State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott Walker, Governor
Cathy Stepp, Secretary

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January 10, 2012

MR MARK THIMKE
FOLEY & LARDNER LLP
777 E WISCONSIN AVE
MILWAUKEE WI 53202-5306

Subject: WDNR Comments on the Recommended Corrective Actions for Off-Property Areas, Koppers Inc. Facility, 3185 South County Highway A, Superior, Wisconsin
WDNR BRRTS #02-16-000484

Dear Mr. Thimke:

The Wisconsin Department of Natural Resources (WDNR) has received correspondence from Beazer East, Inc. (Beazer) dated December 7, 2011, including the document entitled *Recommended Corrective Actions for Off-Property Area*. As was stated at our meeting on December 21, 2011, the WDNR appreciates that Beazer has provided this document as a starting point for our discussions to address the off-site contamination associated with this site.

As we indicated at the meeting, several WDNR staff members from our Waters and Remediation and Redevelopment programs have taken time to conduct a preliminary review of the document and provide their thoughts and comments regarding the recommended corrective actions. Please consider these comments as a means to provide a framework and identify regulatory sideboards for further discussions as we move towards a comprehensive and mutually-acceptable cleanup plan. As we stated at the meeting, we are not seeking a point-by-point response to these comments. We are simply providing them so that you have a better understanding of our concerns on various issues that will come up as we work collaboratively on corrective actions for this site. I have attempted to group the comments into related categories as best I could. Hopefully you will find them helpful.

During our December meeting, Jane Patarcity indicated that Beazer has previously evaluated many of the issues associated with the scoping of corrective actions in the off-site areas, and that technical reports and other documents have been prepared to support these evaluations. We would appreciate being given the opportunity to review any pertinent documents prior to our February meeting so that we might gain a better understanding of your proposal and perhaps move us further towards consensus.

Thank you again for your willingness to discuss a common approach to addressing the off-site contamination associated with the Koppers facility. We look forward to meeting with you in February to work toward a mutually agreeable technical solution. If you have any questions concerning this letter or the project in general, please do not hesitate to write or call me at 715-685-2920. I can also be reached by e-mail at Christopher.Saari@Wisconsin.gov.

Sincerely,

Christopher A. Saari
Hydrogeologist

attach. WDNR Comments on the Recommended Corrective Actions for Off-Property Areas, Koppers Inc. Facility – Superior, Wisconsin, January 10, 2012

cc: Jane Patarcity – Beazer East, Inc.
Jeff Holden – Arcadis
John Robinson – DNR Wausau
Mark Giesfeldt – DNR Madison
Steve Galarneau – DNR Madison
Nancy Larson – DNR Ashland
Joe Graham – DNR Ashland
Jim Killian – DNR Madison
Bill Fitzpatrick – DNR Madison
Steve LaValley – DNR Superior
Xiaochun Zhang – DNR Madison

WDNR Comments on the Recommended Corrective Actions for Off-Property Areas
Koppers Inc. Facility – Superior, Wisconsin, January 10, 2012

1. Degree and Extent of Contamination

- This proposal contains no discussion of contamination downstream of the railroad embankment (beyond Area C). The Department feels that, based on observations of contamination (e.g., sheens and odors) and elevated dioxin levels (at or above the probable effect concentration in WDNR's Consensus-Based Sediment Quality Guidelines) below the embankment, this area will need to be further evaluated for corrective actions as well.
- Creosote has infiltrated clay fractures up to 24 feet bgs up to 300 feet from the channel. This is probably worst case. The areal extent to this depth is unknown and may be limited (to Area A?). The degree and extent of contamination is not completely known since some borings were not advanced to depth or laterally into clean material.
- Previous investigations indicated significant contamination present in the so-called Ponded Area of Crawford Creek, just upstream of the railroad embankment. As this is also very near the location where the proposed new Area C stream channel would re-join the existing channel, further delineation of contaminants should be completed.
- The Department is concerned that groundwater quality in the off-site areas has never been evaluated, and this proposal does not address those concerns. The presence of creosote product within the floodplain and sediment matrix suggests that groundwater impacts are likely. Are dissolved-phase contaminants discharging to the stream system? Is the stream gaining or losing, and does this change over time?

