

January 26, 2007

US Army Corp of Engineers, Louisville District
ATTN: Jarrett, CELRL-OP-FS
P.O. Box 59
Louisville, KY40201-0059

**Re: LRL-2006-859.jpg
Objections of the Kentucky Waterways Alliance regarding Poe Companies
proposal to realign Middle Fork Beargrass Creek.**

Request for Public Hearing.

Dear Dr. Grace-Jarrett:

I submit these comments on behalf of the Kentucky Waterways Alliance regarding the proposed permit LRL-2006-859.jpg, for Poe Companies LLC (“Applicant”). The Kentucky Waterways Alliance, Inc. (KWA) is a statewide nonprofit organization dedicated to protecting and restoring our waterways. The Kentucky Waterways Alliance represents over 500 members and affiliate organizations united to ensure high quality water resources in Kentucky for diverse recreational activities such as swimming, boating, and fishing as well as reliable drinking water supplies.

The Kentucky Waterways Alliance has been involved in advocacy and education projects for Beargrass Creek for more than a decade. In 1995, KWA provided funds to the Beargrass Creek Task Force to pay for some of the original Beargrass Creek signs. In 1997, KWA sponsored the development of a slide show on nonpoint source pollution in the watershed. KWA is the fiscal agent for Salt River Watershed Watch, a citizen science-based group that monitors Beargrass Creek and other streams in the area. KWA partnered with MSD and the Jefferson County Conservation District in the development of a watershed plan and a scientific "Report Card" on the health of the stream system. Culminating that effort in 2005, a "Beargrass Creek Watershed Roundtable" sponsored by KWA presented workshops attended by approximately 150 people. The current President of KWA, Bruce Scott, has been an advocate for Beargrass Creek for a decade.

We believe the proposed permit action does not sufficiently protect the Middle Fork of Beargrass Creek; and the proposed on-site mitigation through the relocation of Beargrass Creek is not feasible and appropriate. Due to the unique nature of the creek on the River Metals site, the habitat assessment based on USEPA's Rapid Bioassessment Protocol is inadequate to quantify existing and proposed stream conditions and is the wrong tool to use to calculate mitigation credits for this project. The notion that the shortening and relocation of the stream counts for mitigation is tenuous at best.

The applicant should be required to fully develop other design alternatives that do not relocate the stream. Any proposed stream alterations need to be fully described and supported with an alternatives analysis along with additional hydraulic and geotechnical analyses that more appropriately addresses actual conditions than the analog reference-reach method that the

applicant used. Overall, this project is neglecting a great opportunity to carry out sustainable urban design that better meets the needs of the environment and people of the Irish Hills and surrounding neighborhoods.

Stream Morphology Technical Review

The Kentucky Waterways Alliance retained a professional Environmental Engineer with specific background in stream morphology and first hand experience with Middle Fork Beargrass Creek to provide technical review of the proposed permit application. The findings of this critical review are summarized here and the technical report attached for consideration with our comments.

The application does not address upstream or downstream effects of the proposed channel straightening and realignment on flood flows or channel morphology. Therefore, KWA believes LRL-2006-859.jpg should be denied.

1. Existing Versus Proposed Condition Analysis

The analysis lacks consideration of important hydraulic influences of bends, bridges, and debris, and it relies on uniform flow assumption (unobstructed flow) in the highly obstructed existing channel. The use of a reference reach approach in this complex urban condition is inappropriate, given the likely effects of flow constrictions and the high percentage of artificial substrate that appears to be present in the streambed and along the stream banks. The application is devoid of the non-uniform flow hydraulic analysis required to properly assess the boundary stress, flow velocity, and erosion potential in the existing reach, the reference reach, and the proposed reach.

2. Channel Bed and Bank Structures and Floods above Bankfull

An analysis of the probable effects on channel materials of floods above bankfull was not conducted. Under the severely increased stress conditions of the proposed project, very deep scour holes at in-structures should be anticipated for flood events. These deep scour holes are likely to cause the failure of the in-stream structures such as cross-vanes.

3. Bend Material

No indication of a geotechnical investigation of the materials at the proposed location of the channel was provided. The channel and proposed structures are not likely to remain stable under these (silt and sand) substrate conditions. Given the proposed pool depths of 9-10 feet and riffle depths of 4 feet, maintaining stability of the cross-vanes will be difficult if not impossible without armoring the bed and banks of the entire restored reach with riprap.

4. Reference Reach Analysis

Given that the bridge was ignored in the assessment of the existing reach, the designers may have not considered potential backwater effects or man-made or imported substrate at the reference reach. The use of a reference reach without consideration of backwater effects from stream constrictions such as bridges, culverts and bends will produce channel design parameters, which are unreliable.

5. Upstream and Downstream Impacts

No analysis of probable effects was conducted for reaches upstream or downstream of the proposed site. Reducing the channel length by 400 feet, removing the bridge restriction, and removing several bends will cause an increase in the flow velocity within and upstream of the project area. This will tend to destabilize the upstream channel and may affect the stability of the channel at several upstream bridges and culverts. A thorough investigation of the potential upstream effects should be conducted for at least the bankfull flow event, the 100-year event, and other flood events that could cause instability at bridges and other infrastructure such as underground sewer lines and other utilities.

