Updated: Response from Dr. Field to Community Questions May 7, 2021

Using the latest Forum posts regarding the restoration projects as a starting point to discuss an alternative approach beyond doing nothing I'd first like to ask: What is the "genius" in the County's plan to fill the gullies with imported sediment up to a depth of 12 feet to replace all of that which the streams have spent the past several decades washing downstream, thus making more sediment available to wash downstream and potentially doubling the harm to Chesapeake Bay?

The tight meanders downstream of the gullying at the bottom of Brickelmaier have changed little for hundreds of years – an historic landscape treasure that should be preserved. Yet the County plans to completely realign these unaffected meanders into a straighter configuration, which they claim is needed to fix an erosion problem that is actually several hundred feet upstream. More genius.

These are the mistakes that arise when experts in other fields such as engineering or ecology become involved in stream restoration (a geological discipline) to both set policy on Expert Review Panels and design projects for Counties and municipalities with lots of money that must be spent to fix problems that are gladly exaggerated to earn more cleanup "credits" mandated by EPA. Sadly, these types of "restoration" projects are not restricted to HH but are happening throughout the DC metro region and around the country with ineffectual results (see attached photo of Strawberry Run in Alexandria - dashed red line indicates level of "restored" channel when construction was complete - and a scientific article from NC).

Doing nothing would in fact be better than repeating these same mistakes in HH (but not the only other option - see below). The current erosion is essentially a reflection of the streams' slow self-healing process in response to the development of the neighborhood decades ago and perhaps more recent concentration of flow in culverts, etc. Active erosion today is almost exclusively restricted to the "headcuts" where the streams drop off into the gullies. The gullies further downstream are largely "healed" with additional erosion unlikely as I pointed out to the many that walked the streams with me last summer.

Having said that, I do think there is a better alternative than just doing nothing. The idea is to place wood in the channel in such a way as to enhance the stream's self-stabilization process, arrest the active erosion at the "headcuts", and trap sediment in the streams rather than having it move downstream to the Bay. This would allow the County to earn their "credits" for reducing sediment while also addressing the erosion that is of concern to many residents, all at minimal cost and disturbance to the Parks. I have

completed many similar projects in similar tight quarters like the narrow gullies. Such projects can be completed by either simply using a chain saw and experienced sawyer able to directionally fell trees into the channel or using heavy machinery depending on the setting, etc. Given that hundreds of trees are slated for removal as part of the County's current plan, perhaps felling a couple dozen trees (of varying size) in the Parks would be acceptable to the community to more effectively meet the County's and CAHH's goals in less than a week's worth of work (rather than 18 months) and at a far lower cost (well under $100k compared to over $1 million) while preserving the character of the Parks that make the neighborhood such a special and unique place. Sometimes complex problems are best resolved with simple solutions.

This idea is currently only a concept and not a construction ready document but it's a starting point towards a win-win solution for everyone. This simple alternative solution could likely be designed, permitted, and completed within the County's anticipated 18-month construction timeline – all it takes is the community coming together as so many have expressed a desire to see. The use of wood in stream restoration is not a silly pie-in-the-sky idea that won't work in HH, but rather is a well-documented and researched approach to stream restoration as demonstrated by the "National Large Wood Manual" published in 2016 by the US Army Corps of Engineers – not exactly a group of easily dismissed tree-hugging flakes! (A link to the manual itself that is over 30MB can be found at https://www.usbr.gov/research/projects/detail.cfm?id=2754.)

- Dr. John Field, Stream restoration specialist for 25+ years

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