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Date:

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Arcadis Project No.:

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Subject:

DRAFT - Admin Bldg No. 1 Investigation Report Response to Comments
RACER Trust, Buick City, Flint, Michigan

This memo provides responses to the comments received from USEPA on June 16, 2017 on the RACER Buick City Admin Bldg No. 1 Investigation Report. The remedy work plan to address the findings of this report has been drafted and will be submitted separately.

EPA Comment 1

In the Executive Summary (ES-1) it states: *An evaluation of these exposure pathways indicates that the GSI pathway is not complete and there currently are not any known receptors for the nonresidential drinking water pathway. Therefore, impacts at the Admin Bldg No. 1 Area will be addressed by institutional controls.*

Comment: Please specify which ICs will be put in place, their format, and what they will cover (potential pathways /risks mitigated). Will the ICs cover this particular parcel only or be included in a site wide IC? When would the IC be put in place and how will it be carried forward into the future?

> **Response:** A draft restrictive covenant (DRC) has been prepared for the Admin Bldg No.1 area only (attached) which will be recorded before transfer of the property to the buyer.
>
> The institutional controls included in the DRC to address environmental impacts identified at the Admin Bldg No. 1 Area are a non-residential land use restriction and groundwater use restriction.

In addition, as a matter of standard practice for RACER properties a surface cover restriction, vapor intrusion restriction, soil management restriction, and hazardous substance restriction will also be filed; however, these controls are not needed to address environmental impacts at the Admin Bldg No. 1 Area.

We request you review and comment on this DRC with the hope of incorporating any comments in the final version before the sale of the property.

EPA Comment 2

In Section 2.1 (page 2) Field Investigation it states: *Please note that inorganic analytical results which do not exceed State Default Background Levels (SDBL) are not considered exceedances and are not bolded and shaded or discussed herein.*

Comment: The SDBL values from the MDEQ June 2016 Draft document CLEANUP CRITERIA AND SCREENING LEVELS DEVELOPMENT AND APPLICATION in Table 8 are reflective of a greater data set then the 2013 SDBL numbers and would reflect additional exceedances that the 2013 SDBLs currently show, please address this incongruity. Also, the result for Zinc in soil in Table 1 SB-BD01-3 (3-5 ft) is 89.5 mg/Kg and the SDBL is 47mg/Kg, this not highlighted.

Response: The 2013 criteria are the governing criteria and are appropriate for comparison. The proposed 2016 criteria continue to be revised by the MDEQ and are not expected to be finalized until Fall 2017. However, we completed a comparison to the 2016 SDBLs which indicated an exceedance for arsenic in soil at SB-BD01-7 (8-10 ft). The arsenic result is 5.69 mg/kg and the GSIP and NDWP criteria are 4.6 mg/kg and the 2016 SDBL is 5.5 mg/kg. These exceedances would be addressed by the proposed DRC.

Additionally, the result for Zinc at SB-BD01-3 (3-5 ft) does exceed the SDBL. However, because the result does not exceed any other criteria, it is not considered an exceedance (e.g. background is only applicable when risk based criteria are exceeded.

EPA Comment 3

In Section 2.3.1 Groundwater Surface Water Interface Pathway it states: *Based on the distance to the river (>1,600 feet) and downgradient samples that do not exceed GSI criteria, the direct discharge pathway to the river is not complete.*

Comment: Please indicate which down gradient samples you are referring to and the degree of change between the "upgradient" and "downgradient" locations.

Response: **Table 1** below summarizes the location and concentrations of the exceedances and the delineation samples. The delineation sample for manganese is three orders of magnitude less than the exceedance, while the remaining delineation samples are non-detect for the constituent

of concern (COC). The locations of the exceedances and delineation samples are also shown on **Figure 1**, below.

Please note that the samples collected during the historic use investigation as well as one of the historic samples were collected as grab samples from soil borings. Grab samples contain greater amounts of sediment than samples collected from monitoring wells which leads to increased metal concentrations. Therefore, both unfiltered and filtered groundwater samples were submitted for metals analysis.

