

STATEMENT OF BASIS
for
Proposed Soil and Groundwater Cleanup

The Dort Highway Land Site
Grand Blanc, Michigan

RACER Trust
Performance-Based Corrective Action Voluntary Agreement

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

STATEMENT OF BASIS

April 2016
Dort Highway Land

INTRODUCTION

This *Statement of Basis* (SB) is for the Dort Highway Land Site ("Site") located in Grand Blanc, Michigan (*see* Figure 1). This SB presents the proposed corrective measures to address contamination at the Site pursuant to the U.S. Environmental Protection Agency's (EPA) September 29, 2011 Performance-based Voluntary Agreement with the Revitalizing Auto Communities Environmental Response (RACER) Trust. EPA will select a final remedy only after the public comment period has ended and the information submitted during this time has been reviewed and considered. EPA is issuing this SB as part of its public participation responsibilities under the Resource Conservation and Recovery Act (RCRA).

This document summarizes information that can be found in greater detail in the *Corrective Measures Study* (CMS) and other documents contained in the administrative record for this Facility (*see* Attachment 1). EPA encourages the public to review these documents in order to gain a more comprehensive understanding of the Site and activities that have been conducted there under RCRA, 42 U.S.C. §6901 et seq.

EPA may modify the proposed remedy or select another remedy based on new information or public comments. Therefore, the public is encouraged to review and comment on all corrective measure alternatives. The public can be involved in the remedy selection process by reviewing the documents contained in the administrative record and submitting comments to the EPA during the public comment period. If requested during the public comment period, EPA will also host a public meeting to hear comments.

PROPOSED REMEDIES

EPA is proposing the following corrective measures as final remedies to address contamination at the Facility.

Soil Excavation and Off-Site Disposal: EPA is proposing that the completed soil interim measures constitute the final remedies for the site. Interim measures were completed at the Site in 2009 and between December 2011 and January 2012. Remedial activities included soil excavation, removal of floor blocks, confirmation sampling and analysis, backfilling, and off-site disposal of contaminated soil and floor blocks. Interim measures also included site restoration activities that took place between January and March 2012, which included grading, topsoil placement, seeding, fertilizing and mulching. Additional information is provided in the *Interim Measures* section of this document.

Site-Wide Land Use Restriction: Land use at the entire Site will be limited to industrial and/or commercial uses. A restriction will be placed on the deed to limit the future use of the property;

however, an industrial re-use scenario will be consistent with the adjacent and surrounding land use.

Groundwater Use: A groundwater deed restriction will be placed on the property notifying potential future owners that groundwater contamination is present, groundwater cannot be used for potable purposes, and installation of a water supply well is prohibited.

FACILITY BACKGROUND

Location and History

The Site is located in an industrial and commercial area of Grand Blanc, Michigan. The Site is located on and fronts Dort Highway. The current address for the Site (10800 S. Saginaw Street) is also associated with the adjacent General Motors LLC (GM) plant, and at some point a unique address for the Site may be established.

The Site is presently owned by RACER Properties, LLC, a wholly-owned subsidiary of RACER Trust, which received ownership of the Site following the bankruptcy of General Motors Corporation (former GM Corporation)/Motors Liquidation Company (MLC) and finalization of a Settlement Agreement through the bankruptcy court. The Site is comprised of a 20-acre portion of what was formerly part of the adjacent GM Site, and was known as “Area 2”. The operational portion of the current GM plant is now known as the Weld Tool Center (WTC).

The Site is currently unused, vacant land enclosed by a fence that separates it from the adjacent GM facility (*see* Figure 2). The Site and a portion of the adjacent plant were constructed in 1942 as a tank arsenal by the United States Department of Defense. The Site was initially used as a test track for the tanks manufactured at the adjacent plant, and the property also included a pump house and water tank utilized for water storage for firefighting. After World War II, the Site and plant were leased from the government by the Buick Motor Division and were purchased by the former General Motors Corporation in 1951. The Site was then used for die and other equipment storage during the manufacturing of automobile parts at the adjacent plant, and for water storage. During the Korean War, Fisher Body (a unit of General Motors Company) produced Patton M-48 Medium Tanks at the plant, and the Site was again used as a tank test track. In 1955, the Site was converted to automotive body metal fabricating and the Press Room was added to the plant. The former GM Corporation stopped manufacturing automotive body parts in 2008 and began the demolition of the former Press Room, which concluded in 2010. The pump house and tank formerly located on the Site were also decommissioned and demolished during this time. GM currently fabricates, assembles and repairs robotic systems for automotive facilities at the adjacent plant.

As a result of the former GM bankruptcy proceedings (from 2009-2011), the Site, now known as the Dort Highway Land Site, was identified as excess property no longer needed by GM. RACER Trust, therefore, came into possession of this parcel of land. The Site has been addressed under the EPA RCRA Corrective Action program through a Voluntary Agreement (VA). The Dort Highway Land Site was not a facility that operated under interim status subject to Section 3005(e) of RCRA; however, RACER’s obligation under the Agreement was to investigate, and as necessary, stabilize and remediate releases of hazardous wastes or hazardous

constituents at or from the Site that may present an unacceptable risk to human health or the environment, consistent with the RCRA Corrective Action standards.

Hydrogeological Setting

The Site is underlain by unconsolidated glacial drift soils to depths of about 120 to 160 feet beneath the Site, according to the Groundwater Resources Map Series for Grand Blanc Township (U of M – Flint, Nov. 1994)¹. The soils underneath the Site consist of loam and clay loam from the Conover series with low infiltration rates. The native clay soils and discontinuous sand seams underlying surficial topsoil at the Site extend to the top of bedrock (*see* Figures 3a and 3b). The Groundwater Resources Maps indicate between 80 and 90 percent of the drift soils to a depth of 100 feet consist of clay in the area of the Site.

Bedrock in the area of the Site is a stratified sequence from the Paleozoic Era. The Bedrock Geology of Michigan map (MDNR, 1987)² indicates the Site is underlain by the Pennsylvanian age Saginaw Formation consisting of a fine-grained sandstone and siltstone inter-bedded with shale, limestone, coal and gypsum. The bedrock surface is reported to vary in elevation from about 680 to 720 feet above mean sea level (aMSL) beneath the Site and generally slopes toward the southwest.

The depth to groundwater at the Site is generally less than 12 feet below ground surface; however, this may be indicative of perched groundwater conditions due to the extent of competent clay. The Groundwater Resources Map Series for Grand Blanc Township (U of M – Flint, 1994) indicates the regional groundwater table exists at elevations of about 50 to 70 feet below grade (fbg). The Site area is gently sloped and based on local topography, the shallow perched groundwater flow direction appears to be generally towards the east, east of the Site toward Thread Creek located about two thirds of a mile northeast of the Site, and towards the west on the Site toward Gibson Drain located about a quarter mile west of the Site. However, deeper regional groundwater flow is reported to flow towards the northwest (U of M – Flint, 1994).

Ecological Setting

This 20-acre site is a vacant piece of property adjacent and connected to a 210-acre active industrial facility. The Site does not contain suitable ecological habitat for sustaining plants and animals. The surrounding land is also zoned mostly industrial or commercial, with a low potential for ecological habitat sufficient to support most wildlife (*see* Figure 4).

The ecological habitat review suggested that the Site is not likely to provide ecological habitat because it consists exclusively of barren soil or seeded grass areas surrounded by active industry. The surface of the Site has been highly altered by the removal of an average of approximately four feet of soils and fill materials.

¹ University of Michigan – Flint, 1994. Groundwater Resources Map Series, Grand Blanc Township, Genesee County, Michigan. Regional Groundwater Center. November

² Michigan Department of Natural Resources, 1987. Bedrock Geology of Michigan

No wetlands or other waters of the United States occur on the Site. Gibson Drain is the closest surface water body to the Site and is located approximately 1,300 ft southwest of the Site; however, Gibson Drain is a man-made drainage ditch and not a natural water body. Gibson Drain was installed to drain the former agricultural fields that once existed in the Site area. The closest natural water body to the Site is Thread Creek located approximately two thirds of a mile northeast and upgradient from the Site. Attachment 2 provides additional information to support the assessment of the site as habitat, determining that the site does not contain suitable ecological habitat.

Corrective Action Process

EPA and RACER Trust entered into the VA in order to investigate and, as necessary, remediate releases at the Site that may pose an unacceptable risk to human health or the environment. RACER received ownership of the Site following the bankruptcy of General Motors Corporation and finalization of a Settlement Agreement through the bankruptcy court. RACER's obligations with respect to this Site are subject to the terms, provisions, and limitations of that Settlement Agreement.

The Site has undergone several investigations and remedial activities both before and after the VA was signed; however, this Site is not subject to RCRA Corrective Action as discussed on page 3. The 20-acre parcel was utilized in a limited capacity by the adjacent GM facility. The previous investigations, remedial activities, and recent corrective action activities under this VA are described here for completeness. Additional details regarding the work described in the following paragraphs can be found in the *Investigation Results* section, later in this document.

Previous Investigation Activities, 2005 – 2010

Investigations were conducted by GM in 2005, 2007, and 2010. RACER conducted the most recent investigation work in August and September 2011 (Current Conditions and Floor Block Area Investigations), and 2012 and 2013 (Groundwater Investigation).

The Phase I ESAs conducted at the Site by previous owners were not under this VA; one was conducted in 2005 for the former GM Corporation, and another was conducted in 2010, also for the former GM Corporation, which changed its name to Motors Liquidation Company (MLC) after the bankruptcy. Both Phase I ESAs were conducted to evaluate the existence of contamination from past practices. The first ESA conducted in 2005 concluded there were potential impacts to the Site from various sources, though data was not collected at that time to confirm. The second ESA was conducted in 2010, following some delineation work in 2007. Remedial activities and additional investigation had occurred between 2005 and 2010; therefore, the following information will be presented in chronological order.

In 2007, a Phase II ESA was conducted at the site in response to the potential impacts found from the 2005 Phase I ESA. Soil and groundwater samples were collected and analysis found polynuclear aromatic hydrocarbons (PAHs) and metals in the soil above industrial screening criteria. Groundwater at that time did not have any impacts above residential drinking water criteria. Following this assessment, further delineation was conducted in 2007 and confirmed the

extent of areas with soil impacted by PAHs and metals. It was estimated in 2007 that approximately 2,600 cubic yards of soil was impacted.

In 2009, soil was excavated from across the majority of the Site to an approximate depth of 3-4 feet. Most of the contamination impacts identified during the 2007 Phase II ESA and Delineation Investigation were less than 3 feet deep, except in one location, the SS2-24 area, where impacts above the industrial criteria were encountered to depths of up to 6 feet. It appears that the impacted soils delineated during the Phase II ESA and Delineation Investigation were largely removed during the 2009 soil removal activities at the Site.

The second Phase I ESA conducted in 2010 occurred as a result of the GM bankruptcy and subsequent acquisition of this portion of the GM facility by the Trust. The ESA concluded PAH-impacted soil remained at the SS2-24 area. This area was previously identified as having PAH contamination at depths greater than the 2009 soil excavation. Following the 2009 soil excavation, it was estimated that 187 cubic yards of PAH-impacted soil remained on site. It was also noted that wooden floor blocks were observed in the southern portion of the site and appeared stained with oil.

