and responsibilities required of the Emergency Manager under Act 436 and the contract between the Local Emergency Financial Assistance Loan Board and the Emergency Manager.

A handwritten signature in black ink, reading "Louis H. Schimmel". The signature is fluid and cursive, with a large initial "L" and a long, sweeping underline.

Louis H. Schimmel
City of Pontiac
Emergency Manager

cc: State of Michigan Department of Treasury
Mayor Leon B. Jukowski
Pontiac City Council

Ordinance No. 2311

AN ORDINANCE TO AMEND THE CODE OF ORDINANCES OF THE CITY OF PONTIAC BY AMENDING CHAPTER 58, ARTICLE VIII TO REGULATE THE USE OF GROUNDWATER IN CERTAIN AREAS OF THE CITY.

Whereas, a previously adopted ordinance was subsequently determined by the State of Michigan to be unenforceable.

THE CITY OF PONTIAC ORDAINS:

Section 1. Amendment.

The Code of Ordinances of the City of Pontiac, Michigan is hereby amended by adding Chapter 58, Article VIII entitled "Water Well Restriction" to read as follows:

ARTICLE VIII WATER WELL RESTRICTION.

SEC. 58-600. FINDINGS. The City has been informed and hereby finds that an aquifer in certain areas of the City has been contaminated or otherwise adversely impacted by hazardous substances and that identified public health, safety and welfare risks may affect drinking water drawn from certain areas of such impacted aquifers. The City has determined that it is necessary and appropriate to prohibit and/or otherwise restrict the use of wells to supply water in and from the affected areas in order to protect City residents by minimizing the health, safety and welfare risks and minimizing the potential for migration of contaminated groundwater into presently unaffected groundwater.

SEC. 58-601. DEFINITIONS. The following definitions shall apply to terms used in this Article:

- (1) "Affected Parcel" means a parcel of land, any part of which is located within a Restricted Zone.
- (2) "Applicant" means a person who applies or applied for the establishment of a Restricted Zone pursuant to this Article.
- (3) "City" means the City of Pontiac.
- (4) "City Property" means any interest in real property owned or held by the City and shall include but not be limited to the following: (i) Real property owned by the City; (ii) Real property leased by the City as Lessee; and (iii) City streets, alleys or other City rights-of-way or easements.
- (5) "Contaminated Groundwater" means groundwater in which there is present concentrations of materials that exceed drinking water criteria under the Safe Drinking Water Act, 1976 PA 399, as amended, or the residential drinking water criteria established by the MDEQ in operational memoranda or rules promulgated pursuant to Part 201, Environmental Remediation (MCL 324.20101 *et seq.*), or Part 213, *Leaking Underground*

Storage Tanks (MCL 324.21301a et seq.), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.101 et seq., dependent upon whether the release is regulated pursuant to Part 201 or Part 213.

- (6) "Domestic Use" means the use of water by humans for drinking, cooking, food preparation and other food-related services, cleaning, washing, bathing and similar household-type water uses in any dwelling, or in any building in which commercial/business, governmental/public or industrial activities are conducted. The term does not include water used solely for closed-loop heat pumps, non-contact cooling, or production and/or processing purposes of commercial or industrial enterprises.
- (7) "Irrigation Use" means the use of water for lawn, garden, or landscaping irrigation on a residential parcel of land. The term does not include water used for commercial, agricultural or farm irrigation, except as specifically directed by the MDEQ.
- (8) "MDEQ" means the Michigan Department of Environmental Quality, or its successor agency.
- (9) "Owner" means the holder of record title for a parcel of land and also the occupant of a parcel of land in possession under a land contract or lease.
- (10) "Person" means any individual, partnership, corporation, association, club, joint venture, estate, trust, and any other group or combination acting as a unit, and the individuals constituting such group or unit.
- (11) "Restricted Zone" means an area or areas described within Section 58-602 of this Ordinance for which the prohibition of Wells and the use of groundwater applies and includes parcels of land that are legally described in this Ordinance, and as amended from time to time as provided in this Ordinance.
- (12) "WRD" means the Water Resources Division of the MDEQ, or its successor agency.
- (13) "Well" means an opening in the surface of the earth for the purpose of removing fresh water through non-mechanical or mechanical means for any purpose other than a public emergency or conducting response actions that are consistent with the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended ("NREPA"), the Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act, or other applicable statute.

SEC. 58-602. RESTRICTED ZONE. The following described areas in the City shall be Restricted Zones under this Article. They may be referred to by reference to the names provided in the caption preceding their descriptions. Additional Restricted Zones, along with a map illustrating the Restricted Zone, may be added by amending the Ordinance in accordance with all applicable laws.

