

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

November 19, 2015

Determination of No Further Action

**Former GM Powertrain Division Livonia Facility
12200 Middlebelt Road
Livonia, Michigan
MID 000 718 874**

INTRODUCTION

This Determination of No Further Action (NFA) document for the former GM Powertrain Division Livonia facility (GMPT) owned by the Revitalizing Auto Communities Environmental Response Trust (RACER) of Detroit, Michigan, located at 12200 Middlebelt Road, Livonia, Michigan, and hereinafter referred to as “Facility”, explains the basis for the United States Environmental Protection Agency’s (EPA’s) determination that no further action is required for this Facility.

This document summarizes information that can be found in greater detail in the Facility files, including these specific files from the EPA Region 5 Records Center: Current Conditions Report (CCR, Haley & Aldrich, January, 2014); and the RCRA Facility Investigation Report (RFI) (Haley & Aldrich, July, 2013).

The EPA encourages the public to review these documents in order to gain a more comprehensive understanding of the Facility and the Resource Conservation and Recovery Act (RCRA) regulated corrective action activities that have been conducted there.

DETERMINATION

EPA has made a determination that no further action by the federal RCRA corrective action program is required at the GMPT Facility as a result of past investigation and the imposition of a restrictive covenant preventing groundwater use at the Facility.

FACILITY BACKGROUND

Location

The Facility is located at 12200 Middlebelt Road in Livonia, Michigan and measures approximately 40 acres in size. It is generally a square-shaped tract of land situated in a mixed industrial / commercial / residential area (Figures 1 and 2). The Facility is located east of Middlebelt Road between Industrial Road and Plymouth Road, in Wayne County, Michigan. It is bordered on the north by CSX Railroad tracks. Commercial property is located beyond the railroad tracks to the north. The Facility is bordered to the east and to the south by residential and commercial areas and to the west by a City of Livonia Fire Station and Middlebelt Road. Beyond Middlebelt Road, to the west, is a large industrial property.

The Facility and the immediate surrounding area have been significantly developed with much of the ground surface covered by buildings and pavement and consisting of commercial and industrial development, residential development, and public roadways.

Facility History

The main structure at the Facility is a 1.2 million square foot single story building, which until June 2010, was used for machining and assembly operations associated with automotive manufacturing. Former onsite activities were associated with automotive engine manufacturing and assembly, warehousing, and operation of an air compressor building, as well as the operation of an onsite wastewater treatment plant (WWTP) used for management and treatment of process wastewater. An electric utility substation operated by DTE Energy is located on the northeast portion of the Facility.

The original Facility building was constructed in 1971 and operated as Livonia Machining, which encompassed approximately 20 percent of the existing floor space. In 1984, the facility was expanded to accommodate engine manufacturing operations and a new warehouse.

The Facility was sold in 2014 and currently is mostly inactive, except for approximately 5 percent of the main building, which is leased to Bay Logistics of Spring Lake, Michigan for warehousing uses. The full perimeter of the Facility is fenced, and there is 24-hour security on the property. Future use of the Facility is expected to remain industrial.

Geology and Hydrogeology

The Facility geologic conditions were characterized during the RFI to a depth of approximately 35 feet below ground surface (bgs). The Facility and surrounding area is flat with layered lacustrine deposits consistent with a lake plain depositional environment. Below a surface dominated by concrete, fill material consists of sandy to clayey-sand. The surface fill material (dominated by sand) is generally encountered less than 10 feet bgs; however, it extends deeper adjacent to subgrade/basement structures. Across the Facility, the fill material is underlain by a thick clay/silty-clay layer. Soil descriptions of the clay identify sand and gravel lenses, consistent with glacial tills.

Temporary monitoring wells were installed in soil borings with evidence of sufficient soil moisture likely to yield representative groundwater. Only 13 of the 70 soil borings were converted to temporary monitoring wells, as only these 13 borings exhibited evidence of wet soil conditions during drilling.

One of the 13 temporary monitoring wells was observed to be dry during the second phase RFI activities conducted in November and December 2012. One other temporary monitoring well did not consistently yield groundwater volumes sufficient for sampling. Two of the temporary monitoring wells were installed 10 feet deeper than the other wells due to adjacent building conditions (existing basement).

The shallow groundwater encountered at the Facility is on average less than 10 feet below ground surface. Shallow groundwater potentiometric surface elevations recorded in December 2012 were nearly flat within the center of the Facility. The potentiometric surface gradient trends indicate flow toward the center of the Facility, and that groundwater does not appear to be significantly migrating off-site. Subsurface structures (e.g., sewers) are likely influencing the flow of shallow groundwater, and the flow of shallow groundwater would be limited by low hydraulic conductivity of the clay-rich glacial till layer.