Recent Investigation Activities, 2011 – Present

Under the 2011 Voluntary Agreement, RACER conducted additional contamination delineation to determine the nature and extent of any remaining contamination in the soil, to expand the groundwater investigation, and delineate the locations of the stained wooden floor blocks. A Site Conditions investigation and a Floor Block Area Investigation were conducted in August and September 2011. The investigations assessed the Site conditions following the 2009 soil removal activities and evaluated the extent and potential impacts associated with the wood floor blocks identified on the southern end of the Site during the 2010 Phase I ESA.

Interim Measures (IM) Taken

Three separate interim measures have been implemented at the Site: a small soil excavation to address mercury (Mercury-Contaminated Soil IM); a large, site-wide soil excavation to address the top three to four feet of soil contaminated with metals and PAHs (Site-Wide Soil Excavation IM); and, floor block and soil excavation to address the remaining PAH-contaminated soil (Floor Block and Soil Excavation IM). The final floor block and soil excavation interim measure took place under the EPA's Voluntary Agreement, in 2011. The two other soil excavation interim measures took place in 2009 under the oversight of MDEQ.

Mercury-Contaminated Soil IM

An area approximately 40-foot by 40-foot, to a depth of about 1.5 feet was remediated to remove mercury impacts in the former Subarea B-2. The area is located in the former miscellaneous equipment storage area, and was an area centered on surface soil sampling location SS2-20 (*see* Figure 6).

Under MDEQ oversight, approximately 90 cubic yards of soil were removed from the area and transported and properly disposed of off-site. Nine confirmatory samples were collected after the soil was removed pursuant to the MDEQ *Sampling Strategies and Statistics Training Materials (S³TM) for Part 201 Cleanup Criteria* (MDEQ, 2002) guidance document. The analytical results for the nine confirmatory samples were below the MDEQ nonresidential drinking water protection criteria (1.7 mg/kg).

Site-Wide Soil Excavation IM

An average of 4 feet of soil was excavated from across the majority of the Site, as mentioned earlier (*see* Figure 5). The former GM conducted this site-wide excavation, prior to releasing this portion of the facility to RACER, for the purpose of using the soil to fill the basement of a building being demolished on another portion of the site (currently located on the GM facility, and not part of this Site). The excavation was conducted under MDEQ approval and oversight in 2009. Although the soil was contaminated with metals and PAHs, relocation of the soils from the Site to the basement of the former building was considered moving soils from one area of the Site to another area with similar impacts, and an acceptable practice according to MDEQ regulations. The area impacted with mercury was considered dissimilar to the metals and PAH contamination in the area, and MDEQ required the area be remediated to below drinking water quality criteria as described above. For this reason, the two excavation activities were conducted and managed separately.

(This site-wide soil excavation is being proposed as part of the final remedy because it removed most of the metal and PAH-contaminated soil from the Site. The floor block and soil excavation, described below, removed contamination that remained on-site after this 2009 excavation.)

Floor Block and Soil Excavation IM

A total of approximately 2,600 cubic yards (CY) of impacted soils existed prior to the 2009 soil removal activities, described above. Following the site-wide soil removal activities approximately 187 CY of PAH impacted soil still remained on site, not including the volume of floor blocks present.

In 2011, an investigation was performed to determine the exact nature and extent of the remaining contaminated soil and floor blocks. The investigation included soil samples, floor block samples, and excavation test pits to determine the locations of the buried floor blocks. No VOCs were detected in the soil samples, which confirmed previous Phase II ESA sample results for the Site. None of the soil, soil in contact with floor block, or floor block samples analyzed for RCRA metals and PCBs contained contamination above the MDEQ nonresidential soil cleanup criteria. PAHs were the only SVOC constituents detected at the Site in 2011, which confirmed previous investigation results.

Several PAH constituents were detected at concentrations above the MDEQ nonresidential direct contact and/or drinking water protection criteria in floor block samples within the former floor block area. The soil in contact with the floor blocks exceeded the nonresidential direct contact criteria for one or more of the following PAHs: benzo(a)anthracene, benzo(a)pyrene, and

benzo(b)fluoranthene, but at much lower concentrations (up to several orders of magnitude) than the floor blocks. In addition, bulk soil samples exceeded the nonresidential direct contact criteria for benzo(a)pyrene. Therefore, the floor blocks, soil in contact with the floor blocks, and the bulk soils were recommended for removal to eliminate potential future leaching to groundwater or direct contact exposure risks. The excavation proceeded as an IM to protect the groundwater and facilitate site stabilization and surface water runoff.

The IM implementation activities were completed at the Site between December 2011 and January 2012 including soil excavation, removal of floor blocks, confirmation sampling and analysis, backfilling, and off-Site disposal of approximately 3,105 tons of material containing PAHs. Remediation activities also included Site restoration activities that took place between January and March 2012, which included grading, topsoil placement, seeding, fertilizing and mulching. Seeding, fertilizing and mulching activities were delayed approximately eight weeks due to wet Site conditions following final grading.

Based on field observations during the IM implementation activities and confirmation sampling, removal of the floor blocks and impacted soil was achieved and the remediation of the former floor block area is considered complete.

SUMMARY OF FACILITY RISKS

Investigation Results

Soil

This section will detail all previous investigation activities described in the *Corrective Action Process* section above, including those conducted by previous owners, prior to this VA.

In 2007, a Phase II ESA was conducted at the site in response to the potential impacts found from the 2005 Phase I ESA. The purpose of the Phase II ESA was to provide sufficient information regarding the presence of and approximate extent of impacts from hazardous waste at the site, if any, to assist in making informed land management decisions (*see* Figure 6). The Phase II ESA included:

- Completion of 16 soil boring samples to depths of up to 10 feet below grade and collection of 20 surface soil samples.
- Installation of 2 monitoring wells (MW2-1 and MW2-2) to approximately 20 feet below grade to assess groundwater flow conditions and assess water quality through sample collection.
- Elevation survey of soil borings and monitoring well locations and top of casing elevations to use to accurately locate sample locations and to evaluate groundwater elevations and flow direction.

PAHs and metals were detected in the shallow soil in certain areas of the Site. The majority of impacts were detected in the former floor block area shown in Figure 6. Additional delineation was conducted to determine the extent of contamination and included an additional 12 soil boring samples to depths of up to 10 feet deep and 47 surface soil samples.

This investigation and delineation activity determined that PAHs and metals were impacting the soil from approximately ground level to three feet deep. The groundwater did not appear to be impacted from the soil, likely due to the clay content of the soil limiting infiltration and migration.

The investigation concluded that a total of approximately 2,599 cubic yards of impacted soils existed in 2007. Most of the contaminated soils, including most of the samples collected for the Phase II ESA and delineation investigation results were removed during the 2009 soil removal activities under MDEQ. Therefore, the data represented in the tables below will focus on current conditions. Figures 7 and 8 can be referenced to see the overall change in grade at the site associated with the 2009 soil removal activities. As shown in Figure 8, approximately 4 feet of soil was removed from across the site in 2009.

After the Site came under the ownership of RACER in 2011, an investigation was conducted to assess site conditions following the 2009 soil removal. The former floor block area (*see* Figure 6) visually appeared to still have historic floor block material present. Therefore, the 2011 investigation included the following:

- Collection of twenty surface soil samples (SS-1 through SS-20), five wood block samples (FB-01 through FB-05), and five samples of soil in contact with the floor blocks (FBS-01 through FBS-05) to confirm that impacted soils were removed from the Site area during the 2009 soil removal activities and to evaluate the remaining floor blocks and soil in contact with the floor blocks (*see* Figure 9).

The sample locations and analytical parameters were selected based on the analytical results from the Phase II ESA and delineation investigation, and were analyzed for the following parameters: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PAHs, metals, and PCBs.

The former floor block area was then further delineated and the investigation included:

- Excavation of twenty-eight test pits to depths of approximately 2 to 5 feet deep to help delineate the vertical and horizontal extent of floor blocks remaining at the Site.
- Collection of ten soil samples (FBS-06 through FBS-15) to further characterize the soil in the floor block area, in particular soil surrounding the floor blocks, but not in direct contact with the floor block (*see* Figure 9).
- Collection of two additional soil samples (SS-21 and SS-22) at a depth of approximately 4 feet deep from two test pits where a slight odor and darker colored soils, which appeared to be a layer of buried topsoil, were observed below the floor block.

The analytical results for the soil samples collected during the 2011 sampling events indicated that the 2009 soil removal activities effectively remediated the Site for the impacts identified during the Phase II ESA and delineation investigation with the exception of PAH-impacted soil associated with the floor blocks observed in the former floor block area.

Several PAH constituents were detected at concentrations above the MDEQ nonresidential direct contact and/or drinking water protection criteria in floor block samples FB-01 through FB-05 within the former floor block area. The soil in contact with the floor blocks samples FBS-01,

FBS-02 and FBS-03 exceeded the nonresidential direct contact criteria for one or more of the following PAHs: benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene, but at much lower concentrations (up to several orders of magnitude) than the floor blocks themselves. In addition, bulk soil samples FBS-09, FBS-10, FBS-13 and FBS-14 exceeded the nonresidential direct contact criteria for benzo(a)pyrene. These bulk soil samples were associated with caches of floor blocks in two subareas of the former floor block area. A third subarea, was associated with the PAH impacts that were not fully removed during the previous soil removal activities as discussed in 2009. However, the bulk soil not associated with caches of floor blocks were below the nonresidential criteria. Therefore, the floor blocks, soil in contact with the floor blocks, and the bulk soils in the contaminated areas were recommended for removal to eliminate potential future leaching to groundwater or direct contact exposure risks.

The soil and floor block excavation and off-site disposal was conducted during December 2011 and January 2012. The activities were completed as an interim measure in order to avoid additional rainfall from spring and summer that could have potentially contaminated the otherwise uncontaminated groundwater from leaching.

The soil remaining on-site does not exceed any applicable screening criteria, see Table 1. There are no contaminants of concern at any sampling location with concentrations above the non-residential drinking water protection criteria or the non-residential direct contact criteria. Confirmatory sampling associated with the soil and floor block removal consisted of 38 samples along the sidewalls and floor of the excavation area. There are no constituents of concern detected at any of the confirmatory sample locations above these criteria.

(Due to the absence of exceedances over applicable screening criteria, the data has not been reproduced here. For transparency, see Table 1 for the soil and floor block data.)

Groundwater

The groundwater investigations were performed to assess groundwater quality and flow conditions at the Site. The previous investigation conducted by GM in 2006 included two groundwater monitoring locations, MW2-1 and MW2-2. In 2011, nine monitoring wells, MW-1 through MW-9 (see Figure 9), were installed, developed and subsequently sampled to assess Site-specific groundwater flow conditions and potential impacts to groundwater from previously discussed historical Site activities.

Static water levels and groundwater samples were collected from all the monitoring wells (Figure 2) during the initial groundwater sampling event that took place between June 27 and July 2, 2012. Subsequently, static water levels were collected on a quarterly basis along with groundwater samples from selected monitoring wells, including MW-2, MW-4, MW-7, MW-9 and MW2-1. These wells were selected for sampling based on the results from the initial groundwater sampling event.