2. Regulatory Approvals and Permits

- A proposal to alter a navigable stream must be found to be in the public interest in order for it to be permitted under Wisconsin Statutes. Ultimately the Wisconsin constitution provides that the public has access and rights to navigable waterways.
- Waterway and wetland permit approvals for this proposal would be extremely difficult. Wetland mitigation might be necessary for the disturbance. The US Army Corps of Engineers could also require mitigation for the proposed alternative of capping and moving the stream thread as part of their separate permit approval process.
- Based on the source of contaminants in the off-site areas, Beazer would need to make a hazardous waste determination before actively managing (e.g., excavating or dredging) any material in the floodplain or stream. If the material is determined to be a hazardous waste, it is extremely unlikely that an approval could be granted for the material to be placed back on the floodplain (Area B) or used as fill material in the old channel (Area C).
- The actions described in this proposal would be considered a Type 2 activity under ch. NR 150, Wis. Adm. Code, and might require that Beazer conduct an Environmental Assessment as part of the Department's approval process.
- Will the change of course of Crawford Creek trigger additional analyses required by the Federal Emergency Management Agency (FEMA)?

3. Access Issues

- The proposal states that difficult access conditions and the depth of the contamination in the floodplain soil make excavation too difficult and costly. There are similar concerns spelled out that wetland soils are soft and restrict access to work areas, resulting in the need to construct substantial access roads. However, the proposal recommends bringing in heavy equipment and hauling in fill material, reactive mats and heavy gabions to perform filling and capping activities, all of which would be subject to the same access difficulties. If access is too challenging for excavation and removal of material, then how will the site be accessed for capping and relocating the stream? Consider use of timber mats, temporary fill roads, ice roads, etc.
- The proposal states that the floodplain is susceptible to flooding and represents risk for inundation of equipment and work areas. The risks of working in floodplains can be mitigated by working in winter, adequate pumps and backups, staging/phasing work in smaller areas, coffer dams, sheet piles, etc. The Department contracted work on Newton Creek and the City of Superior has completed rehabilitation work on Central Park Creek in this same general area, so with adequate planning, work on and around flashy clay streams is feasible.
- The proposal states that depth of contamination up to 24 feet (worst case – limited areas) would necessitate "extensive engineering controls" and management of water. The use of trench boxes, sheet piling, and stream dewatering practices are common practices at construction sites, especially those near waterways (e.g. culverts, bridge, and utility projects). These are hardly extensive engineering controls.
- The proposal states that private property owners are concerned about disturbance. If owners deny access for the remedy then the Department could consider those property owners responsible for the contamination on their property. In light of this it seems unlikely that owners would accept liability for contamination simply because they don't want the property disturbed. There are three property owners along the course of contamination addressed in the proposal. Based on an interpretation of Douglas County's on-line property records in October 2011, Beazer East, Inc. owns the first segment of Area A from Hammond Avenue to the railroad embankment. Private owners (Kolanczyk) own the remainder of the tributary (Area A), all of Area B, and the first part of Area C. The remainder of Area C (i.e. Crawford Creek to the railroad embankment) is owned by Douglas County. The Department partners with Douglas County on projects within the St. Louis River Area of Concern (AOC), and this site is a high priority for the AOC. It would seem likely that Douglas County would agree with disturbance for improved conditions in the AOC.
- Site access for Areas B and C and portions of Area A below the railroad embankment may be attainable from Hammond Avenue across the floodplain (Kolanczyk). The first segment of Area A above the railroad embankment to Hammond Avenue could be accessed from Beazer East's property (i.e. the pink house on Hammond Avenue). Site access along the floodplain may require working with one additional land owner if access can't be obtained from the Kolanczyk property.

4. Protectiveness

- The proposal seems to work under an unstated assumption that only the "creosote-like product" is a concern. Other contaminants are present in the sediments and floodplain that are not associated with the creosote (i.e., dioxins, pentachlorophenol). The site falls within the St. Louis River AOC. One of the goals of the AOC and the international Lake Superior agreements is to eliminate persistent bioaccumulation chemicals such as dioxins.