1. **Old Fiero Restricted Zone** – The Old Fiero Restricted Zone consists of three areas:

Area A:

Beginning at the intersection of East Kennett Road and Baldwin Avenue, traveling in an easterly direction to Saint Clair Street, then traveling south on Saint Clair Street to Owens Street. Traveling east on Owens Street to Portland Street, then continuing south on Portland Street to the northern boundary of tax identification number #14-20-255-001. Following the northern boundary of tax identification number #14-20-255-001 to the vacated railroad tracks, then continuing south along the tracks and across Montcalm Avenue for approximately 400 feet to the inlet of Harris Lake. Continuing west along the southern boundary of tax identification number #14-20-256-027 (Harris Lake Park) and the southern boundary of tax identification number #14-20-256-017 to Baldwin Avenue, then continuing north the point of beginning.

Inclusive of:

#14-20-202 Lots 1 through 59, #14-20-252 Lots 75 through 102, #14-20-253 Lots 127 through 158, #14-20-254 Lots 179 through 214, #14-20-255-001 Lots 242 through 244, #14-20-256-026 Lots 264 through 266, #14-20-256-003 Lot 267, #14-20-256-004, #14-20-256-005 Lot 268, #14-20-256-017, #14-20-256-027 (Harris Lake Park).

Area B:

Beginning at the intersection of Saginaw Street and Montcalm Avenue, traveling in an easterly direction to Edison Street, then traveling south on Edison Street. Traveling west on Edison Street to the southern boundary of tax identification number #14-20-426-003 (Assessor's Plat No. 11, Lot 2). Continuing west along the southern boundary of tax identification number #14-20-426-003 (Assessor's Plat No. 11, Lot 2) to Saginaw Street, and then north to the point of beginning.

Inclusive of:

Assessor's Plat No. 11 Lot 2 and 3
Montcalm Avenue

Columbia Avenue Area:

The area along Columbia Avenue consisting of the road area and easement from the railroad line east of Baldwin Avenue extending to approximately 350 feet east of the centerline of E. Highwood Street.

2. **Franklin and Rapid Street Restricted Zone.** The Franklin and Rapid Street Restricted Zone consists of the following described area:

Beginning at the Westerly Right of Way line of Woodward Avenue and the Northerly row line of South Blvd.; Thence traveling west along said right of way line to the Easterly right of way line of Franklin Road; Thence traveling North along said easterly right of way line to a point on the South line of Rapid Street and the Northwest corner of parcel 14-33-302-001; Thence Northeasterly along the South line of Rapid Street to the Northern most point of parcel 14-33-302-001 and the Southerly right of way line of The Railroad; Thence Southeasterly along the Southerly right of way line of The Railroad to the intersection of the Southerly right of way line of Woodward Avenue; Thence Southeasterly along said Southerly right of way line of Woodward Avenue and the Westerly line of Parcel identification number 14-33-351-012 to the point of beginning of Area B.

Inclusive of:

- 14-33-351-001 Lots 1 through 8 (Sachse Addition) and Lot 1 (Assessor's Plat No. 91)
- 14-33-351-012 Lots 2 through 16 (Assessor's Plat No. 91), Lots 1 through 32 (Donaldson Addition), Lots 33-42 (Donaldson Addition No. 16),
- 14-33-302-001 Part of lots 7, 8, and 9, Lots 1 through 6, Lots 10-42 (Rapid Motor Addition)
- 14-33-302-002 Lots 1 through 12 (Assessor's Plat No. 90),
- 14-33-302-003 Lots 11 and 12 (Assessor's Plat No. 90),
- Wilson Avenue.

3. **North Mill Streets Restricted Zone.** The North Mill Street Restricted Zone consists of the following area:

The area encompasses a portion of Mill Street (City of Pontiac property), and is located in the SE ¼ of Section 29, T3N, R10E. The area is bounded by Mill Street and Parcel Number 14-29-283-020 to the north, Parcel Number 14-29-428-002 to the east, University Drive to the south, and Parcel Numbers 14-29-283-020, 14-29-427-004, 14-29-427-012, 14-29-427-007, and 14-29-427-009 to the west.

SEC. 58-603. PROHIBITION. Except as provided in Section 58-604, no person shall install or utilize, or allow, permit, or provide for the installation or utilization of a Well on any Affected Parcel. Any existing Well at the time of the enactment of a Restricted Zone on any Affected Parcel within that Restricted Zone shall be plugged/abandoned at the expense of the Applicant for that particular Restricted Zone and as provided for in Section 58-605 and in accordance with applicable laws, regulations and ordinances, unless such existing Well falls within one of the exceptions listed in Section 58-604. Except as provided in Section 58-604, no person shall use any groundwater from an Affected Parcel.