Groundwater Use and Water Supply

The potential for groundwater use within an approximate one-mile radius of the Facility was evaluated by reviewing publically-available information. Based on this research, it is not expected that groundwater is used for human consumption within at least an approximate one-mile radius of the Facility.

The results of the evaluation of groundwater use and water supply for and near the Facility are summarized below:

- Drinking water is supplied to the Facility and surrounding community by the City of Livonia through the Detroit Water and Sewage Department, with the ultimate source of drinking water to the City of Livonia and the Facility being the Detroit River.
- No groundwater wells have been identified within an approximate one-mile radius of the Facility. In addition, No well records were identified in MDEQ's database or by Environmental Data Recourses, Inc., September 30, 2011 for properties within a one-half mile radius of the Facility.

- The City of Livonia Code of Ordinances governs groundwater use within the City limits, including the Facility and surrounding communities. In addition, the State of Michigan requires licensure of all groundwater well drillers operating in the State, and the Wayne County Department of Public Health requires permits be issued for all drinking water well installations. These various overlapping requirements provide strict control over drinking water well installations in this area.

Chapter 13.40 of Title 13 (Public Services) of the Livonia Code of Ordinances limits use of groundwater within the City limits.

Ecological Setting

The Facility and the immediate surrounding area have been significantly developed with much of the ground surface covered by buildings and pavement and consisting of commercial and industrial development, residential development, and public roadways. Nearly the entire Facility is covered by buildings or pavement. The limited areas along Middlebelt Road that are not covered by buildings or pavement are maintained landscaped areas. Vegetation is also present near the DTE substation.

The Facility does not provide naturalized areas for wildlife. Potential receptors are limited to urban wildlife (raccoons, gophers, rodents and various avian species) or transitory presence of other wildlife. The Facility does not provide any quality habitat for ecological receptors. Based on current and foreseeable land use of the Facility and area, terrestrial and/or aquatic exposure of ecological receptors is considered nominal. Therefore, further ecological assessment is not required to document that there is no significant risk to ecological receptors from the Facility.

Investigation Results

The RFI identified 36 areas of interest (AOIs) at the Facility warranting investigation. These areas were identified as having the potential for concentrations of hazardous waste or hazardous constituents due to past Release(s) to the environment. Each AOI was assigned a number. The locations of these AOIs are illustrated on Figure 3 (a larger version of Figure 3 can be found in the facility files), and include the following:

AOI NUMBER	DESCRIPTION
01	Teal Dock/Formal Rail/Truck Bay/Chip Bunkers
02	South Gallery
04	East Gallery
05	Wash/Dump Station
06	West Gallery
07	Dump Station
08	Former Paint Shop/Shed
09	Oil Sump
10	Equipment Pit
11	Dump Station
12	Equipment Pits (2) - Containment Beneath Heavy Equipment
13	Wash/Dump Station
14	Equipment Pit - Containment Beneath Heavy Equipment
15	Equipment Pit - Containment Beneath Heavy Equipment
16	Dump Station
17	Former 750-Gallon UST
18	Dump Station

19	Trash Compactor And Oil Pump Station
22	Dump Station
23	Dump Station
26	Paint Booth Area
27	Below Grade Process Flumes
28	Below Grade Process Waste Conveyances
29	Former Railroad Spur
30	12434 Middlebelt - Former Gas Station
31	Fire Pump House (Post 1989)
32	Former Fire Pump House (Pre-1989)
33	WWTP Main Building And Exterior Wash Pad
34	Less Than 90-Day Hazard Waste Storage Area
36	Oil Storage Building
37	ASTs (2)
38	Detroit Edison Substation
39	Equipment Pit
40	Sump For Equipment Pit
41	Equipment Pit
42	Dump Station

The RFI activities included the drilling of 70 test borings, collection and analysis of 61 soil samples, installation of 13 temporary monitoring wells, and collection and analysis of 11 groundwater water samples.

Analytical results from the analysis of soil and groundwater samples collected at the Facility were compared to conservative screening criteria to determine if potentially significant releases to the environment had occurred, and if the field investigation adequately characterized these potentially significant releases. The screening criteria for each medium are summarized below and were identified to be applicable to the Facility based on the conceptual site model for human exposures discussed in the RFI report.