Unfortunately, the analysis and plan indicate that the proposed realignment will fail, will cause instability in the upstream channel, and could potentially cause damage to infrastructure. At a minimum, additional hydraulic analysis is needed.

Insufficient Bioassessment Protocol and Mitigation

The Applicant has failed to provide sufficient biological assessments of the stream segment. Appendix D of the application reveals only two habitat assessments were performed. The USEPA's Rapid Bioassessment Protocol (<http://www.epa.gov/owow/monitoring/rbp/index.html>) states:

Select the reach to be assessed. The habitat assessment is performed on the same 100 m reach (or other reach designation [e.g., 40 x stream wetted width]) from which the biological sampling is conducted. Some parameters require an observation of a broader section of the catchment than just the sampling reach.

Additionally, the very guidance utilized by the Applicant for scoring and data results requires biological assessment.

“Information obtained from the habitat assessment can be used to supplement biological and physicochemical data when determining the overall health of the stream reach and stream-use designation.”¹

“Parameter coverage varies depending on the objective(s) of the survey. Full coverage includes collection of habitat, biological, physicochemical and sediment samples. Biological samples include algal, macroinvertebrate and fish collections. Sampling of more than one taxonomic group encompasses more than one trophic level (primary producers and secondary and tertiary consumers) and provides a more realistic evaluation of the aquatic ecosystem. Full coverage may also include fish/shellfish contaminant analysis, bacteriological analysis and/or toxicity testing. Analytical chemistry parameters are selected based on the objectives of the study. At a minimum, hand-held multi-parameter meters that measure temperature, dissolved oxygen, pH and specific conductance should be employed on each sampling occasion. Habitat assessment (Chapter 6) is based on conditions observed at a site and the immediate area around the site at the time of the survey.”¹

Because the stream banks have been covered with construction debris and other hard fill, and culverts contain debris lodges, creating a backwater effect and restricting the flow regime; the sole use of habitat to assess aquatic life biases the assessment. If the foreign material were removed, the reported habitat scores would increase, requiring more extensive mitigation than currently proposed. Middle Fork Beargrass Creek immediately upstream of the reference reach was recently removed from Kentucky's 303(d) list of waters impaired for Aquatic Habitat, providing further verification of the potential for enhanced biological habitat. The Applicant should be required to provide a comprehensive bioassessment including fish, macroinvertebrates, and algae before the stream is characterized as average to poor.

Combined Sewer Overflow #80

The River Metals site and current Middle Fork Beargrass Creek stream segment under consideration for realignment contains Combined Sewer Overflow #80. The Applicant's current 404-permit application provides no evidence to determine how the new stream channel will incorporate the Consent Decree plan for the City of Louisville as it relates to CSO #80 and does not address the potential to eliminate CSO #80.

¹ Kentucky Division of Water. 2002. “Methods for Assessing Biological Integrity of Surface Waters in Kentucky.”

Additionally, the Applicant has failed to address the feasibility of extending the CSO #80 discharge point across the expanse of the project to the newly constructed stream segment. The installation of a CSO outfall in the new stream segment will degrade water quality, increase sedimentation at the discharge point, and diminish the Applicant's mitigation claims to construct 1000 linear feet of excellent quality stream channel using natural design techniques. The Applicant should be required to coordinate with the Metropolitan Sewer District to address the potential to eliminate CSO #80 while restoration and enhancements are underway in the existing stream channel.

Inadequate Alternatives Analysis

The Applicant has failed to perform a meaningful Alternatives Analysis. The claim that the Selected Alternative "offers the least environmentally damaging, practicable alternative" and the Limited Development Alternative "would not provide sufficient development to justify the purchase of the property and environmental clean up of the entire site, and the stream would remain in its degraded state" is unsubstantiated. The Applicant should be required to produce an Environmental Impact Statement with a quantifiable Alternatives Analysis before permit issuance. The "status quo" – the current degraded state of the natural stream channel may be preferable to the proposed new development action plan.

The Kentucky Waterways Alliance believes LRL-2006-859.jpg should be denied. If the Corp of Engineers proceeds with the permit action, we request a formal public hearing on the draft permit so that our members and other members of the public have an opportunity to voice their concerns on this permit action. Our interest in the proper protection and restoration of Middle Fork Beargrass Creek will be damaged by the issuance of this permit. As proposed we do not believe this project serves the public interest.

As an urban stream, Middle Fork Beargrass Creek has been profoundly impacted by previous hydromodification projects and degraded by point source and nonpoint source discharges. The stream segment under consideration in this permit action is one of the last remaining natural meanders; and possesses historical and cultural significance for the surrounding Irish Hills neighborhood. The existing stream channel should be restored and protected and the River Metals site development should utilize sustainable urban development practices to guarantee healthy functioning of the stream and the safety and enjoyment of its neighbors.

Thank you for considering our comments.

Respectfully submitted,

Jason Flickner
Water Resources Program Director