SEC. 58-604. EXCEPTIONS. A person may install or utilize, or allow, permit, or provide for the installation or utilization of a Well in any Restricted Zone if any of the following exceptions applies and the requirements of the exception are complied with. The party proposing an exception to the Well prohibition shall conduct all appropriate inquiry and prepare a due care analysis pursuant to Part 201 or Part 213 of the NREPA.

- (1) *Proof of No Influence.* If the MDEQ determines based on information provided to it by the person seeking this exception that the use of a Well in a Restricted Zone will not exacerbate existing groundwater contamination, and that water from the proposed Well will not be affected by Contaminated Groundwater, and proof of those determinations is delivered to the City, the Well maybe so used.
- (2) *Groundwater Monitoring/Remediation.* A Well may be used for groundwater monitoring and/or remediation as part of a response activity or corrective action approved by the MDEQ or the United States Environmental Protection Agency.
- (3) *Construction Dewatering.* A Well may be used for construction dewatering if the following conditions are satisfied: (i) the use of the dewatering Well will not result in unacceptable exposure to Contaminated Groundwater, possible cross-contamination between saturated zones, or exacerbation of Contaminated Groundwater, as defined in Part 201 of NREPA; and (ii) the water generated by that activity is properly handled and disposed of in compliance with all applicable laws, rules, regulations, permit and license requirements, orders and directives of any governmental entity or agency of competent jurisdiction. Any exacerbation caused by the use of the Well under this exception shall be the responsibility of the person operating the de-watering Well, as provided in Part 201 or Part 213 of NREPA.
- (4) *Processing Activities.* If the MDEQ determines that the use of a Well for non-contact heating, cooling, production, or processing involved in industrial or commercial activities will not cause migration or exacerbation of contaminated Groundwater, and proof of that determination is delivered to the City, such use of the Well under terms and conditions specified by the MDEQ will be allowed. All information necessary for the MDEQ determination described in this subsection shall be provided by the person seeking this exception.
- (1) *Public Emergencies.* A Well may be used in the event of a public emergency. Notice of such use shall be provided to the MDEQ within a reasonable time thereafter.

SEC. 58-605. SOURCES OF WATER SUPPLIED FOR DOMESTIC AND IRRIGATION USE.

- (1) For Affected Parcels that are not already connected to the City water system on the day of enactment of a Restricted Zone, the Applicant of the Restricted Zone shall be responsible for the costs to connect those Affected Parcels within that Restricted Zone to the City water system. Furthermore, for Affected Parcels that have a Well on the day of enactment of a Restricted Zone which is used primarily for Irrigation Uses, the Applicant of the Restricted Zone shall be responsible for the costs to connect the irrigation system on the Affected Parcel within that Restricted Zone to the City water system.

- (2) This Section shall not be deemed as affecting the rights and remedies of an Owner, or any other person or entity and/or of any federal, state or local government that may exist under any law, regulation, rule, ordinance, order, agreement and or/remedial action plan addressing groundwater within the City.
- (3) In no event shall the City be required to incur any expense or cost under this Ordinance, except as may otherwise be approved by the City Council for a public works project or by a separate agreement with the Applicant, Owner, other person or entity, or a governmental body or agency.

SEC. 58-606 ENFORCEMENT. The Mayor, or his/her designee, shall be the official having the authority to enforce this Ordinance. After the Effective Date of this Ordinance, the enforcement official shall contact all Owners of Affected Parcels, which from the information available to the City, appear to have Wells prohibited under this Ordinance (if any), giving written notice of the need to cease using such Wells and of the need for establishment of a Domestic Use water source (to the extent required) as prescribed under Section 58-605, or to obtain approval or acknowledgment of an exception under Section 58-604. The Owner shall immediately take steps so as to comply with the provisions of this Ordinance with regard to provision of Domestic Use water within sixty (60) days from the date of such notice. Any existing Well in violation of this Ordinance shall then be plugged or abandoned in conformance with applicable legal requirements. Where, upon information available to the enforcement official, it is suspected that a Well is being used on an Affected Parcel in violation of this Ordinance, the enforcement official may inspect such Affected Parcel and serve an appropriate notice and order of such violation requiring that action be taken promptly by the Owner to bring the Affected Parcel into compliance. If the Owner fails to act in accordance with such order, the enforcement official may seek remedies and penalties as provided in Section 58-607.