Key aspects of the conceptual site model include the following points:

- There is currently no on-site groundwater use, nor on-site residential land use, and RACER Trust planned at the start of the RFI to establish institutional controls as part of remedial actions for the Facility to: 1) prevent any future on-site groundwater use; and 2) prevent any future residential land use.
- Although off-site use of groundwater for potable purposes is not expected, potential exposure risk to off-site residences is mitigated by institutional controls.

The Facility characterization data were compared with screening criteria that were developed by the Michigan Department of Environmental Quality (MDEQ) to facilitate implementation of Part 201 (Part 201 Criteria).

The following Part 201 criteria were used to evaluate the Facility soil characterization data:

- Part 201 nonresidential and residential drinking water protection criteria;
- Part 201 nonresidential and residential indoor and ambient air criteria; and

- Part 201 nonresidential and residential direct contact criteria;

The following Part 201 criteria were used to evaluate the Facility groundwater characterization data:

- Part 201 nonresidential and residential drinking water criteria;
- Part 201 nonresidential and residential volatilization to indoor air inhalation criteria;
- Part 201 nonresidential and residential groundwater contact criteria;
- water solubility levels;
- flammability and explosivity levels; and
- acute inhalation levels.

A potentially significant release of hazardous constituents to the environment is considered to be when the highest site-related concentrations of constituents detected in soil or groundwater the area are higher than any of the screening criteria.

Hazardous constituents detected at the Facility as part of the RFI include select metals at various locations, PAHs at one location, and select VOCs at seven locations. Of the Part 201 criteria used in screening, only the following were exceeded when compared to the RFI analytical data for the Facility:

- Part 201 nonresidential drinking water protection criteria (soil); and
- Part 201 nonresidential drinking water criteria (water).

Two soil samples exceeded the nonresidential drinking water protection criteria of 4.6 mg/kg for arsenic:

AOI	Soil Sample ID	Interval (ft.)	Arsenic Concentration (mg/kg)
AOI-04	SB-04-157	8-10	8.58
AOI-06	SB-06-137	22-24	7.03

No other soil data exceeded screening criteria.

The nonresidential drinking water criteria of 0.01 mg/l for arsenic was exceeded at six locations, as summarized below:

AOI	Temp. Well ID	August 2012 Arsenic Concentration (mg/L)		December 2012 Arsenic Concentration (mg/L)	
		Unfiltered	Filtered	Unfiltered	Filtered
AOI-06	MW-06-139	0.028/0.037	0.006/ 0.011	0.036	0.008
AOI-10	MW-10-124	0.071	0.007	0.091	0.009
AOI-27	MW-27-158	0.018	0.003	0.019/0.019	0.01/0.009
AOI-28	MW-28-152	0.027	Not Analyzed	0.035	0.038
AOI-33	MW-33-105	0.015	0.008	0.0072	0.004
AOI-40	MW-40-135	0.011/0.011	0.009/0.009	0.015	0.006

Note: shaded values represent criteria exceedances, and duplicate results are separated with a “/”.

The only other screening criteria exceedences for groundwater involved lead (0.004 mg/l) at six locations, as summarized below:

AOI	Temp. Well ID	August 2012 Lead Concentration (mg/L)		December 2012 Lead Concentration (mg/L)	
		Unfiltered	Filtered	Unfiltered	Filtered
AOI-02	MW-02-129	0.005	0.022	0.003 U	0.003 U
AOI-06	MW-06-137	0.005	Not Analyzed	0.003 U	0.003 U
AOI-10	MW-10-124	0.006	0.003 U	0.003 U	0.003 U
AOI-27	MW-27-158	0.012	0.003 U	0.003 U/0.003 U	0.003 U/0.003 U
AOI-33	MW-33-105	0.029	0.003 U	0.003 U	0.003 U
AOI-38	MW-38-101	0.007	0.003 U	0.003 U	0.003 U

Note: shaded values represent criteria exceedences; u – indicates that the analyte was not detected, and the value Shown is the reporting limit.

Comparing corresponding data from the August 2012 groundwater sampling event to the December 2012 groundwater sampling event found, in most cases, that the concentrations of arsenic increased slightly within the same order of magnitude on a well-to-well comparison. Lead exceeded the noted criteria in the samples collected in August 2012; however, lead was not detected in the groundwater samples collected from these wells in December 2012. It is believed that the sampling methods, including careful well development techniques and ultra-low-flow sampling, employed in the December 2012 event produced data most representative of the conditions at the Facility.