The initial groundwater samples were analyzed for the presence of VOCs, SVOCs, and metals. Subsequently, groundwater samples were analyzed for the presence of dissolved and total selected metals based upon exceedances. The VOC and SVOC results confirm the results from historical groundwater sampling and indicate that SVOCs, in particular PAHs, do not appear to have leached from historical soil impacts at the Site, and that VOCs and SVOCs are not

constituents of concern (COCs) for Site groundwater. Therefore, VOCs and SVOCs were dropped from further analysis during the subsequent sampling events.

Arsenic and lead were the only Site-related metals detected in exceedance of groundwater screening criteria during the investigation. Arsenic was detected above the MDEQ nonresidential drinking water criteria of 0.01 mg/L at MW-2, MW2-1 and MW-7 during each of the four quarterly events. Arsenic was retained for analysis during the subsequent sampling events based on the initial groundwater sampling event results. Arsenic remains undetected in downgradient monitoring well MW-4.

Lead was detected at monitoring well MW-9 during the initial sampling event at a concentration of 0.006 mg/L, which is above the MDEQ nonresidential drinking water criterion of 0.004 mg/L. Lead was retained for analysis during the subsequent sampling events based on the initial groundwater sampling event results. Lead was either not detected or detected at the detection limit of 0.003 mg/L, which is below the drinking water criterion during the second and third sampling events. However, lead was detected above the drinking water criterion at MW-2, MW2-1, MW-7 and MW-9 and during the fourth groundwater sampling event at concentrations ranging from 0.005 mg/L to 0.021 mg/L. Monitoring wells MW-2 and MW-9 had the highest turbidity readings during the fourth sampling event, and MW-7 had its second highest turbidity during this sampling event. The dissolved and total results were within acceptable RPD, except during the March 2013 sampling event when the dissolved lead results in MW-7 and MW-9 were about a half to two thirds the total lead results. The Phase II ESA (O'Brien & Gere, 2007a) analytical results did not indicate that lead was a COC in the area surrounding monitoring wells MW-2, MW2-1, MW-7 and MW-9, and was only detected above the MDEQ nonresidential drinking water protection criterion at one soil sampling location (SS2-14) during the Phase II Investigation. SS2-14 was located near MW-5, and was excavated during the soil removal activities conducted by the former GM Corporation to fill in the former Press Room basement.

Ecological Risks

As discussed on page 4 and in Attachment 2, EPA found there was no suitable ecological habitat to assess or complete migration and exposure pathway to any ecological receptors on site.

Human Health Risks

All post-excavation soil and groundwater analytical results were compared to MDEQ Part 201 default, non-residential criteria for the protection of human health, including:

MDEQ Drinking Water

Groundwater Contact Protection criteria

Soil and Groundwater Volatilization to Indoor Air Inhalation criteria

Infinite Source Volatile Soil Inhalation criteria

Particulate Soil Inhalation criteria

Direct Contact criteria

Drinking Water criteria

Groundwater Contact criteria

There were no exceedances of these criteria except for MDEQ Drinking Water criteria for arsenic and lead. A maximum lead concentration in the groundwater was detected at 0.021 mg/L, above the MDEQ drinking water criteria of 0.004 mg/L. The MDEQ drinking water criteria for lead is more conservative than the federal criteria of 0.015 mg/L. Lead was detected in soil samples that were subsequently removed during the interim measure activities. The remaining impacts within the soil, although below applicable screening criteria, impact groundwater samples. Due to the discontinuous nature of the groundwater within the unconsolidated silty soils, it can be difficult to obtain groundwater samples without some soil entrainment.

The arsenic exceedances in the groundwater were detected at three wells. The highest exceedance was 0.035 mg/L compared to the MDEQ drinking water of 0.01 mg/L. However, the concentrations of arsenic detected in groundwater at the Site are within the range of what has been demonstrated by the United States Geological Survey (USGS) to be local and regional background levels (USGS FS-127-00, 2000)³. Elevated arsenic in groundwater is common in southeast Michigan due to glacial till soils that naturally contain arsenic. According to the MDEQ Water Well Viewer database, arsenic concentrations in the regional aquifer range from less than .01 mg/L to greater than 0.05 mg/L in the Site area. This information, in combination with the locations of exceedances not being suggestive of a groundwater plume, indicates that the dissolved phase arsenic is associated with the regional geology and is consistent with background.

Neither the lead nor the arsenic exceedances appear to constitute a groundwater plume based upon the low concentration gradients, the known background concentrations, and the lack of downgradient contamination. The drinking water criteria exceedances can be addressed by a restrictive covenant filed for the property that would prohibit potable use of groundwater at the Site.

The results of the investigations at the Site demonstrates that groundwater at the Site does not present a significant risk under current or future uses of the Site nor do the detected exceedances in the groundwater pose a significant risk due to potential off-site migration as a result of the Interim Measures conducted. Similarly, the confirmatory soil sampling results demonstrate that the Site soils are below the applicable criteria, including the drinking water protection and direct contact criteria.

SUMMARY OF ALTERNATIVES

This Statement of Basis considers a "no action" alternative, institutional controls, the interim measure soil excavations, and pump-and-treat as potential corrective measures for soil and groundwater. The evaluation of these alternatives includes a feasibility screening to assess the applicability and compatibility of the technology with site characteristics. A particular technology or combination of technologies is retained for further evaluation if it can be used effectively to meet remedial goals. The following is a brief description of each alternative considered:

³ United States Geological Survey, *Arsenic in Groundwater in Genesee County, Michigan*, Fact Sheet FS-127-00, October 2000

Soil Remedy

No Action

The "no action" alternative is a baseline against which all other alternatives are considered. It would include terminating any remedial work currently taking place and eliminating any possible future work or long-term monitoring. The Agency evaluates all remedial alternatives against this baseline.

Institutional Controls

Institutional controls include legal deed restrictions or restrictive covenants, zoning ordinances, and other methods to prevent or reduce exposure to contamination that may result in potentially unacceptable risks for human health and the environment.

Deed restrictions in general are land and water use restrictions filed with the registrar of deeds for the local governing body. These restrictions can provide a means to make the current and future property owners aware of impacts present at the property, in the soil or groundwater. The restriction may, for example, indicate the installation of a groundwater well on the property for consumption or irrigation purposes is prohibited. Another example would include excavation restrictions and precautions as a requirement based upon the presence of deeper soil contamination.

Interim Measure Soil Excavations

As a proposed corrective measure for site soil, the previously described interim measures would be evaluated as potential final remedies. This would include all prior excavation work that has taken place at the site, including: the 2009 mercury "hot spot" soil excavation, the 2009 site-wide soil excavation, and the 2011 floor block and soil excavation. All three interim measures included soil sampling, excavation, confirmatory sampling, and off-site disposal. The mercury hot spot excavation removed and properly disposed of 90 cubic yards of soil. The site-wide soil excavation removed between 3-4' of soil from across the entire 20-acre site. The excavated soil contained PAHs and metals contamination. The 2011 floor block and soil excavation removed over 3,000 tons of PAH-contaminated floor block and soil.

Groundwater Remedy

No Action

The "no action" alternative is a baseline against which all other alternatives are considered. It would include terminating any remedial work currently taking place and eliminating any possible future work or long-term monitoring. The Agency evaluates all remedial alternatives against this baseline.

Institutional Controls

Institutional controls include legal deed restrictions or restrictive covenants, zoning ordinances, and other methods to prevent or reduce exposure to contamination that may result in potentially unacceptable risks for human health and the environment. The restriction may indicate the installation of a groundwater well on the property for consumption or irrigation purposes is prohibited.

Pump and Treat

This alternative involves pumping groundwater from impacted areas of the site into a centralized treatment system and discharging the treated groundwater either to a publicly owned treatment works (POTW) sanitary sewer, or through a permitted National Pollutant Discharge Elimination System (NPDES) outfall to surface water, which would likely be to the storm water ditch located adjacent to the Site that eventually discharges to Gibson Drain. The groundwater pump and treat system would include a series of wells outfitted with pumps to extract the groundwater, conveyance piping to transport the groundwater to the on-site treatment system and from the system to the discharge point, a treatment system designed to remove contamination and various electrical control systems needed to operate the entire system.

Proposed Remedial Alternatives

The remedial alternatives described above have been considered either independently or in combination for consideration as the proposed corrective measures alternative. The remedial alternatives further considered are as follows:

Soil Remedy Alternatives

Alternative 1: No Action

Alternative 2: Interim Measure Excavations and Institutional Controls

Groundwater Remedy Alternatives

Alternative 1: No Action

Alternative 2: Institutional Controls

Alternative 3: Pump-and-treat

EVALUATION OF THE PROPOSED REMEDY AND ALTERNATIVES

The evaluation of corrective measures alternatives considers the degree to which each potential corrective measure alternative satisfies EPA's threshold and balancing criteria. Remedies attaining all four threshold criteria are then weighed against the balancing criteria. The criteria, defined below, assist in determining the best possible remedial option.

Threshold criteria

1. Overall Protection: This criterion considers the ability of the remedial alternatives to protect human health and the environment, for both current and reasonably anticipated future receptors.
2. Attainment of Media Cleanup Standards: This criterion considers the ability of the remedial alternatives to attain the cleanup standards for that specific media.
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 Waste Management Standards: This criterion considers the ability of the remedial alternatives to comply with applicable standards for waste management (*i.e.*, hazardous waste storage and transportation regulations, emissions limitations, etc.).

Balancing criteria

1. Long-term Reliability and Effectiveness: This criterion considers both the level of threat posed by hazardous constituents remaining in place and the adequacy of the remedial alternative and the risk associated with any treatment residuals compared to untreated waste.
2. Reduction of Toxicity, Mobility, or Volume of Wastes: This criterion considers the ability of the remedial alternatives to reduce the toxicity, mobility, or volume of waste significantly and permanently.
3. 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.
4. Implementability: This criterion considers the technical and administrative feasibility of implementing the selected remedial alternative.
5. Cost: 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.
6. State and Community Acceptance: This criterion evaluates the issues and concerns the local community may have regarding the alternatives. U.S. EPA encourages community involvement in remedial alternatives and community acceptance will be considered in the remedial alternative selection. This criterion evaluates the technical and administrative issues and concerns the State may have regarding the alternatives. U.S. EPA coordinates with State agencies and State acceptance will be considered in the remedial alternative selection.
7. 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 identify corrective measures alternatives that would balance effectiveness and sustainability.

Soil Remedy Alternatives

Alternative 1: No Action

No further action would not satisfy the threshold and balancing criterion. The extensive soil excavations that have already taken place at the site have eliminated any soil exceedances above industrial direct contact screening criteria, volatilization to indoor air, and groundwater protection criteria. However, "No Action" as a proposed remedy would not appropriately memorialize the interim measures or document the need for institutional controls since the site soil was not remediated to residential standards.

Alternative 2: Interim Measure Excavations and Institutional Controls

As previously stated, the prior soil excavations that took place as interim measures effectively remediated the site and, therefore, satisfy the threshold criteria. The excavation and off-site disposal of site-wide soil and contaminated floor blocks has left the site soil at levels below the cleanup standards. The site soil is currently below the industrial direct contact, volatilization to indoor air, and groundwater protection standards. These remedial actions also controlled potential secondary sources by eliminating the potential for soil contamination to leach into and contaminate the groundwater. The soil excavations also achieved the short and long-term effectiveness balancing criterion. The addition of the institutional controls (ICs), in the form of a deed restriction, will further support the long-term effectiveness of this remedy. The current fence that surrounds the perimeter of the site will also be maintained. The soil removal included confirmatory sampling compared to non-residential, industrial standards. The IC will ensure the future use of the land will remain industrial, in accordance with the cleanup.