- This proposed design would degrade the habitat and functions (especially flood attenuation) of the wetland, leave considerable ecological risk behind and require significant on-going maintenance and long-term monitoring.
- Restoration should consider imported clean materials and softer stream bed and bank restoration techniques. Dredge materials from the Duluth-Superior harbor should be investigated as a source of clean material. To restore wetland functions and help provide a native seed bank the use of marsh excavation from DOT or other projects may also need to be considered.
- Area A – The design recommends a reactive mat covered with up to 3 feet of fill. Raising the creek bed 3 feet may introduce instability to the stream and encourage the stream to seek another alignment which would be outside of the design channel and promote erosion. If the creek can successfully be contained in the design channel the stream environment will be permanently altered and will be isolated from the natural bed and bank and function in a manner like a stone lined drainage ditch. This is not a desirable condition.
- Excavation in the ditch (Area A) will expose some of the heaviest contamination. An improper design of the ditch also has a significant risk of causing failure of the railroad grade.
- Footnote 1 on the bottom of page 4 says, *"The portion of the tributary between Koppers property and Hammond Avenue would be addressed in a similar manner as the completed on-property remedy: removal of up to 2 feet of affected bottom and bank materials, installation of an engineered liner system, including Reactive Core Mat (RCM)."* Why can't removal of affected bottom and bank material in the tributary continue beyond Hammond Avenue into Areas A & B? Especially the first part of Area A from Hammond to the railroad embankment which is owned by Beazer?
- Area B – The proposal calls for 3 to 4 feet of excavation of the stream bed and banks and backfilling with a foot of riprap. The excavated material would be side cast onto the floodplain. This design will also raise the bed of the creek by 2 feet creating the potential for instability in the stream and potentially encourage the creek to leave the design channel and excavate a new channel in the floodplain at a lower elevation. The design will leave the creek bordered by levees constructed out of the side-casted excavated materials that isolate the creek from the floodplain. The design would leave the creek as a riprap lined drainage channel. This eliminates habitat and values of the natural stream and is not supported by the Wisconsin public trust doctrine.
- Area C – The design would relocate the channel and reduce stream length by 60% to 70%, eliminate meander loops, and produce a replacement channel nearly twice the width of the existing channel. The channel shortening and armoring of the banks is contrary to modern stream restoration designs and is likely to induce instability that would encourage the creek to attempt to erode the bank and bed to recreate the existing meandering pattern. The proposed channel would also degrade the available stream habitat and may function as a drainage ditch. This is not a desirable condition for a wetland stream.
- Does this proposal really address the ecological pathway? The design will require considerable excavating and importing of fill and other construction materials at a level of effort that is on par with dredging alternatives that could do significantly more to remove the contamination from the wetland and result in less armoring of the stream bed and bank materials.

5. Long-Term Care and Maintenance of the Remedy

- Perpetual care or maintenance of the site: The proposal calls for an armored cap over geotextile mat. The capping would occur in high energy areas and a floodplain which present substantial long-term risk for failure. Who would be responsible for perpetual maintenance of the cap and what assurances would be made for inspections and for taking corrective actions?

- Post-construction monitoring of 1-3 years for establishment of vegetation and function of restored conditions is inadequate to ensure continued functioning of the project. The current proposal leaves contamination in place and would require perpetual monitoring of the structures and sufficient funding for continued repair of the stream structures. Projected maintenance cost should also include the need for maintaining access agreements with the property owners.
- Monitoring for establishment of invasive species with plan for control is needed for at least 5 years and possibly longer.
- We are interested in working with you toward a redesign that includes more excavation and removal of contaminants from the wetland. The recommendation could include a mix of dredging to remove as much as practicable followed by capping where appropriate to reduce the exposure and transport of the contaminants. A successful design should minimize the need for future maintenance and monitoring.
- The corrective action design should evaluate what happens if the railroad embankment is modified or removed in the future. What affects could this have on flow in Crawford Creek? How would this then affect the remedy, especially capped areas in the floodplain?
- How long will the reactive core mat last? In other words, once the activated carbon in that mat has been spent, does it serve any remediation purpose?
- The company should investigate the potential to landfill excavated material at the "on-site" property – Koppers site through a Corrective Action Management Unit (CAMU).