The December 2012 data indicate that the Facility groundwater was not contaminated with lead above the associated screening criterion, and all but one unfiltered groundwater sample exceeded the Nonresidential Drinking Water Criterion for arsenic. However, the concentrations of arsenic detected in groundwater are believed to be present as a result of natural conditions (i.e., types of soil deposits), and are not believed to be attributed to Facility operations based on the following points:

- Arsenic is not known to have been used at the Facility, nor is likely to have been a component of Facility-related activities;
- All but one exceedance of the Nonresidential Drinking Water Criterion for arsenic are associated with unfiltered samples, indicating the presence of arsenic in Facility groundwater is associated nearly exclusively with filterable soil particulates;
- Variability of arsenic concentrations between sampling events and among samples of each event is low (i.e., similar order of magnitude on a well-to-well comparison);
- All exceedances of Nonresidential Drinking Water Criteria for arsenic are within the collective range of concentrations typical of well water of Wayne County and the adjacent Washtenaw County (greater than 0.05 mg/L), as described in MDEQ public outreach information¹, and as confirmed by MDEQ.

SUMMARY OF FACILITY RISKS

The process for identifying human health and ecological risks posed by conditions at the Facility consisted of identifying constituents of concern, identifying potentially complete exposure pathways

¹ http://www.michigan.gov/documents/deq/deq-wd-gws-wcu-arsenicwellwater_270592_7.pdf.

under current and planned future land uses, and assessing whether the complete exposure pathways are significant. The risks identified for the Facility are summarized below.

Human Health Risks

Human health risk evaluations were completed for the Facility and documented in the Environmental Indicator (EI) reports and the Human Health Risk Assessment (RFI).

Environmental Indicator Reports

The EI reports are used by the RCRA Corrective Action program as an interim measure of current Facility conditions to indicate the quality of the environment in relation to: 1) human exposures to contamination; and 2) migration of contaminated groundwater. In 2014, based on information collected from the Facility, GMPT achieved a favorable “yes” determination for the human health EI report, indicating that there are no unacceptable human exposures to contamination that can reasonably be expected under the current land and groundwater use conditions at the Facility. In 2014, GMPT also achieved a favorable “yes” determination for the migration of contaminated groundwater EI report, indicating that contaminated groundwater is not migrating off-site, or discharging to a surface water body.

Human Health Risk Assessment

The RFI data set was subject to Part 201 Criteria screening as discussed in the Investigation Results section. The RFI was designed to determine if a release of hazardous waste or hazardous constituents had occurred, and where a potentially significant release is identified, to characterize the nature and extent of hazardous constituents in the environmental media. The Facility characterization data obtained for each of the AOIs investigated during this RFI were judged to be adequate and appropriate for RCRA Corrective Action decision-making. As noted in Section 4.1 of the RFI Report, the presence of constituent concentrations higher than the Part 201 Criteria may not mean that the media necessarily poses a significant risk to human health or the environment; it only means that the potential to pose a significant risk should be further evaluated with consideration for additional site-specific factors.

As discussed in Section 4.2 of the RFI Report, constituents detected at the Facility as part of the RFI include select metals at various locations, PAHs at one location, and select VOCs at seven locations. Arsenic and lead are the only constituents that were exhibited to be present at the Facility in soil and/or groundwater at concentrations exceeding corresponding Part 201 Criteria.

Specifically, two soil samples, one each from AOI-04 and AOI-06, exhibited the presence of arsenic above the Part 201 Nonresidential Drinking Water Protection Criterion (DWPC) at depths of 8 to 10 feet and 22 to 24 feet bgs, respectively. The arsenic concentrations found in these samples also exceed the Part 201 State Default Background Screening Criterion of 3.6 mg/kg for arsenic; however, both of these concentrations fall well below the State-wide maximum arsenic background level of 27.7 mg/kg, and the average arsenic background level for clays of 9 mg/kg in the Huron-Erie glacial lobe, as determined by MDEQ’s Michigan Background Soil Survey 2005 (2005 Soil Survey [MDEQ, 2005]). Accordingly, these arsenic in soil exceedances are believed to be present as a result of natural conditions (i.e., types of soil deposits), and are not believed to be attributed to Facility operations, since arsenic is not known to have been used at the Facility, nor is likely to have been a component of Facility-related activities.