SEC. 58-607. PENALTY. Any person who violates any provision of this Ordinance shall be liable for a municipal civil infraction under the provisions of the Code of Ordinances. In addition, the City may seek an order from a court of appropriate jurisdiction requiring compliance with this Ordinance and may also seek collection of costs and attorney fees associated with such enforcement action. Any violation of this Ordinance is a public nuisance, subject to abatement, and any Well in violation of this Ordinance shall be immediately taken out of service and lawfully abandoned in compliance with applicable legal requirements. A court of competent jurisdiction may order any person violating any provision of this Ordinance to properly and lawfully remove or abandon a Well.

SEC. 58-608. BUILDING AND ZONING PERMITS. No permit for the construction or alteration of a building or structure nor any permit for any zoning approval shall be issued by the City Building and Zoning Administrator for any improvement on an Affected Parcel which has, or proposes, a water supply from a Well in violation of this Ordinance.

SEC. 58-609. ADMINISTRATIVE LIABILITY. No officer, agent or employee of the City or member of the City Council shall render himself or herself personally liable for any damage which may occur to any person or entity as the result of any act or decision performed in the discharge of his or her duties and responsibilities pursuant to the Ordinance.

SEC. 58-610. AMENDMENT; REPEAL. The MDEQ, an Applicant, an Owner, an entity involved in performing remedial actions in order to seek approval of a No Further Action Report under Section 20114d of Part 201 or in performing corrective actions in order to seek approval of a Closure Report under Section 21312a of Part 213 or other interested party may request in writing to add parcels to or delete parcels from a Restricted Zone or to establish an additional Restricted Zone or to otherwise amend or repeal this Ordinance, and shall provide advance notice to the MDEQ and any Applicant for such Restricted Zone of any proposed change hereunder, including the reasons supporting such request. The amendment or repeal of this Ordinance shall be by an appropriate ordinance adopted in the same manner as this Ordinance, and any such action shall be in the sole legislative discretion of the City Council.

SEC. 58-611. NOTIFICATION OF LAPSE, OR INTENT TO AMEND OR REPEAL.

At least thirty (30) days prior to any action regarding a proposed amendment or repeal in whole or in part of this Ordinance, the City shall notify the MDEQ and any Applicant of its intent to so act. The City shall also notify the MDEQ and any Applicant that this Ordinance may lapse at least thirty (30) days prior to the Ordinance being allowed to lapse.

SEC. 58-612. REIMBURSEMENT OF ADDITIONAL CITY CONSTRUCTION COSTS. The Applicant of a Restricted Zone shall reimburse the City for the reasonable additional costs the City incurs for dewatering Contaminated Groundwater or disposing of soils impacted by Contaminated Groundwater in connection with construction activity undertaken by the City on City property in that Restricted Zone, provided that the City supplies the Applicant with documentation confirming the amount and necessity of such additional costs, including the extent to which they exceeded the cost of dewatering or disposing of materials not impacted by Contaminated Groundwater.

Section 2. Severability.

If any section, clause, or provision of this Ordinance shall be declared to be unconstitutional, void, illegal, or ineffective by any Court of competent jurisdiction, such section, clause, or provision declared to be unconstitutional, void, or illegal shall thereby cease to be a part of this Ordinance, but the remainder of this Ordinance shall stand and be in full force and effect.

Section 3. Saving Clause.

A prosecution which is pending on the effective date of this ordinance and which arose from a violation of an ordinance repealed by this ordinance, or a prosecution which is started within one (1) year after the effective date of this ordinance arising from a violation of an ordinance repealed by this ordinance and which was committed prior to the effective date of this ordinance, shall be tried and determined exactly as if the ordinance had not been repealed.

Section 4. Repealer

All Ordinances or parts of Ordinances in conflict herewith are hereby repealed only to the extent necessary to give this Ordinance full force and effect.

Section 5. Publication and Recording

- (1) The Clerk shall publish this Ordinance in a newspaper of general circulation.
- (2) If the release for which this ordinance or amendment to this ordinance is sought is regulated pursuant to Part 201, then this ordinance or amendment to the ordinance shall be published and maintained in the same manner as zoning ordinances.
- (3) If the release for which this ordinance or amendment to this ordinance is sought is regulated pursuant to Part 213, then the ordinance or amended ordinance shall be filed by the Applicant with the register of deeds as an ordinance affecting multiple properties.

Section 6. Emergency Declaration

This Ordinance is hereby determined to be immediately necessary for the preservation of the public health, safety, and welfare and shall be in full force and effect upon publication as required by law.