Groundwater Remedy Alternatives

Alternative 1: No Action

No further action with the site groundwater would not prevent future land owners from using the groundwater for potable purposes, which would not be appropriate. Although it is unlikely for any groundwater use to occur from the perched water sampled on-site, and that water is minimally impacted, no further action is not appropriate.

Alternative 2: Institutional Controls

A groundwater use restriction filed on the property would meet the threshold criteria. Although the on-site shallow groundwater does not represent a potable aquifer based upon yield (the municipal drinking water wells are screened in bedrock around 300 feet deep), the institutional controls will serve to conservatively protect future landowners by notifying them of the impacts. Given the minimal nature of the impacts, and most screening criteria being met, the groundwater use restriction would also satisfy the balancing criteria and is the recommended remedy for groundwater contamination.

Alternative 3: Pump-and-treat

A groundwater pump-and-treat system would not be appropriate for this site given the nature of the impacts and the geology. On-site groundwater is impacted by one constituent, lead, that is very slightly above the drinking water criteria in limited locations. The presence of a plume is not discernable based on the low concentrations, absence of a gradient, and the limited locations. This alternative would not effectively achieve the threshold or balancing criteria based upon the

conceptual site model. Specifically, the “implementability” and “sustainability” of designing, permitting, and constructing such a system for these site circumstances would not be appropriate.

Cost

The cost to date for the site work, including the interim measure conducted under this Agreement and proposed as a final remedial alternative, is approximately \$500,000. The estimated cost of the soil and groundwater institutional controls alternative is \$4,000. The estimated cost to install a pump-and-treat system and operate it for five years is \$455,000.

EPA’s Proposed Remedy

Based upon a review of all the alternatives described above, EPA is proposing that the completed soil interim measures have adequately addressed the risk at the site and should be considered the final remedy with the addition of implementation of Institutional Controls at the site. For impacted groundwater, implementation of groundwater use restriction is appropriate and adequate to address the existing risk.

PUBLIC PARTICIPATION

EPA solicits input from the community on the cleanup methods proposed under each of the alternatives presented, and on EPA’s preferred alternative as described in this document. EPA has set a public comment period from April 19 – May 19, 2016, to encourage public participation in the selection process. We encourage community members to submit any comments regarding these proposed remedies in writing by May 19, 2016. If requested during the public comment period, EPA will also host a public meeting to hear comments. To request a public meeting, contact EPA Project Manager Michelle Kaysen, below.

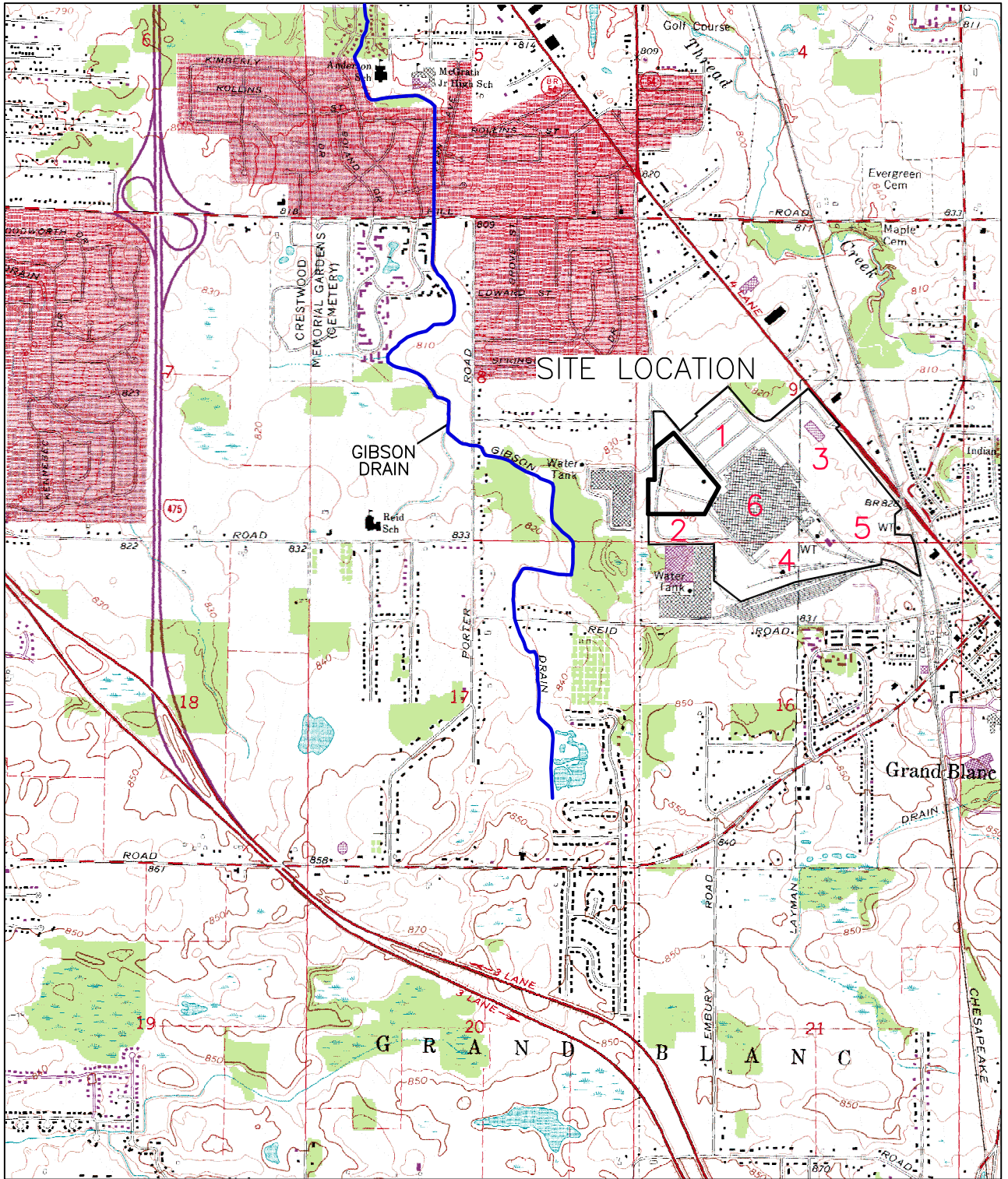
The EPA administrative record is available at the following locations (please call for hours):

EPA, Region 5
7th Floor Record Center
77 W. Jackson Blvd.
Chicago, IL 60604
(312) 886-4253

Grand Blanc-McFarlen Library
515 Perry Road
Grand Blanc, MI 48439
(810) 694-5310

EPA will summarize public comments and provide responses in the Response to Comments. EPA will draft the Response to Comments at the conclusion of the public comment period and incorporate the Response to Comments into the EPA administrative record. To send written comments or obtain further information, contact:

Michelle Kaysen (LU-9J)
77 W. Jackson Blvd
Chicago, IL 60604
(312) 886-4253
kaysen.michelle@epa.gov



RACER TRUST
DORT HIGHWAY LAND
GRAND BLANC, MICHIGAN
SITE LOCATION



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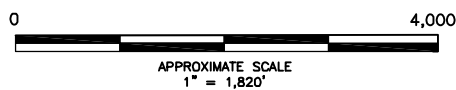


NOTE: AERIAL PHOTO
 TAKEN IN APRIL 2012
 SOURCE: ESRI®

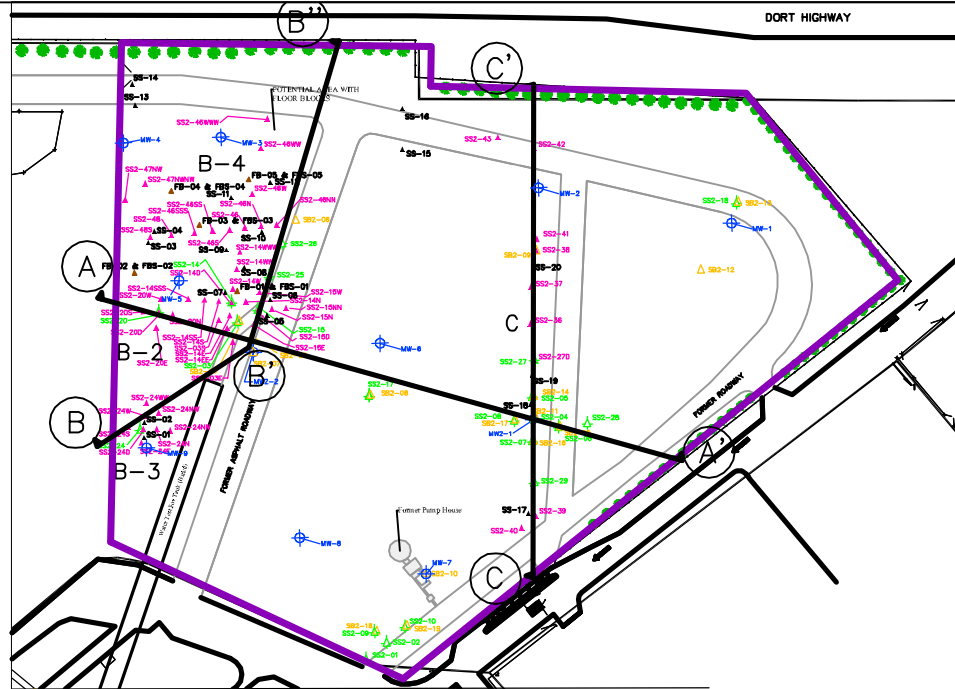
— APPROXIMATE
 RACER TRUST
 PROPERTY LINE

14774/51434.002

RACER TRUST
 DORT HIGHWAY LAND
 GRAND BLANC, MICHIGAN
 SITE AREA AERIAL PHOTO



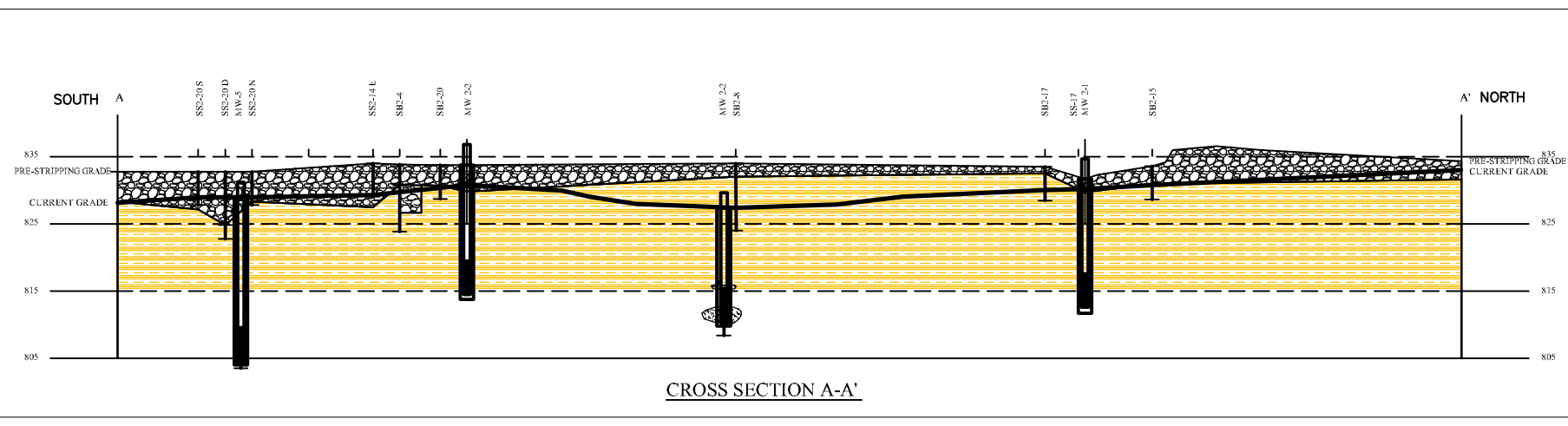
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STATEMENT OF BASIS:
FIGURE 3A

