



City of **Montgomery**, Alabama

February 28, 2019

Ms. Samantha Downing  
Governmental Hazardous Waste Branch, Land Division  
Alabama Department of Environmental Management  
1400 Coliseum Boulevard  
Montgomery, AL 36110-2059

Subject: Risk Assessment/Alternatives Analysis Report – Downtown Environmental Assessment Project

Dear Ms. Downing:

On behalf of the Downtown Environmental Alliance (DEA), enclosed is the Final Risk Assessment/Alternatives Analysis (RA/AA) Report for the Downtown Environmental Assessment Project (DEAP). In addition, the following responses are provided from the DEA to the comments from the Alabama Department of Environmental Management (ADEM), dated September 27, 2018, on the Draft RA/AA Report:

- **ADEM General Comment #1:** *With the recent discovery of a ground level apartment within the site boundary, the Risk Assessment/Alternative Analysis Report (RA/AA) will need to be revised to factor ground-floor residents into the risk assessment. Please revise the report as necessary to capture this information.*

**Response:** Based on conversation between ADEM and the DEA representatives during the October 23, 2018 meeting, the DEA conducted an assessment to identify buildings with possible first-floor residential occupancy that could be impacted by potential vapor intrusion (VI). Although VI is most likely to occur within the tetrachloroethene plume extent to within 100 feet from the plume boundary, the DEA updated the property use survey reported in the Environmental Investigation Report (see Figure ES-1) by reviewing the current use of all properties located within the site boundary. To conduct the assessment, the DEA obtained through the city's Geographical Information System (GIS), parcel boundaries, parcel land use codes (such as residential, hotel, retail, etc.), basement locations, and ownership information for state, city, and the Retirement Systems of Alabama parcels. The results are presented on Figure 1-7 of the Final RA/AA Report.

After locations were mapped, the DEA conducted a windshield survey of all parcels classified as residential within the DEAP site boundary to identify which of these properties include first-floor residential occupancy. In addition, the owners or responsible individuals for the two properties identified with second floor apartments or lofts were called to determine if any apartments were located on the first floor. Based on the survey and phone calls, three parcels within the DEAP site were currently identified as having potential first-floor residential use as shown on Figure 1-7 and summarized below:

- 405 North Decatur Street – located two blocks north of MW-03S;
- 246 North Court Street – known as the 246 Lofts, southwest of the plume extent; and
- 215 North Court Street – known as the Printing Press Lofts, also southwest of the plume.



Although within the DEAP site boundary, all three of these parcels are located outside the 100-foot buffer of the plume footprint and areas of interest (AOIs) for VI (i.e., 100-foot radius of each location with an estimated soil vapor risk exceedance). An additional parcel in the northeast portion of the site (523 North Decatur Street) was identified as a residential lot, but currently there is no structure on the parcel (See Figure 1-7).

For the location previously identified as being occupied by a resident (308 Lawrence Street, as indicated to ADEM during the July 2018 meeting), a phone call interview was conducted with the owner on October 25, 2018, to confirm property usage. The owner indicated that the property was only used as a short-term rental, not a residence. Moreover, the basement is used for storage, the first floor is used for office space, and the typical stay does not exceed four nights. This building is not currently, and has not been, used for first-floor residential according to the owner.

Thus, our investigation has determined that no buildings with current first-floor residential use are located within the 100-foot buffer of the plume or AOIs for VI. However, because of the potential for first-floor residential use in the future, the risk assessment will evaluate this potential pathway in the RA/AA, even though none exist at this time. Moving forward, the anticipated institutional controls will address the establishment of first-floor residences within VI AOIs. Potential VI risk for future residents also will be considered in the Alternatives Assessment in the revised report.

- **ADEM Specific Comment #1 – Page 1-2; Section 1.1.2:** *As described in this section, the hydraulic studies at the downgradient edge of the tetrachloroethene (PCE) plume located adjacent to Cypress Creek took into account the potential effects of seasonality, and were conducted in the wet and dry seasons. Bullet No. 5 for the data collection objectives states, "Provide sufficient data to evaluate potential exposure risk." It is recommended that additional rounds of groundwater and soil vapor samples be obtained to determine any seasonal influences on concentrations or trends. Only one round of samples were obtained for both groundwater and soil vapor during July and September, respectively. PCE and trichloroethene (TCE) groundwater and soil vapor concentrations are sensitive to seasonal effects or other temporal influence, and therefore, it is inappropriate to base the risk assessment and alternatives analysis on only one sampling round. The sampling round with the highest concentrations should be used in the risk assessment.*

*While seasonal sampling for all wells may not be feasible at this time, limited seasonal locations would be considered acceptable for the RA/AA. Since locations MW-08S and MW-02S were above vapor intrusion screening limits (VISL), these locations would need to be included in a seasonal sampling event. Although the cancer risk at these two locations was below the Target Risk Level (TRL) of 1E-05 (3E-06 for TCE/PCE), the Hazard Quotients (HQ) were 1.0 (MW-08 for TCE) and 0.8 (MW-02S for PCE). In general, a sufficient increase in concentrations would not be expected to make the TRL exceed 1E-05, but an increase may cause the HQ to exceed 1.0. For this reason, the Department recommends additional seasonal sampling be conducted for MW-08S and MW-02S.*

**Response:** Seasonality will be addressed in the Uncertainty Section of the Risk Assessment (Section 2.1.4).

- **ADEM Specific Comment #2 – Page 1-3; Section 1.1.3.1:**
  - *In this section it is stated, "Because PCE is the parent compound, is historically identified as the source of the plume." The source area is considered a physical location. Please clarify this statement.*

**Response:** The sentence was revised as follows: "Because PCE was identified historically in the RSA Energy Plant excavation (the source of the plume) and is present over the largest extent, and there is no TCE exceeding the MCL, groundwater impacts were delineated to the MCL for PCE."