FIGURE 1. DELINEATION LOCATIONS

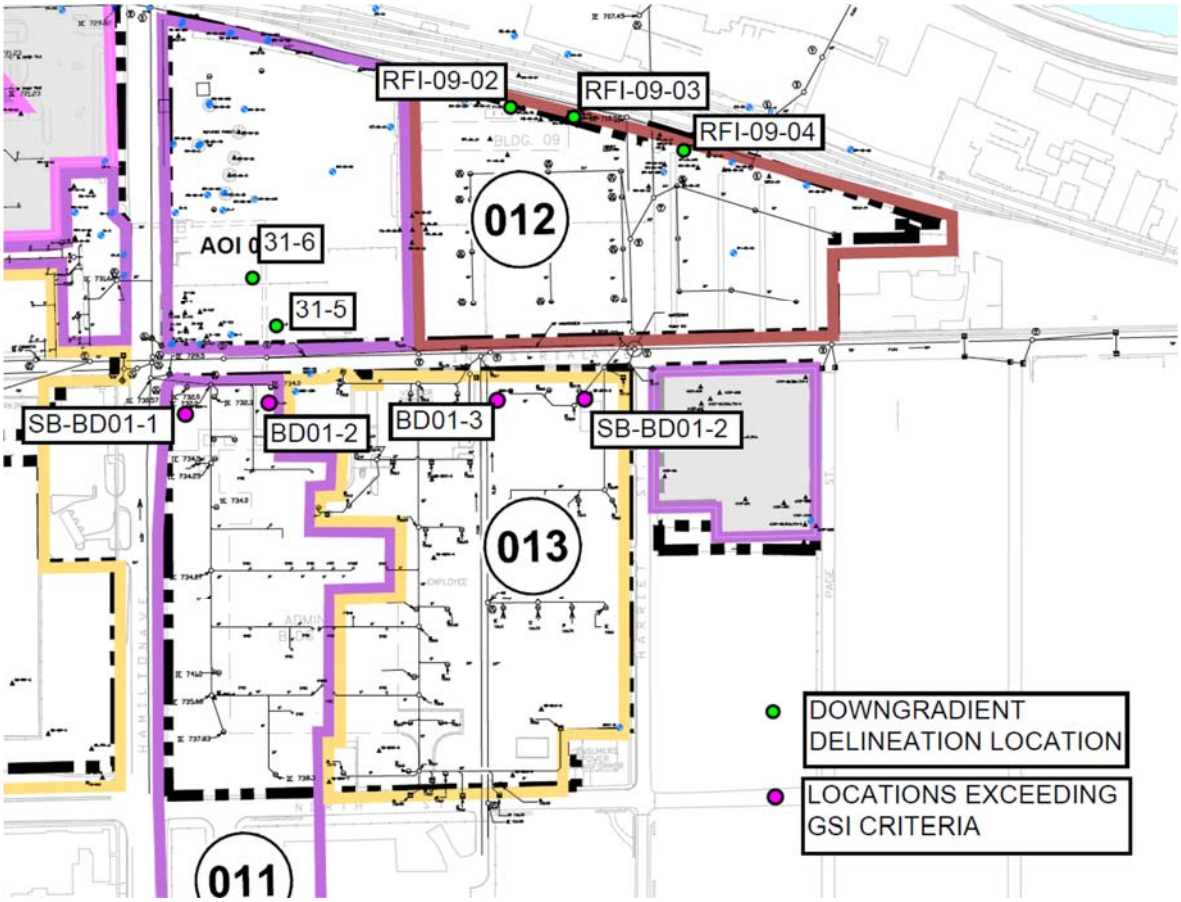

TABLE 1. DELINEATION SUMMARY

Analyte Exceeding GSI Criteria	Location and Exceedance	GSI Criterion	Delineation Locations	Concentrations in Delineation Samples [1]	Comments
Manganese, unfiltered	SB-BD01-01 7,070 ug/L	4,900 ug/L	31-5 31-6	5 ug/L 4.5 ug/L	Manganese did not exceed the GSI criterion in the SB-BD01-01 filtered sample, indicating that the impact is associated with sediment in the sample. Monitoring wells 31-5 and 31-6 are located downgradient of SB-BD01-1.
Mercury, unfiltered	SB-BD01-1 1.2 ug/L SB-BD01-2 4.5 ug/L	0.0013 ug/L	31-5 31-6 RFI-09-02 RFI-09-03 RFI-09-04	ND (0.2 ug/L) ND (0.2 ug/L) ND (0.2 ug/L) ND (0.2 ug/L) ND (0.2 ug/L)	Mercury was not detected in the filtered samples, indicating that impacts are associated with sediment in the samples. Monitoring wells 31-5 and 31-6 are located downgradient of SB-BD01-01. There are no wells immediately downgradient of SB-BD01-2. However, groundwater samples collected from soil borings RFI-09-02, RFI-09-03 and monitoring well RFI-09-04 did not detect mercury at the downgradient Site property boundary.
Selenium, unfiltered and filtered	BD01-02 5.1ug/L and 5.4 ug/L, respectively	5 ug/L	31-5 31-6	ND (0.2 ug/L) ND (0.2 ug/L)	Monitoring wells 31-5 and 31-6 are located downgradient of BD01-02.
Silver, unfiltered	BD01-03 0.64 ug/L	0.2 ug/L	SB-BD01-2 RFI-09-02 RFI-09-03 RFI-09-04	ND (0.5 ug/L) ND (0.4 ug/L) ND (0.4 ug/L) ND (0.4 ug/L)	Silver was not detected in the filtered sample collected from BD01-03, indicating that the impacts are associated with sediment in the sample. Silver was not detected in adjacent sample SB-BD01-2 or the groundwater samples collected from soil borings RFI-09-02, RFI-09-03 and monitoring well RFI-09-04 at the downgradient Site property boundary.

1. ND - Not Detected (Reporting limit).

EPA Comment 4

In Section 2.3.1 Groundwater Surface Water Interface Pathway it states: *Based on available elevation data the storm sewer is shallow (generally within 5 feet of ground surface) in this portion of the Site and sits above the groundwater table. Therefore, while soil and groundwater samples collected from the Admin Bldg No.1 Area exceed GSI and GSIP criteria for select metals the groundwater does not have a complete pathway to the storm sewer in this portion of the Site.*