- LEGEND**
- FILL SOIL
 - CLAY
 - CROSS SECTION
 - SAND SEAM

RACER TRUST
DORT HIGHWAY LAND
GRAND BLANC, MICHIGAN

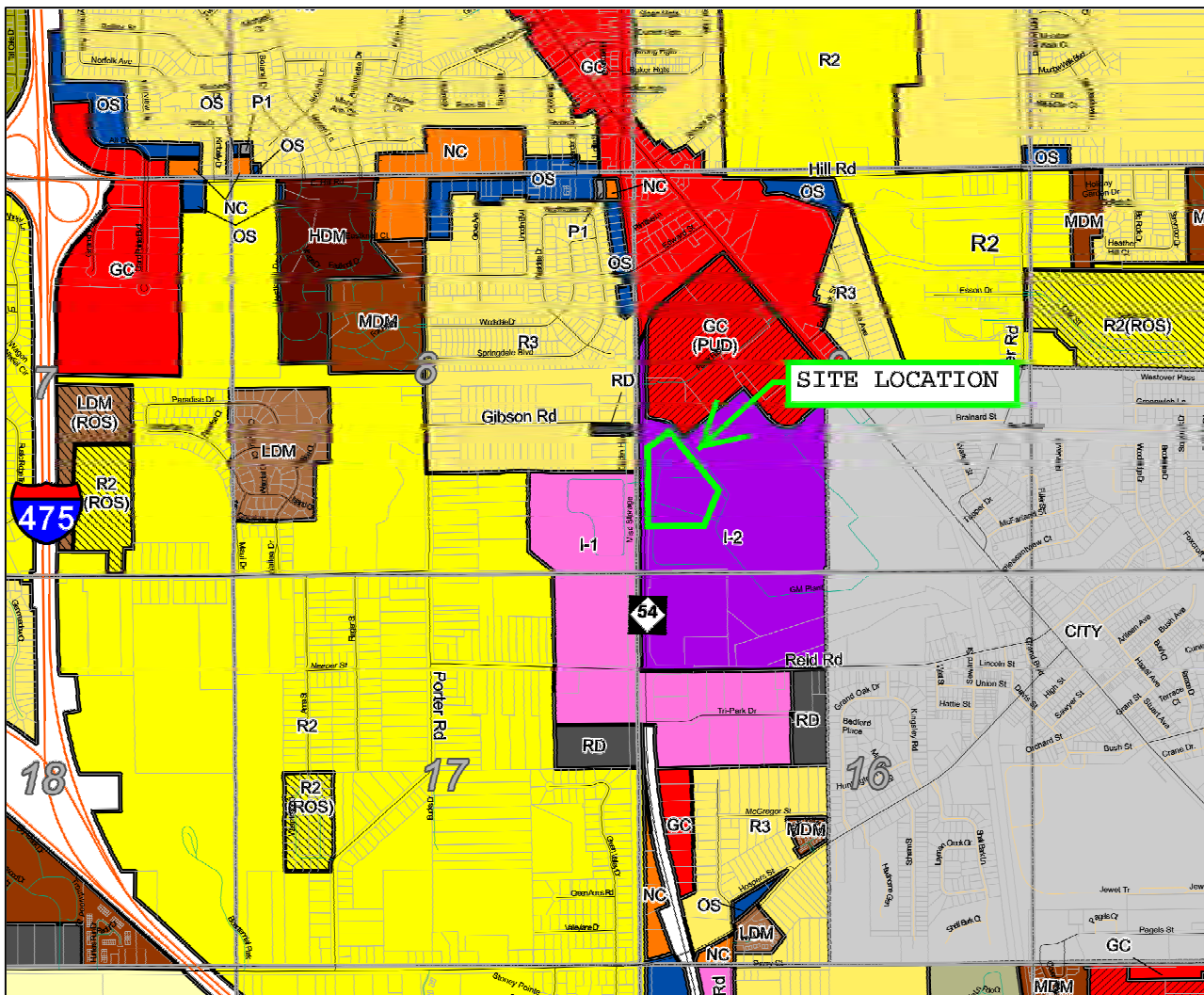


GEOLOGIC CROSS SECTIONS



FILE NO. 15388-51434.003





RE Rural Estate Residential District (43,560 sq. ft.)	PO Professional Office District
R1 Single Family Residential District (21,780 sq. ft.)	HCD Health Care District
R2 Single Family Residential District (15,000 sq. ft.)	NC Neighborhood Commercial District
R3 Single Family Residential District (12,000 sq. ft.)	GC General Commercial District
R4 Single Family Residential District (9,000 sq. ft.)	RD Research and Development District
LDM Low Density Multiple Family Residential District (Up to 4 U.P.A.)	I-1 Light Industrial District
MDM Medium Density Multiple Family Residential District (4.1 to 10 U.P.A.)	I-2 General Industrial District
HDM High Density Multiple Family Residential District (More than 10.1 U.P.A.)	PUD Planned Unit Development Overlay
MHP Mobile Home/Manufactured Housing Park District	ROS Residential Open Space Overlay
OS Office Service District	P1 Vehicular Parking District



RACER TRUST
DORT HIGHWAY LAND
GRAND BLANC, MICHIGAN
SITE AREA ZONING MAP

14774/51434.004



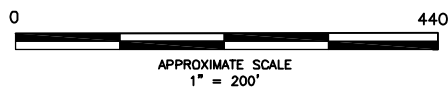


NOTE: AERIAL PHOTO
 TAKEN IN APRIL 2012
 SOURCE: ESRI®

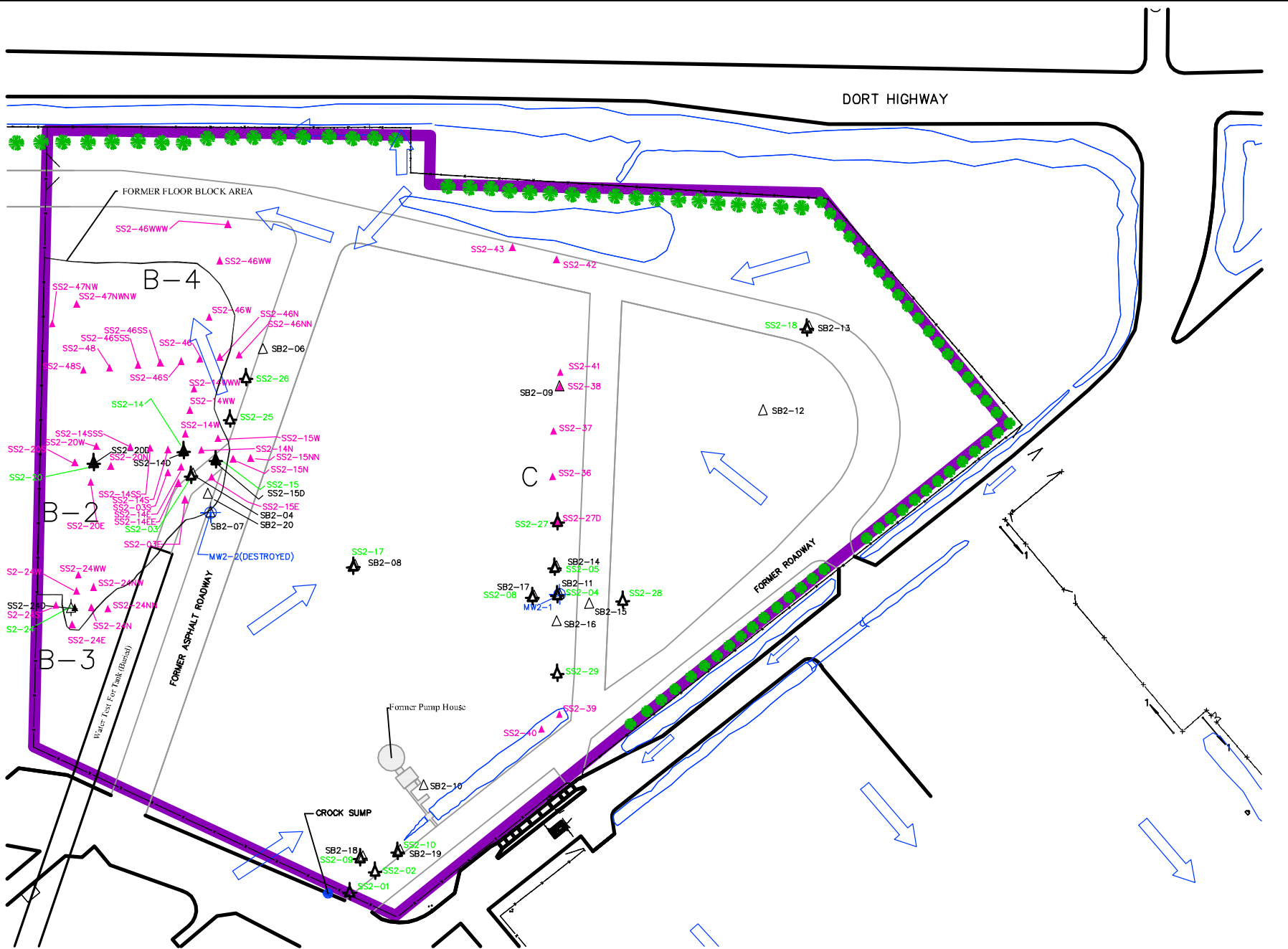
— APPROXIMATE
 RACER TRUST
 PROPERTY LINE