- *In order to better distinguish the extent of the PCE plume versus the TCE plume, please overlay the TCE plume on the PCE plume. Please include this overlay in the revised report.*

**Response:** TCE did not exceed the MCL; there is no TCE plume. This was presented in the *Supplemental Environmental Investigation Report*.

- **ADEM Specific Comment #3 – Page 1-5; Section 1.2.3** *The second paragraph states, "Following the removal action, concentrations of PCE were not identified above the EPA Regional Screening Level (RSL) in soil, indicating that the source was removed." Please provide the associated U.S. Environmental Protection Agency (EPA) RSLs utilized as the screening level values. Furthermore, it is not clear from this report if the PCE concentrations were compared to soil RSLs or groundwater protection soil screening levels (SSLs). If concentrations were only compared to soil RSLs and found to be less than the respective soil RSLs, this would not be conclusive to determine the source was removed. The current industrial RSL for PCE is 100 milligrams per kilogram (mg/kg), while the protection of groundwater SSLs are 5.1E-03 mg/kg and 2.3E-03 mg/kg for risk-based and maximum contaminant level (MCL)-based SSLs, respectively. Please include the sampling data used to determine that the source has been removed in the revised report.*

**Response:** All available information from the 1993 soil removal action was presented in the *Technical Work Plan*. There is no report documenting the removal nor are analytical data available. The reduction of the plume and concentrations at MW-01S (historical source area well) indicate that a residual source is no longer present as documented in the *Supplemental Environmental Investigation Report*.

- **ADEM Specific Comment #4 – Page 2-8; Section 2.1.4:** *The last sentence of this section states, "Therefore, as directed by ADEM, a further evaluation of potential potable use exposure scenario was performed in the RM-1 Evaluation." The Bus Station well has been described as a non-potable well and a modified tap water RSL was used for screening. The screening did not include ingestion; therefore, potable use was not evaluated, which contradicts the previous statement. Please clarify.*

**Response:** The sentence incorrectly indicated that a potable use would be evaluated although only commercial bus washing use was evaluated. However, based on the October 23rd meeting with ADEM, potable use is being evaluated in the revised report. The sentence was modified as follows: "Therefore, in accordance with ADEM guidance, a further evaluation of potential commercial and potable use of wash water at the bus station and hypothetical potable use of groundwater at the six monitoring wells was performed in the RM-1 Level Evaluation."

- **ADEM Specific Comment #5 – Page 2-8; Section 2.1.4:** *According to this section, "The HHRA [human health risk assessment] did not proceed to an RM-2 [risk management-2] Level Evaluation; an AA was performed to address potential risk identified in the RM-1 Evaluation. Therefore, additional evaluation at the RM-2 Level was not required in the HHRA." Please include an uncertainty analysis section in the revised report, which should include the following discussions:*
  - *A discussion of the use of only one round of seasonal sampling.*
  - *A discussion of the potential effects of seasonality on groundwater concentrations and soil gas concentrations.*
    - *USEPA's Determining Groundwater Exposure Point Concentrations (OSWER Directive 9283.1-42, 2014) states that if a seasonal or other temporal influence on contaminant*

*concentrations in groundwater has been identified, then the use of data collected during times of higher detected concentrations in the calculations is recommended.*

- *Similarly, soil gas may also be influenced by seasonal or temporal changes.*

**Response:** An Uncertainty Analysis will be added to the RA/AA Report to discuss these items.

- **ADEM Specific Comment #6 – Page 4-1 Section 4:** *The comparative analysis of the presented remedy alternatives is discussed in this section as "evaluating each alternative against the balancing criteria of long-term and short-term effectiveness; reduction of toxicity, mobility, or volume; implementability; and cost." Of the alternatives presented, the DEA has proposed Alternative 2 - Institutional Controls (ICs) with Five Year Reviews (FYRs) as the most appropriate for this site. While ICs with FYRs in part may be appropriate for this site, Alternative 3 - ICs with FYRs and long-term monitoring (LTM) appears to be more appropriate, as monitoring should be included as part of the remedy decision. Please address.*

**Response:** Alternative 3 – ICs with FYRs and Monitoring will be selected as the final remedy.

We look forward to receiving your review of these responses to comments. Should you have any questions regarding this document, please contact JP Martin with CH2M at 334.215.9036, or [j.p.martin@ch2m.com](mailto:j.p.martin@ch2m.com).

Sincerely,



Todd Strange  
Mayor, City of Montgomery

c: Downtown Alliance Members  
Ashley Mastin/ADEM  
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