Comment: Did your analysis take in to account the fluctuation in the groundwater table in evaluating the potential connection of groundwater with the storm sewer system, of note is the groundwater level in SB-BD01-5 (see Figure 3) where a nearby Storm Sewer Invert Elevation is less than 2 feet above groundwater.

> **Response**: The groundwater sample collected from SB-BD01-5 was a grab sample collected from a soil boring; therefore, there is not any historical or seasonal data available for this location. However, historic groundwater levels collected from monitoring wells BD01-01 through BD01-04 from 2002-2016 were reviewed. All measured groundwater levels were below the storm sewer invert elevations. The highest groundwater elevation was measured at BD01-02R (726.30), which is approximately 5 feet below the nearby storm sewer invert elevation. This highest historic groundwater elevation is also below all the sewer invert elevations in the Admin Bldg area.

EPA General Comment

The VOC results for benzene and methylene chloride in the former Fire Station area of the parcel have the potential for indoor air vapor intrusion. Please address these VOC results using the Nonresidential Vapor Intrusion Screening Values (SV_{VI}) per the MDEQ Guidance Document for the Vapor Intrusion Pathway

> **Response:** As discussed in detail below, as there are no structures at the Site and the water table is deeper than 3 meters, the Part 201 generic criteria are appropriate for comparison.
>
> On June 20, 2017, the Michigan Department Environmental Quality (MDEQ) rescinded the MDEQ Guidance Document for the Vapor Intrusion Pathway screening values in Appendix D.1 and D.2. The announcement from the MDEQ stated:
>
> > ***'Rescission of Screening Values:*** *The DEQ rescinds Appendix D of the 2013 DEQ VI Guidance. The vapor intrusion screening values provided in Appendix D.1 (i.e., Residential Vapor Intrusion Screening Values) and in Appendix D.2 (i.e., Nonresidential Vapor Intrusion Screening Values) of the 2013 DEQ VI Guidance no longer reflect the DEQ's determination of values that represent the best available information regarding the toxicity and volatilization to indoor air exposure risks posed by the hazardous substances*

as required by Section 20120b of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Because Appendix D has been rescinded, the values in Appendix D may no longer be utilized to conduct a site-specific evaluation of the volatilization to indoor air pathway (VIAP).