14774/51434.002

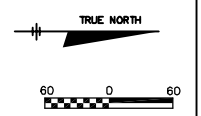
RACER TRUST
 DORT HIGHWAY LAND
 GRAND BLANC, MICHIGAN
 SITE AERIAL PHOTO



PLOT DATE: 04/27/14 9:58 AM



STATEMENT OF BASIS: FIGURE 6



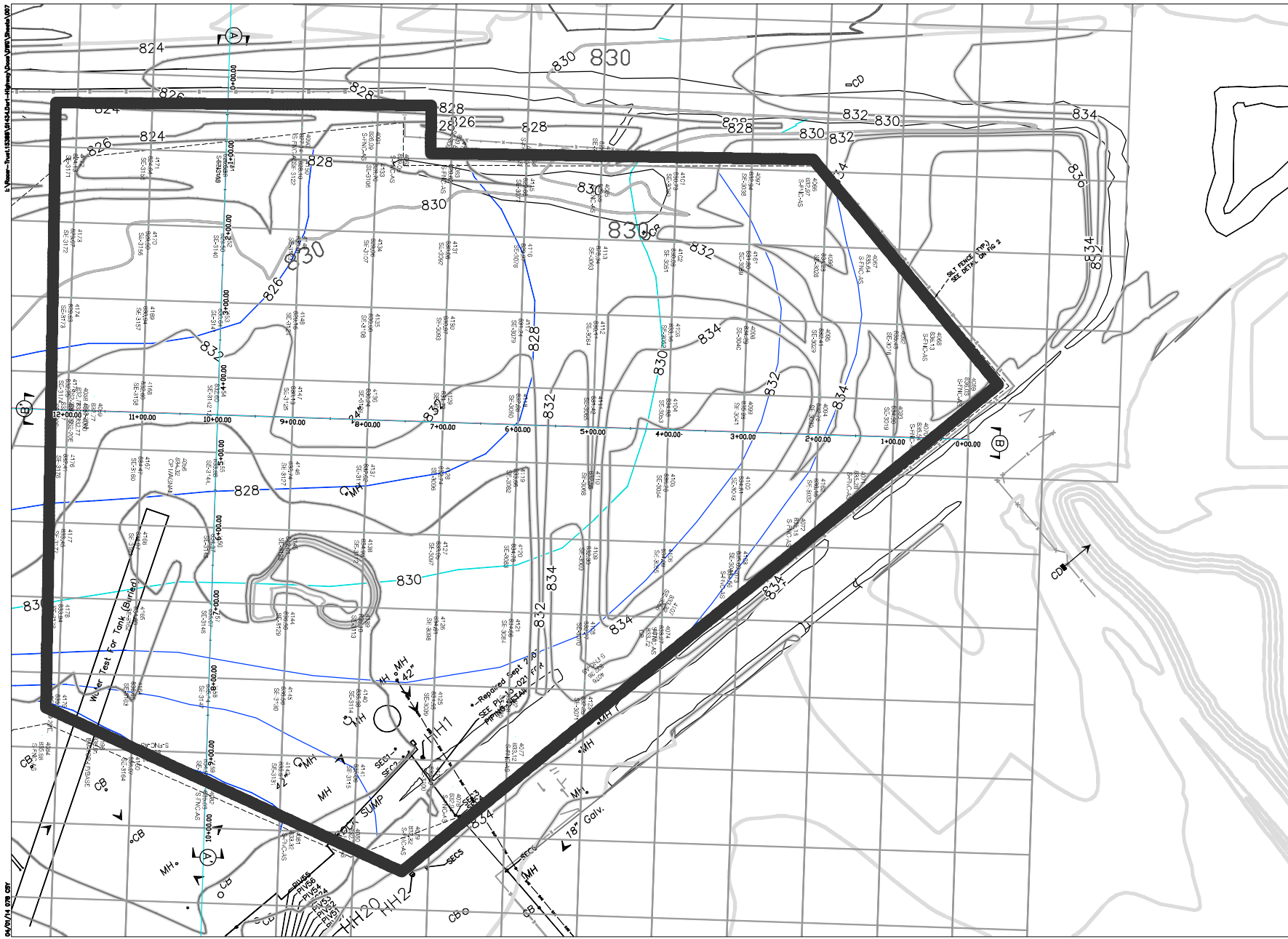
- LEGEND**
- △ SOIL BORING LOCATION
 - ▲ SURFACE SOIL SAMPLE LOCATION
 - ▲ DELINEATION SOIL SAMPLE LOCATION
 - ⊕ MONITORING WELL LOCATION
 - APPROXIMATE RACER TRUST PROPERTY LINE
 - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
 - ✱ APPROXIMATE FENCE LOCATION

HISTORICAL (2007) SAMPLE LOCATIONS

RACER TRUST
DORT HIGHWAY LAND
GRAND BLANC, MICHIGAN

15388/51434.006





STATEMENT OF BASIS: FIGURE 7

- NOTES:
1. DRAWING FOR PRELIMINARY TAKE-OFFS ONLY. PROPOSED CONTOURS TO MATCH EXISTING AT BOUNDARY OF BORROW AREA. BOUNDARY OF BORROW AREA DELINEATED BY SILT FENCE LOCATION.
 2. CONTRACTOR TO FOLLOW SOIL EROSION AND SEDIMENTATION REQUIREMENTS PER EXISTING PROJECT REQUIREMENTS.



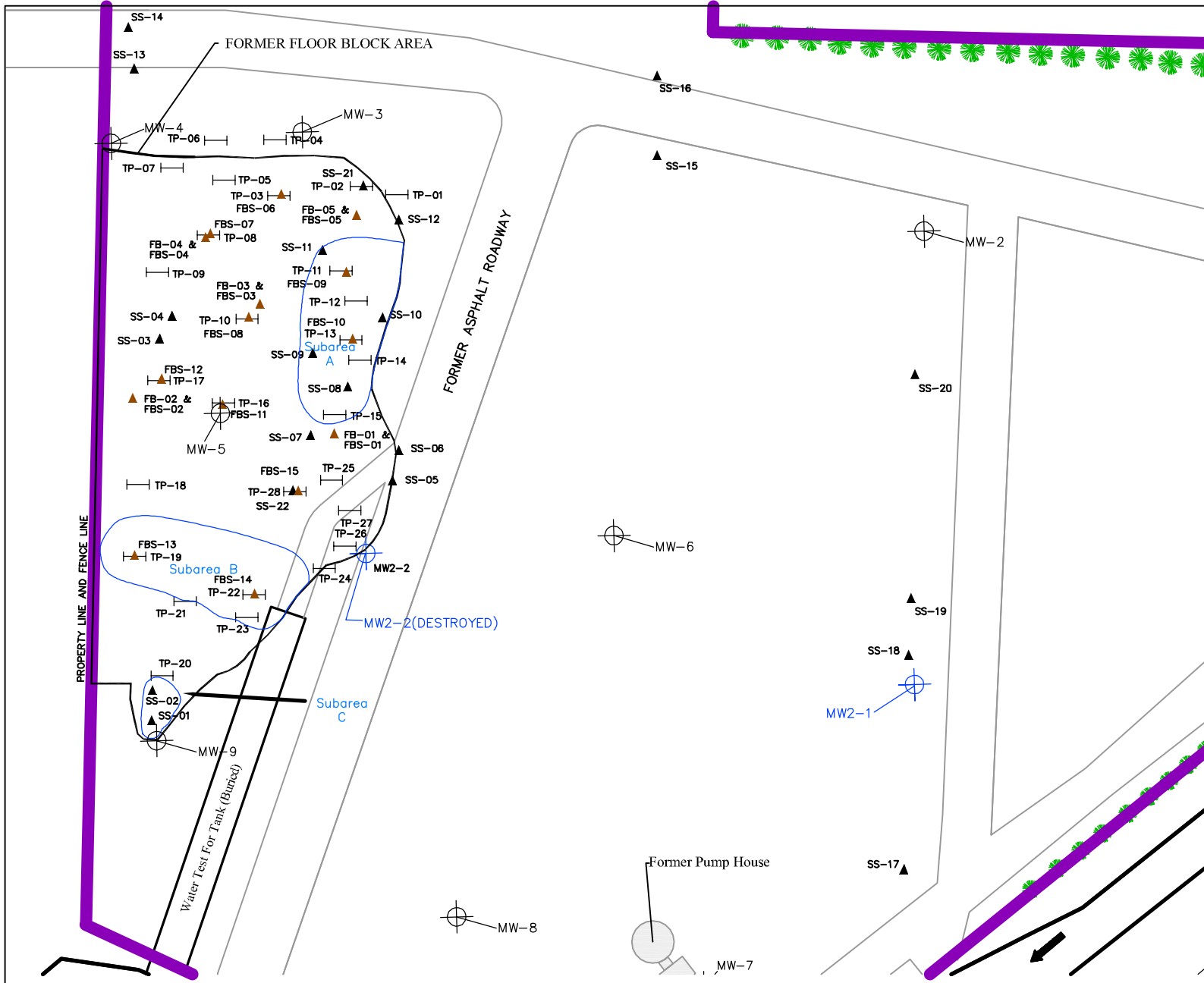
RACER TRUST
DORT HIGHWAY LAND
GRAND BLANC, MICHIGAN

CUT & FILL MAP W/
GRID AS OF 2007








15388/51434.006





STATEMENT OF BASIS: FIGURE 9

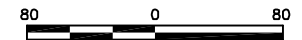
LEGEND

-  MONITORING WELL LOCATION
-  TEMPORARY MONITORING WELL LOCATION
-  SURFACE SOIL/SOIL SAMPLE LOCATION
-  FLOOR BLOCK & ASSOCIATED SOIL SAMPLE LOCATION
-  TEST PIT LOCATION



RACER TRUST
DORT HIGHWAY LAND
GRAND BLANC, MICHIGAN

2011 SITE CONDITIONS
& FLOOR BLOCK
INVESTIGATION SAMPLING
LOCATIONS



15388/51434.009



Statement of Basis: Table 1
Summary of 2011 Soil, Floor Block and Confirmation Sample Analytical Results
RACER Trust - Dort Highway Land
Grand Blanc, Michigan

Parameter		MDEQ Criteria		SS-03 (0'-0.1')	SS-04 (0'-0.1')	SS-05 (0'-0.1')	SS-06 (0'-0.1')	SS-07 (0'-0.1')	SS-07 CO- LOCATED (0'-0.1')	SS-12 (0'-0.1')	SS-13 (0'-0.1')	SS-14 (0'-0.1')	SS-14 CO- LOCATED (0'-0.1')
		Non-Residential Drinking Water Protection Criteria	Non- Residential Direct Contact Criteria										
Arsenic	mg/kg	4.6	37	2.07	2.56	--	--	2.5	2.19	1.41	1.78	0.65	0.74
Barium	mg/kg	1300	1.3E+05	41.5	55	--	--	37	30.2	57.8	44.1	93.5	66
Cadmium	mg/kg	6	2100	<0.20	<0.20	--	--	<0.20	0.2	<0.20	0.24	0.2	<0.20
Chromium	mg/kg	1.0E+6 (D)	1.0E+6 (D)	3.82	2.96	--	--	7.45	3.27	3.57	2.97	3.94	3.53
Lead (Total)	mg/kg	700	900 (DD)	9.79	6	--	--	35	12.6	4.82	8.44	6.94	8.68
Acenaphthene	µg/kg	8.8E+05	1.3E+08	--	--	<300	<300	<300	<300	--	<330	<330	<330
Acenaphthylene	µg/kg	17000	5.2E+06	--	--	<300	<300	<300	<300	--	<330	<330	<330
Anthracene	µg/kg	41000	7.3E+08	--	--	<300	<300	600	<300	--	<330	<330	<330
Benzo(a)anthracene	µg/kg	NLL	80000	--	--	<300	<300	2,000	1,000	--	<330	<330	<330
Benzo(a)pyrene	µg/kg	NLL	8000	--	--	<300	<300	3,200	1,400	--	<330	<330	<330
Benzo(b)fluoranthene	µg/kg	NLL	80000	--	--	300	400	5,100	2,300	--	<330	<330	<330
Benzo(k)fluoranthene	µg/kg	NLL	8.0E+05	--	--	<300	300	5,200	2,300	--	<330	<330	<330
Benzo(ghi)perylene	µg/kg	NLL	7.0E+06	--	--	<300	<300	1,600	900	--	<330	<330	<330
Chrysene	µg/kg	NLL	8.0E+06	--	--	<300	<300	2,500	1,300	--	<330	<330	<330
Dibenz(a,h)anthracene	µg/kg	NLL	8000	--	--	<300	<300	<300	<300	--	<330	<330	<330
Fluoranthene	µg/kg	7.30E+05	1.3E+08	--	--	<300	<300	4,600	2,200	--	<330	<330	<330
Fluorene	µg/kg	8.9E+05	8.7E+07	--	--	<300	<300	300	<300	--	<330	<330	<330
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	80000	--	--	<300	<300	1,600	900	--	<330	<330	<330
Naphthalene	µg/kg	1.00E+05	5.2E+07	--	--	<300	<300	<300	<300	--	<330	<330	<330
Phenanthrene	µg/kg	1.60E+05	5.2E+06	--	--	<300	<300	2,600	1,100	--	<330	<330	<330
Pyrene	µg/kg	4.8E+05	8.4E+07	--	--	<300	<300	3,800	1,700	--	<330	<330	<330
2-Methylnaphthalene	µg/kg	1.70E+05	2.6E+07	--	--	<300	<300	<300	<300	--	<330	<330	<330
1-Methylnaphthalene	µg/kg	NC	NC	--	--	<300	<300	<300	<300	--	<330	<330	<330