Arsenic was also detected in groundwater above Part 201 Nonresidential Drinking Water Criterion (DWC) in samples collected from AOI-06, AOI-10, AOI-27, AOI-28, AOI-33, and AOI-40; however, as noted above regarding soil, the concentrations of arsenic detected in groundwater in these areas are also believed to be present as a result of natural conditions (i.e., types of soil deposits), and are not believed to be attributed to Facility operations. This conclusion is based on the following points:

- Arsenic is not known to have been used at the Facility, nor is likely to have been a component of Facility-related activities;
- All but one exceedance of the DWC for arsenic are associated with unfiltered samples, indicating the presence of arsenic in Facility groundwater is associated nearly exclusively with filterable soil particulates;
- Variability of arsenic concentrations between sampling events and among samples of each event is low (i.e., similar order of magnitude on a well-to-well comparison); and
- All exceedances of DWC for arsenic are within the collective range of concentrations typical of well water of Wayne County and the adjacent Washtenaw County (greater than 0.05 mg/L), as described in MDEQ public outreach information.

Lead was initially detected in groundwater at the Facility at select locations in August 2012 exceeding the corresponding DWC, but the subsequent analyses of groundwater samples deemed to be more representative of Facility conditions (collected in December, 2012), indicated Facility groundwater not to be contaminated with lead above the associated Part 201 Criteria.

The only potential pathways of concern involving these screening criteria include potable use of groundwater at or in the vicinity of the Facility (i.e., on-site and off-site routine workers, maintenance workers, and construction workers, as well as local residents and Facility trespassers).

Currently there is no evidence of exposure; these pathways are incomplete due to the following reasons:

- No current use of groundwater at the Facility;
- Drinking water is supplied to the Facility and the surrounding area by the City of Livonia through the Detroit Water and Sewage Department, with the ultimate source of drinking water to the Facility being the Detroit River;
- No water wells present within ½-mile radius of the Facility;
- City of Livonia prohibits groundwater well installations and potable use of groundwater through its City Ordinance 13.40.030 (Ord. 2823, § 1, 2009);
- Wayne County requires permits be issued for all drinking water well installations; and
- State of Michigan requires licensure of all groundwater well drillers operating in the State.

Any concern for the future state of the potable use of groundwater at or in the vicinity of the Facility is collectively addressed by Due Care compliance under Section 20107a of the Michigan Natural Resources and Environmental Protection Act (MNREPA), and the fact that State and County permits are needed for well installations regionally surrounding the Facility, as well as the City of Livonia's prohibition of drinking water well installations within the City limits. As noted previously, these overlapping requirements provide strict control over drinking water well installations in this area.

Also, a Restrictive Covenant for the property (RC-WHMD-111-14-003), containing land and groundwater use restrictions, was recorded on February 27, 2014 with the Wayne County Registry of Deeds. This Restrictive Covenant runs with the property associated with the Facility, and is binding on the property owner; future owners; and their successors and assigns, lessees, easement holders, and any authorized agents, employees, or persons acting under their direction and control. Specifically, controls under the Restrictive Covenant include restrictions that maintain continued non-residential, commercial/industrial use of the Facility, and prohibit any future potable use of groundwater, beyond sampling and other related investigatory testing. These restrictions run with the property in perpetuity, unless additional evaluation and/or remediation is approved by EPA and implemented.

Additionally, all of the Facility soil and groundwater data were screened against corresponding nonresidential vapor intrusion screening levels presented in the MDEQ's May 2013 Guidance Document for the Vapor Intrusion Pathway. No constituent concentrations exceeded any of these screening levels.

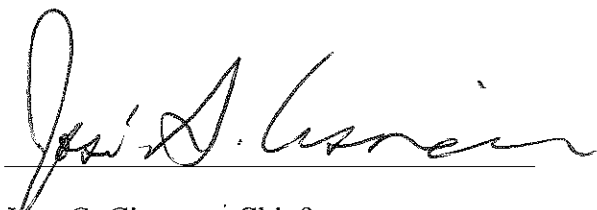
Ecological Risks

As discussed in Section 3.8 of the RFI Report, the Facility does not provide naturalized areas for wildlife, and potential receptors are limited to urban wildlife (raccoons, gophers, rodents and various avian species) or transitory presence. The Facility does not provide any quality habitat for ecological receptors. Based on current and foreseeable land use of the Facility and area, terrestrial and/or aquatic exposure of ecological receptors is considered nominal and/or incomplete. Therefore, further ecological assessment was not required to document a finding of no significant risk to ecological receptors at the Facility.