Site-Specific Evaluation: *Conditions that must exist in order for the generic criteria to apply are found in the Part 201 Administrative Rules for the generic Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC) and the Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC) [R 299.14(2) and R 299.24(2)]. If those conditions are not met and therefore the generic criteria do not apply, a site-specific evaluation of the inhalation risks must be conducted. Details regarding these conditions are contained in Appendix C of the 2013 DEQ VI Guidance Document - Checklist for Determining if Generic Volatilization to Indoor Air Inhalation Criteria Apply. These rules also contain a provision that allows the use of representative soil gas concentrations to demonstrate compliance with criteria for the VIAP [R 299.14(5) and R 299.24(5)]. This evaluation relies upon satisfying site-specific soil gas criteria.'*

R299.14(2) states: Except as provided in subrule (1) of this rule, if any of the following conditions exist, the generic criteria developed pursuant to this rule shall not apply and a site-specific evaluation of indoor inhalation risks shall be conducted:

(a) There is a structure present or planned to be constructed at the facility which does not have a concrete block or poured concrete floor and walls.

(b) The highest water table elevation of a contaminated saturated zone at the facility, considering seasonal variation, is within 3 meters of the ground surface.

(c) There is a sump present that is not completely isolated from the surrounding soil by its materials of construction, or there is other direct entry of contaminated groundwater into the basement.

Conditions a) and c) above are related to the construction of structures and presence of building sumps, which are not applicable as there are no buildings currently on-Site. Therefore, condition b) was used to determine whether a comparison to the Part 201 non-residential groundwater volatilization to indoor air (NGVIA) criteria or a site-specific evaluation is required.

Based on a review of available groundwater data in this portion of the Site the depth to groundwater is more than 3 meters and therefore the NGVIA criteria are the appropriate criteria for comparison.

R299.24(2) states: Except as provided in subrule (1) of this rule, if any of the following conditions exist, the generic criteria developed pursuant to this rule shall not apply and a site-specific evaluation of indoor inhalation risks shall be conducted:

(a) There is a structure present or planned to be constructed at the facility which does not have a concrete block or poured concrete floor and walls.

(b) There is a sump present that is not completely isolated from the surrounding soil by its materials of construction.

Since neither (a) nor (b) apply to the Site, as there are currently no structures present, a site-specific evaluation is not necessary. The generic Part 201 non-residential soil volatilization to indoor air (NSVIA) criteria are the appropriate criteria for comparison.

Therefore, methylene chloride and benzene at concentrations of 0.33 milligrams per kilogram (mg/kg) and 87 micrograms per liter (ug/L) do not exceed the NSVIA criterion of 240 mg/kg and the NGVIA criterion of 35,000 ug/L, respectively

Deed restrictions in this portion of the Site will include the following vapor intrusion restriction:

If, at any time after the recording of this Restrictive Covenant, the vapor intrusion pathway becomes applicable at this Property as a result of future property conditions, the Owner shall, with regard to any existing or proposed building on the Property do one of the following: Option 1) Evaluate and determine, in accordance with applicable environmental laws rules or regulations, that no unacceptable vapor intrusion risks to human health exist or will exist in any existing or newly constructed site buildings; or Option 2) Install, operate and maintain a vapor barrier and/or mitigation system designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into any building at concentrations greater than applicable criteria. This Section does not apply to short-term occupancy of a building for purposes of construction, renovation, repair, or other short-term activities as long as adequate health and safety precautions are employed during these activities, and they are performed in compliance with Section 20107a of NREPA.

If Option 2 above is selected, the Owner shall install and thereafter maintain a vapor barrier and/or install and thereafter operate and maintain a vapor intrusion mitigation system in accordance with applicable standards and criteria at the time, for the purpose of mitigating the potential intrusion of soil vapor below any human-occupied building constructed on the property after the date of this Restrictive Covenant until it is determined that a vapor barrier or mitigation system is no longer necessary in accordance with Option 1, above.