Exceeds nonresidential drinking water protection criteria

Exceeds nonresidential direct contact criteria

(D) Calculated criterion exceeds 100 percent

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

* Elevated reporting limit for PAHs due to high target concentration

Equipment blanks, field blanks, trip blank, methanol blank were non-detect;

except field blank (FBK-01) which had a detection of 0.006 mg/L for barium

Statement of Basis: Table 1
Summary of 2011 Soil, Floor Block and Confirmation Sample Analytical Results
RACER Trust - Dort Highway Land
Grand Blanc, Michigan

Parameter		MDEQ Criteria		SS-15 (0'-0.1')	SS-16 (0'-0.1')	SS-16 DUP-01 (0'-0.1')	SS-17 (0'-0.1')	SS-18 (0'-0.1')	SS-19 (0'-0.1')	SS-20 (0'-0.1')	SS-21 (2'-4')	SS-22 (0'-1.5')	SS-22 (0'-1.5') CO- LOCATED
		Non-Residential Drinking Water Protection Criteria	Non- Residential Direct Contact Criteria										
Arsenic	mg/kg	4.6	37	1.35	1.8	1.92	--	--	--	--	--	--	--
Barium	mg/kg	1300	1.3E+05	63.6	53.2	44.4	--	--	--	--	--	--	--
Cadmium	mg/kg	6	2100	<0.20	0.21	0.22	--	--	--	--	--	--	--
Chromium	mg/kg	1.0E+6 (D)	1.0E+6 (D)	3.87	6.31	6.06	--	--	--	--	--	--	--
Lead (Total)	mg/kg	700	900 (DD)	7.36	12.6	13	--	--	--	--	--	--	--
Acenaphthene	µg/kg	8.8E+05	1.3E+08	<330	<330	<330	400	<300	<300	<300	<300	<300	<300
Acenaphthylene	µg/kg	17000	5.2E+06	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	7.3E+08	<330	<330	<330	2,400	<300	<300	<300	<300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	80000	<330	<330	<330	3,000	<300	<300	<300	<300	<300	<300
Benzo(a)pyrene	µg/kg	NLL	8000	<330	<330	<330	2,700	<300	<300	<300	<300	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	80000	<330	<330	<330	5,500	<300	<300	<300	<300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	8.0E+05	<330	<330	<330	5,500	<300	<300	<300	<300	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	7.0E+06	<330	<330	<330	900	<300	<300	<300	<300	<300	<300
Chrysene	µg/kg	NLL	8.0E+06	<330	<330	<330	3,100	<300	<300	<300	<300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	8000	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	1.3E+08	<330	<330	<330	6,800	<300	<300	<300	<300	400	<300
Fluorene	µg/kg	8.9E+05	8.7E+07	<330	<330	<330	500	<300	<300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	80000	<330	<330	<330	900	<300	<300	<300	<300	<300	<300
Naphthalene	µg/kg	1.00E+05	5.2E+07	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	5.2E+06	<330	<330	<330	5,700	<300	<300	<300	<300	<300	<300
Pyrene	µg/kg	4.8E+05	8.4E+07	<330	<330	<330	6,200	<300	<300	<300	<300	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	2.6E+07	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300

Exceeds nonresidential drinking water protection criteria

Exceeds nonresidential direct contact criteria

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Statement of Basis: Table 1
Summary of 2011 Soil, Floor Block and Confirmation Sample Analytical Results
RACER Trust - Dort Highway Land
Grand Blanc, Michigan

Parameter		MDEQ Criteria		FBS-06 (0'-0.1')	FBS-07 (0'-0.1')	FBS-11 (0'-0.1')	FBS-12 (0'-0.1')
		Non-Residential Drinking Water Protection Criteria	Non-Residential Direct Contact Criteria				
Arsenic	mg/kg	4.6	37	--	--	--	--
Barium	mg/kg	1300	1.3E+05	--	--	--	--
Cadmium	mg/kg	6	2100	--	--	--	--
Chromium	mg/kg	1.0E+6 (D)	1.0E+6 (D)	--	--	--	--
Lead (Total)	mg/kg	700	900 (DD)	--	--	--	--
Acenaphthene	µg/kg	8.8E+05	1.3E+08	<300	300	600	2,100
Acenaphthylene	µg/kg	17000	5.2E+06	<300	<300	<300	<300
Anthracene	µg/kg	41000	7.3E+08	<300	500	900	2,400
Benzo(a)anthracene	µg/kg	NLL	80000	<300	1,200	2,100	5,100
Benzo(a)pyrene	µg/kg	NLL	8000	<300	1,400	2,400	5,700
Benzo(b)fluoranthene	µg/kg	NLL	80000	<300	2,300	4,000	9,400
Benzo(k)fluoranthene	µg/kg	NLL	8.0E+05	<300	2,300	4,000	9,900
Benzo(ghi)perylene	µg/kg	NLL	7.0E+06	<300	800	1,300	2,800
Chrysene	µg/kg	NLL	8.0E+06	<300	1,300	2,500	5,900
Dibenzo(ah)anthracene	µg/kg	NLL	8000	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	1.3E+08	<300	3,300	6,000	14,700
Fluorene	µg/kg	8.9E+05	8.7E+07	<300	400	700	2,100
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	80000	<300	800	1,300	2,800
Naphthalene	µg/kg	1.00E+05	5.2E+07	<300	<300	<300	700
Phenanthrene	µg/kg	1.60E+05	5.2E+06	<300	2,500	4,500	12,800
Pyrene	µg/kg	4.8E+05	8.4E+07	<300	2,400	4,200	10,500
2-Methylnaphthalene	µg/kg	1.70E+05	2.6E+07	<300	<300	<300	400
1-Methylnaphthalene	µg/kg	NC	NC	<300	<300	<300	<300

Exceeds nonresidential drinking water protection criteria

Exceeds nonresidential direct contact criteria

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except field blank (FBK-01) which had a detection of 0.006 mg/L for barium

Statement of Basis: Table 1
Summary of 2011 Soil, Floor Block and Confirmation Sample Analytical Results
RACER Trust - Dort Highway Land
Grand Blanc, Michigan

Parameter		MDEQ Criteria		CS-A-1 (0.5')	CS-A-2 (0.5')	CS-A-3 (0.5')	CS-A-4 (0.5')	CS-A-6 (Reconfirmation Sample for CS-A-5) (0.5')	CF-A-1 (1.0')	CF-A-2 (1.0')
		Nonresidential Drinking Water Protection Criteria	Nonresidential Direct Contact Criteria							
Acenaphthene	µg/kg	8.8E+05	1.3E+08	<300	<300	<300	<300	<300	<300	<300
Acenaphthylene	µg/kg	17000	5.2E+06	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	7.3E+08	<300	300	<300	<300	<300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	80000	<300	800	<300	<300	<300	<300	<300
Benzo(a)pyrene	µg/kg	NLL	8000	<300	800	<300	<300	<300	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	80000	<300	1,400	<300	<300	<300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	8.0E+05	<300	1,400	<300	<300	<300	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	7.0E+06	<300	500	<300	<300	<300	<300	<300
Chrysene	µg/kg	NLL	8.0E+06	<300	800	<300	<300	<300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	8000	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	1.3E+08	<300	2,100	<300	<300	<300	<300	<300
Fluorene	µg/kg	8.9E+05	8.7E+07	<300	<300	<300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	80000	<300	400	<300	<300	<300	<300	<300
Naphthalene	µg/kg	1.00E+05	5.2E+07	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	5.2E+06	<300	1,500	<300	<300	<300	<300	<300
Pyrene	µg/kg	4.8E+05	8.4E+07	<300	1,600	<300	<300	<300	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	2.6E+07	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	<300	<300	<300	<300	<300	<300	<300

Exceeds nonresidential drinking water protection criteria

Exceeds nonresidential direct contact criteria

CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A

CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B

(D) Calculated criterion exceeds 100 percent

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

Statement of Basis: Table 1
Summary of 2011 Soil, Floor Block and Confirmation Sample Analytical Results
RACER Trust - Dort Highway Land
Grand Blanc, Michigan

Parameter		MDEQ Criteria		CF-A-3 (1.0')	CF-A-4 (1.0')	CF-A-5 (1.0')	CF-A-6 (1.0')	CF-A-7 (1.0')	CF-A-8 (1.0')	CF-A-9 (1.0')
		Nonresidential Drinking Water Protection Criteria	Nonresidential Direct Contact Criteria							
Acenaphthene	µg/kg	8.8E+05	1.3E+08	<300	<300	<300	<300	<300	<300	<300
Acenaphthylene	µg/kg	17000	5.2E+06	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	7.3E+08	<300	<300	<300	<300	<300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	80000	<300	<300	<300	<300	<300	<300	<300
Benzo(a)pyrene	µg/kg	NLL	8000	<300	<300	<300	<300	<300	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	80000	<300	<300	<300	<300	<300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	8.0E+05	<300	<300	<300	<300	<300	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	7.0E+06	<300	<300	<300	<300	<300	<300	<300
Chrysene	µg/kg	NLL	8.0E+06	<300	<300	<300	<300	<300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	8000	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	1.3E+08	<300	<300	<300	<300	<300	<300	<300
Fluorene	µg/kg	8.9E+05	8.7E+07	<300	<300	<300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	80000	<300	<300	<300	<300	<300	<300	<300
Naphthalene	µg/kg	1.00E+05	5.2E+07	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	5.2E+06	<300	<300	<300	<300	<300	<300	<300
Pyrene	µg/kg	4.8E+05	8.4E+07	<300	<300	<300	<300	<300	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	2.6E+07	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	<300	<300	<300	<300	<300	<300	<300

Exceeds nonresidential drinking water protection criteria

Exceeds nonresidential direct contact criteria

CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A

CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B

(D) Calculated criterion exceeds 100 percent

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

Statement of Basis: Table 1
Summary of 2011 Soil, Floor Block and Confirmation Sample Analytical Results
RACER Trust - Dort Highway Land
Grand Blanc, Michigan

