



July 10, 2018

Mr. Eric Amadi  
Wisconsin Department of Natural Resources Southeast Region  
2300 North Martin Luther King Jr Drive  
Milwaukee, WI 53212

Re: DNR June 29, 2018 Approval Letter of Revised Supplemental Investigation Work Plan dated June 4, 2018

Former Koppers Tar Plant and Wabash Alloys Site  
9100 S. 5th Avenue, Oak Creek, WI  
BRRTS # 02-41-553761, FID # 241379050 Connell  
VPLE BRRTS # 06-41-560058  
Beazer VPLE BRRTS # 06-41-561509

City of Oak Creek Utility Corridor, Lot 1  
9170 S. 5th Avenue, Oak Creek, WI  
BRRTS # 02-41-561425, FID # 341074470  
Beazer VPLE BRRTS # 06-41-561426

Dear Eric:

We have reviewed the referenced Wisconsin Department of Natural Resources (DNR) approval letter. DNR approved work items A, B, and C with comments. The comments are provided below along with our response.

Work Item A. Installing additional soil borings to confirm the vertical extent of potentially mobile tar at selected locations.

- DNR Comment: Relocate the soil boring on the south side of the Naphthalene Building between borings B-05 and B-74.
- *Beazer Response: Comment noted and the soil boring will be relocated as requested.*

Work Item B. Installing an additional monitoring well in the City of Oak Creek utility corridor to evaluate hydraulic flow conditions.

- No DNR Comments

Work Item C. Conducting test pit sampling to determine the waste characteristics of soil containing observed tar.

- DNR Comment: The material from 0-2 feet bgs that will be excavated from the test pits should be segregated and removed from the waste characterization to eliminate the PCB-impacted material. Refer to the DNR's May 15, 2018 letter.
- *Beazer Response: Comment noted and the material from 0-2 feet bgs that will be excavated from the test pits will be segregated and removed from the waste characterization as requested.*

Work Item D. Collecting soil gas samples to evaluate the vapor intrusion pathway.

1. DNR Comment: Describe the purpose of collecting the vapor samples. Explain how the sub-slab and soil gas sampling results will be used and interpreted. Vapor sampling performed on a vacant property cannot be used alone to rule out the potential vapor risk to new building construction.

Per RR-800, Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin, dated January 2018: Section 5.0; page 20: Investigation for Vapor Intrusion - Future Development at Properties:

Since "the effect a future building will have on the migration of vapors cannot be determined until the building is in place, soil gas samples alone cannot be used to rule out the vapor pathway when other vapor screening criteria are exceeded (e.g. residual TCE contamination above the NR 140 ES is present at the groundwater table). For these situations, vapor control technologies will be required for future occupied buildings, unless remediation of the vapor source is completed, and/or a vapor investigation is completed after the building is constructed and the DNR agrees that vapor control technologies are not needed."

*Beazer Response: The potential for vapor intrusion is one of WDNR's stated drivers for remediating tar, but no soil vapor samples have been collected as part of any site investigation work conducted at the Site. The purpose of the sampling is to provide an initial baseline assessment of the nature and extent of VOCs in soil gas under pre-remediation conditions and to assess to what degree the residual DNAPL materials at the Site may pose a potential soil vapor risk. We understand that vapor sampling performed on a vacant property cannot be used alone to rule out the potential vapor risk to new building construction. Beazer's previously submitted Remedial Action Options Report (RAOR) proposed requiring vapor mitigation systems for new construction. This requirement, as outlined in the RAOR, would still be implemented.*

2. DNR Comment: The four sub-slab samples that are proposed below the former building's concrete floor are in locations that do not reflect the highest naphthalene concentrations and therefore, the highest potential vapor risk. The sample collection should occur at a time when the water table is not at the surface or in contact with the building foundation, based on previous reported water level measurements.

*Beazer Response: The highest naphthalene concentrations below the former building's concrete floor are found at B-87 (2,500 mg/kg at 15'), B-5 (444 mg/kg at 7.5') and B-71 (190 mg/kg at 15'). Sub-slab soil gas samples are proposed at all three of those locations. Samples will be collected at a time when the water table is not at the surface or in contact with the building foundation. (We*

*request clarification on DNR's comment if it still disagrees that soil vapor samples are not being collected at the locations of the highest naphthalene concentrations.)*

3. DNR Comment: The eight soil gas samples that are proposed outside the footprint of the former building foundation may not be representative of soil vapor conditions, because the shallow water table (historically reported to be between 1-3 feet bgs) will limit the sampling depth to less than 3-4 feet, thereby possibly introducing ambient air to the sample. The revised Report states that the shallow water table is approximately 4-6 feet bgs, however historical data indicates shallower depths.

Per RR-800, Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin, dated January 2018: Section 5 .4.2; page 26: Depth for Soil Gas Samples:

The sample depth will depend on site conditions, and multiple depth intervals may be needed. Soil gas samples must be set at least 3 to 4 feet below the ground surface.

*Beazer Response: We intend to place soil gas probes at a depth that is above the water table which may be shallower than 3-4 feet below ground surface depending on location. The plan calls for leak testing to determine if ambient air is being introduced to the sample.*

DNR approves the plan to conduct the proposed vapor screening, taking into consideration the recommendations noted above. Vapor sampling performed on a vacant property cannot be used alone to rule out the potential vapor risk to new building construction. Additional assessment will be required in conjunction with future redevelopment.

*Beazer Response: Comment acknowledged.*

### Incomplete Site Investigation

DNR Comment: In the DNR's July 14, 2017 letter, the site investigation was determined to be incomplete. One of the remaining items that has not been addressed in a work plan proposed by Beazer is the DNAPL migration. Following completion of the site investigation, the RAOR must be revised to present a more comprehensive understanding of the degree and extent of contamination in all environmental media per NR 716.11 (3) (a) including DNAPL tar migration.

*Beazer Response: We request clarification, as the intent of this comment is not clear. The DNR states that the site investigation was determined to be incomplete and that one of the remaining items that has not been addressed in a work plan proposed by Beazer is the DNAPL migration. The letter references NR 716.11 (3) (a) which states: "Determine the nature, degree and extent, both areal and vertical, of the hazardous substances or environmental pollution in all affected media". Past investigations have collected information on the nature, degree and extent of DNAPL tar and the additional soil borings proposed in the revised supplemental work plan are intended to complete this determination, as discussed with the DNR during an August 17, 2017 meeting. We do not want to implement the proposed work plan, only to have the DNR later state that the site investigation is not complete because DNAPL migration has not been addressed. Is it the DNR's position that DNAPL migration will not have been addressed even after the current work plan*

*is implemented? If so, we request additional information from the DNR regarding what additional investigation it believes may be necessary to address the DNR concerns so that this work plan might possibly incorporate such work.*

Before implementing the proposed work plan, Beazer respectfully requests that the DNR provide clarity concerning the items noted above.

Sincerely,

Tetra Tech, Inc.

A handwritten signature in black ink, appearing to read "Michael R. Noel". The signature is fluid and cursive, with the first name "Michael" being the most prominent.

Michael R. Noel, P.G.

Vice President, Principal Hydrogeologist

cc: Mike Slenska, Beazer East, Inc.  
Mike Kellogg, Connell Aluminum Properties  
Julie Zimdars, OBG  
Attorney Larry Haskins, City of Oak Creek