CONCLUSION

Based upon the information presented in this document and in the Facility files regarding releases and remedial actions performed at this Facility to address those releases, EPA has determined that no further action by the federal RCRA corrective action program is necessary at this Facility at this time. EPA believes the Facility has achieved a CA070NO (no further investigation needed), CA400 (remedy decision), CA550-NR (remedy construction complete-no remedy) CA 900 NL (Performance Standards Attained-No Controls are Necessary)."

EPA reserves the right to change, modify or otherwise rescind this NFA determination based on new information or information not available to EPA at the time of this determination.



Jose G. Cisneros, Chief
Remediation and Reuse Branch
Land and Chemicals Division

11/19/15
Date

FIGURE 1: Facility Location

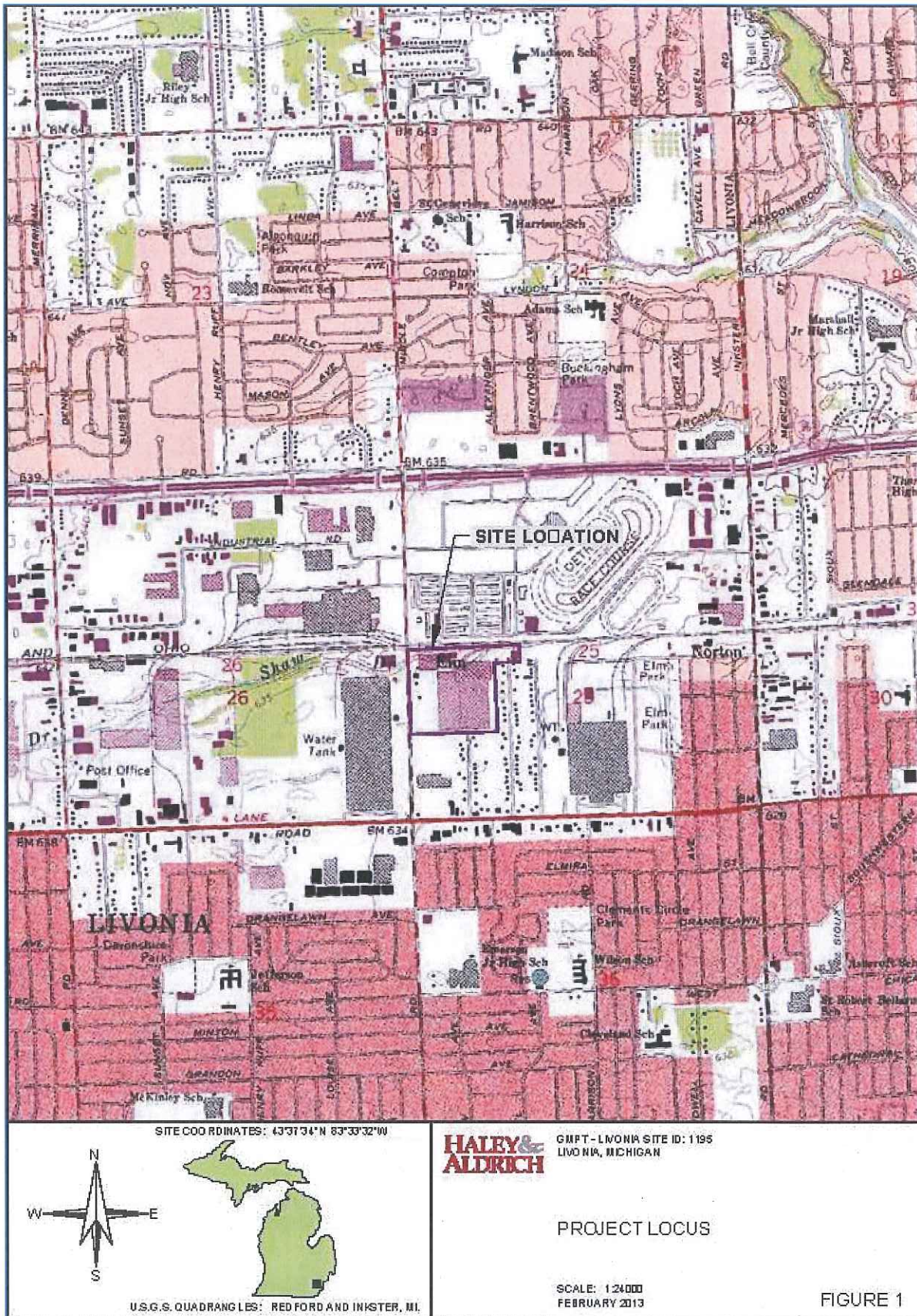


FIGURE 2: Air Photo