Parameter		MDEQ Criteria		CS-B-1 (1.25')	CS-B-2 (1.0')	CS-B-3 (0.75')	CS-B-4 (0.75')	CS-B-5 (0.75')	CF-B-2 (1.5')	CF-B-3 (1.5')	CF-B-4 (1.5')
		Nonresidential Drinking Water Protection Criteria	Nonresidential Direct Contact Criteria								
Acenaphthene	µg/kg	8.8E+05	1.3E+08	800	<300	<300	<300	400	<300	<300	<300
Acenaphthylene	µg/kg	17000	5.2E+06	<300	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	7.3E+08	1,500	<300	300	500	1,000	<300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	80000	3,000	600	800	1,700	1,900	1,000	1,000	800
Benzo(a)pyrene	µg/kg	NLL	8000	3,300	600	800	2,200	2,100	1,300	1,100	1,000
Benzo(b)fluoranthene	µg/kg	NLL	80000	5,300	1,000	1,400	3,600	3,400	2,100	1,700	1,700
Benzo(k)fluoranthene	µg/kg	NLL	8.0E+05	5,300	1,000	1,300	3,500	3,400	2,100	1,600	1,600
Benzo(ghi)perylene	µg/kg	NLL	7.0E+06	1,500	400	500	1,300	1,100	900	600	700
Chrysene	µg/kg	NLL	8.0E+06	3,100	700	800	2,000	2,100	1,100	1,100	1,000
Dibenzo(ah)anthracene	µg/kg	NLL	8000	<300	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	1.3E+08	8,100	1,300	1,800	3,500	5,100	1,900	1,900	2,000
Fluorene	µg/kg	8.9E+05	8.7E+07	700	<300	<300	<300	400	<300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	80000	1,500	300	500	1,200	1,000	800	600	600
Naphthalene	µg/kg	1.00E+05	5.2E+07	<300	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	5.2E+06	5,700	600	1,100	1,500	3,300	900	800	1,100
Pyrene	µg/kg	4.8E+05	8.4E+07	5,900	1,000	1,400	2,900	3,700	1,700	1,500	1,600
2-Methylnaphthalene	µg/kg	1.70E+05	2.6E+07	<300	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	<300	<300	<300	<300	<300	<300	<300	<300

Exceeds nonresidential drinking water protection criteria

Exceeds nonresidential direct contact criteria

CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A

CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B

(D) Calculated criterion exceeds 100 percent

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

Statement of Basis: Table 1
Summary of 2011 Soil, Floor Block and Confirmation Sample Analytical Results
RACER Trust - Dort Highway Land
Grand Blanc, Michigan

Parameter		MDEQ Criteria		CF-B-5 (1.5')	CF-B-6 (7.0')	CF-B-7 (1.5')	CF-B-8 (7.0')	CF-B-9 (1.5')	CF-B-10 (Reconfirmation Sample for CF-B-1) (2.5')	CF-B-11 (Reconfirmation Sample for CF-B-1) (2.5')
		Nonresidential Drinking Water Protection Criteria	Nonresidential Direct Contact Criteria							
Acenaphthene	µg/kg	8.8E+05	1.3E+08	300	700	<300	700	1,400	<300	<300
Acenaphthylene	µg/kg	17000	5.2E+06	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	7.3E+08	1,400	1,100	<300	<300	2,300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	80000	3,200	2,300	300	500	4,500	<300	<300
Benzo(a)pyrene	µg/kg	NLL	8000	3,600	2,600	400	600	5,200	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	80000	6,100	4,400	600	900	8,600	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	8.0E+05	6,100	4,400	600	900	8,700	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	7.0E+06	1,800	1,400	<300	300	2,300	<300	<300
Chrysene	µg/kg	NLL	8.0E+06	3,600	2,600	400	600	5,000	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	8000	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	1.3E+08	8,100	5,800	800	1,000	13,000	<300	<300
Fluorene	µg/kg	8.9E+05	8.7E+07	400	700	<300	600	1,300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	80000	1,800	1,300	<300	<300	2,400	<300	<300
Naphthalene	µg/kg	1.00E+05	5.2E+07	<300	<300	<300	4,000	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	5.2E+06	4,700	3,600	400	900	9,500	<300	<300
Pyrene	µg/kg	4.8E+05	8.4E+07	6,000	4,600	600	800	9,200	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	2.6E+07	<300	<300	<300	700	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	<300	<300	<300	500	<300	<300	<300

Exceeds nonresidential drinking water protection criteria

Exceeds nonresidential direct contact criteria

CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A

CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B

(D) Calculated criterion exceeds 100 percent

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

Statement of Basis: Table 1
Summary of 2011 Soil, Floor Block and Confirmation Sample Analytical Results
RACER Trust - Dort Highway Land
Grand Blanc, Michigan

Parameter		MDEQ Criteria		CS-C-1 (3.0')	CS-C-2 (3.0')	CS-C-3 (3.0')	CS-C-4 (3.0')	CS-C-5 (2.25')	CF-C-1 (5.0')	CF-C-3 (4.5')	CF-C-4 (4.5')	CF-C-5 (Reconfirmation Sample for CF-C-2) (6.0')
		Nonresidential Drinking Water Protection Criteria	Nonresidential Direct Contact Criteria									
Acenaphthene	µg/kg	8.8E+05	1.3E+08	<300	<300	<300	<300	<300	<300	1,900	<300	<300
Acenaphthylene	µg/kg	17000	5.2E+06	<300	<300	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	7.3E+08	<300	<300	<300	300	<300	400	4,000	<300	<300
Benzo(a)anthracene	µg/kg	NLL	80000	<300	<300	500	900	<300	900	6,200	<300	<300
Benzo(a)pyrene	µg/kg	NLL	8000	300	<300	600	1,100	<300	1,000	6,400	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	80000	500	<300	1,000	1,800	400	1,600	10,300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	8.0E+05	500	<300	1,000	1,800	400	1,600	10,600	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	7.0E+06	<300	<300	400	700	<300	600	2,800	<300	<300
Chrysene	µg/kg	NLL	8.0E+06	300	<300	600	100	<300	1,100	6,300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	8000	<300	<300	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	1.3E+08	600	<300	1,300	2,000	600	2,200	18,500	<300	<300
Fluorene	µg/kg	8.9E+05	8.7E+07	<300	<300	<300	<300	<300	<300	1,400	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	80000	<300	<300	400	700	<300	500	2,900	<300	<300
Naphthalene	µg/kg	1.00E+05	5.2E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	5.2E+06	400	<300	600	1,100	<300	1,400	14,600	<300	<300
Pyrene	µg/kg	4.8E+05	8.4E+07	500	<300	1,000	1,600	400	1,700	21,800	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	2.6E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	<300	<300	<300	<300	<300	<300	<300	<300	<300

 Exceeds nonresidential drinking water protection criteria

 Exceeds nonresidential direct contact criteria

CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A

CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B

(D) Calculated criterion exceeds 100 percent

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

Attachment 1: Index to the Administrative Record



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Property Details

Facility ID:	12960
Facility Name:	Dort Highway Industrial Land
Address:	6515 S. Dort Highway
City:	Grand Blanc
State:	MI
Zip:	
County:	Genesee
Zoning:	
Land Size (Acres):	20.44
Latitude:	42.932359
Longitude:	-83.649259
Cleanup Manager:	Dave Favero, Grant Trigger



Associated Files

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Attachment 2: Ecological Habitat

Ecological Habitat Characterization for the Dort Highway Land Site in Grand Blanc, Michigan

The purpose of this technical memorandum is to summarize results of the data review and site evaluation to identify potential ecological habitats requiring further evaluation at the Dort Highway Land Site (the “Site”). The initial steps in the risk assessment process involve: conducting a preliminary review of available site-specific data and a site visit, evaluate the nature and extent of contamination, characterize potential ecological receptors, and identify potential pathways of exposure.

The Site is located in Grand Blanc Township, Genesee County, Michigan. The Site is located in an industrial and commercial area of Grand Blanc. The current address for the Site, 10800 S. Saginaw Street, is also associated with the adjacent General Motors LLC (GM) plant. The Site is comprised of 20.44 acres of vacant land that was formerly part of the adjacent active GM facility. It is currently unused and vacant with a fence surrounding the property, separating it from the adjacent GM facility.

The 20 acre Site is zoned industrial and is a small portion of the otherwise industrial 210-acre GM complex. The surrounding land is also zoned industrial or commercial, with a low potential for ecological habitat sufficient to support most wildlife.

The surface of the Site has been highly altered by the stripping/removal of an average of approximately 4 feet of soils and fill materials during the demolition of the former Press Room located at the adjacent GM facility. The stripped material was used to fill in the former Press Room basement. The soil removal activities were completed in 2009 on the Site; however, the Site was not stabilized until 2012. In 2011 GM installed an approximate 1 to 4 foot high berm along the southern boundary of the Site to separate the GM and Site properties, and installed a new perimeter fence along the southern and eastern boundaries of the Site. Two soil erosion control drainage structures were installed in 2011 in the southwestern portion of the Site to allow discharge of Site storm water to the drainage ditch west of the Site along Dort Highway. In December 2011 through January 2012 additional remediation activities were completed to remove polynuclear aromatic hydrocarbon (PAH) constituent impacted buried wood floor blocks and some associated soil. The Site was stabilized by installation of the soil erosion control drainage structures, re-grading, and seeding, which provided for establishment of a grass vegetative cover.

The current topography of the Site is generally characterized by a gentle northeast to southwest slope along the southern and north central portions of the Site, a gentle northwest slope along the

eastern portion of the Site, and a gentle north to south slope along the very western portion of the Site. No wetlands or other waters of the United States occur on the Site. The ditch west of the Site discharges to a drainage ditch that flows to the west below Dort Highway and eventually discharges to Gibson Drain located approximately 1,300 ft southwest of the Site. Gibson Drain is the closest surface water body to the Site.

Gibson Drain is not a natural water body, but a man-made drainage ditch, classified as a canal by the USGS. Gibson Drain was installed to drain the former agricultural fields that once existed in the Site area. The closest natural water body to the Site is Thread Creek located approximately two thirds of a mile northeast of the Site. However, as explained above, surface drainage from the Site drains to the west toward Gibson Drain, not towards Thread Creek. The drainage divide for surface drainage toward Thread Creek is just east of the Site on the GM facility. In addition, shallow (<20 feet below grade [fbg]), apparently perched and not interconnected groundwater also flows toward the west and southwest at the Site. Based on topography and on-Site groundwater potentiometric surface contours, any groundwater flowing off-site to the west or southwest could eventually discharge to Gibson Drain. However, deeper regional groundwater flow is reported to be at depths of 50 to 70 fbg in the Site area and flows towards the northwest (University of Michigan – Flint, 1994).

Gibson Drain transitions to piped flow beneath a development about a mile northwest of the Site and just south and about a quarter mile north of Hill Road, before transitioning back to an open ditch approximately a third of a mile further north of Hill Road and the Site.

Conclusion

Based on the above information, the Site does not provide suitable, unique or specialized habitat for wildlife or plant species, and no wetlands or streams are present. Further, the Site and Site area do not contain habitat suitable for listed rare or endangered floral and/or fauna species.

EPA has determined that no further evaluation of risks to ecological receptors at the Site is warranted.

References

University of Michigan – Flint, 1994. Groundwater Resources Map Series, Grand Blanc Township, Genesee County, Michigan. Regional Groundwater Center. November.