



July 17, 2017

**Ryan M. Whittington, E.I.T. Consultant Project Management (HNTB)  
PA Department of Transportation  
Engineering District 6-0  
7000 Geerdes Boulevard, King of Prussia, PA 19406**

**Re: Draft Categorical Exclusion Evaluation – S.R. 1012, Section BRC, Headquarters Road / Tincum Creek**

Mr. Whittington:

The Pennsylvania Department of Transportation's ("PennDOT") continued failure to recognize the scope and magnitude of the environmental issues at the Headquarters Road bridge supports and advances that a Categorical Exclusion ("CE") is not warranted for this project. Clearly, a "substantial controversy on environmental grounds" exists between (a) professional scientists and local residents, who have documented the negative environmental effects of the proposed work, and (b) the PennDOT engineers asserting a Categorical Exclusion, who minimize the very real adverse impacts of their proposal.

The "Comment Response Document" ("CRD"), dated May 17, 2017, prepared to address outside comments on the Draft Categorical Exclusion ("DCE"), is the latest and perhaps most egregious example of engineers trivializing serious environmental consequences for the environment and proposing "solutions" that will contribute, exacerbate and accelerate damage to Tincum Creek, an example of the highest level of antidegradation stream within the Commonwealth of Pennsylvania.

Central to PennDOT's failure is an unwillingness or an inability to engage in channel stability questions in a holistic manner, instead proposing "band-aid" solutions that are routinely used by engineers and which routinely fail to address the underlying problems, and thus magnify and exacerbate those problems.

One of the central issues with the Headquarters Road bridge is the recent migration (over the last one to two decades) of the Tincum Creek channel to the west in the stream reach immediately upstream from this 200 year-old bridge. This recent movement, if not directly addressed in the bridge rehabilitation, threatens to expand the instability and environmental damage to Tincum Creek in the foreseeable future.

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“Substantial controversy on environmental grounds” is clearly exemplified in the CRD on pg. 9, response “c” to the Army Corps of Engineers written comment (Comment #2) regarding downstream impacts to the mature riparian corridor from the bridge replacement and realignment. Instead of directly engaging in this substantive environmental issue, the CRD instead dances around it with semantics and argues that downstream impacts are over-stated because the bridge will not be moved and the new position will not cause appreciable downstream scour:

*“The recommended preferred alternative proposes a bridge with one pier and two abutments; however, the stream will not be moved 15 feet to the west as some comments have noted. The intent of the proposed work is to move the waterway obstruction (the bridge abutment) out of the stream so that the structure spans the natural banks of Tinicum Creek while maintaining the existing stream bank location.”*

The PennDOT engineers engaged in evaluating the environmental impacts do not recognize the movement of the western bridge abutment (and thus the overall bridge) as synonymous with moving the stream, but instead see this movement as simply getting the bridge out of the way of the stream. Such failure to recognize the movement of the western bridge abutment by 15 feet as a significant new source of instability and scour for the Tinicum Creek channel is a major failure in judgement and understanding of this stream’s current and future dynamics. The Delaware Riverkeeper Network and outside consultants have consistently and repeatedly highlighted this critical problem, and the failure of PennDOT to adequately address it.

The CRD likewise fails to recognize the spatial and temporal scales of the environmental issues at this site. Not only are the channel stability questions ones which should be addressed during this project (see comments below), but the mis-characterization of the channel dynamics clearly shows an unwillingness to directly engage in the environmental issues with appropriate staff and adequate resources (pg. 52, response “e” to comment #57 from Michael A. Zavoda):

*“Excavation for the proposed foundations will occur within a cofferdam, which will contain the sediments prior to excavation and prevent discharge of material into the channel. Following construction, the excavated area will be filled with a riprap stone material that will prevent the scouring of stream bed material, which has been occurring for the past 200+ years and stabilize the channel beds. The gaps between the larger riprap stone will be choked with natural stream bed material to match the existing upstream and downstream conditions.”*

As aerial photographs show, the scour at the bridge is a recent phenomenon (likely in the last one to two decades) rather than a problem accumulating over 200 years. Likewise, the movement of streambed substrate is a continuous and natural process that occurs in all fluvial systems rather than simply a localized problem that needs to be stopped or fixed. The failure to acknowledge these fundamental stream dynamics and to consider the appropriate spatial and temporal scales of these issues is further example of how and why “substantial controversy on environmental grounds” persists for this project.

Furthermore, the CRD fails to recognize it is within the scope of this project and within the scope of the bridge replacement to address the recent channel movement in the immediate vicinity of the bridge crossing (multiple responses with the CRD, including pg. 42 response “h”). The project consists of a bridge rehabilitation / replacement along with necessary measures to ensure the stability of that structure and the environmental integrity of the EV stream being spanned by that bridge. Thus, the “project limits” are operationally defined by the necessary activities to

accomplish the project objectives. With serious channel stability issues at the location of the bridge itself, channel stability evaluation clearly lies within the scope of the project and therefore within the project limits. PennDOT needs to recognize and address these issues, and the only way to comprehensively address them is through an Environmental Assessment and/or an Environmental Impact Statement. Bypassing these comprehensive environmental reviews through a CE clearly fails to address the significant environmental issues at the project location.

The inconsistency in considering comprehensive solutions to the environmental problems is further demonstrated by the CRD when responding to comment #1 (National Park Service), response “b” with respect to channel sediment and its stability (pg. 7):

*“... Although the intent of this project is to replace only the bridge structure and to mimic the existing stream condition, the need to remove the upstream gravel bar will be evaluated during the detailed design process and through coordination with the PADEP and the Bucks County Conservation District. By mimicking the existing stream conditions, downstream impacts will be minimized.”*

Here, the CRD acknowledges the need to consider the stream and its current setting and dynamics, but instead of addressing them directly and comprehensively (as would be accomplished with an Environmental Assessment or an Environmental Impact Statement) the CRD proposes to postpone those evaluations until after approval of the CE. The gravel bar above the bridge extends approximately 185 ft upstream, indicating the potential consideration of work by PennDOT in this 185 ft envelope upstream from the bridge. Such an envelope could be sufficient for addressing the channel stability questions and minimizing environmental impacts, particularly to the mature riparian corridor downstream from the bridge. Again, “substantial controversy on environmental grounds” is demonstrated and precludes the use of a CE for this project.

The CRD likewise acknowledges the need for more comprehensive evaluations, but then seeks to circumvent those evaluations when they simply postpone discussion until later permitting activities (pg. 42, response “h” within response to III.b. of Comment #54 by Delaware Riverkeeper Network)

*“For the comments regarding natural channel design principles to address and prevent scour and erosion, PennDOT previously noted that this is beyond the scope of the current project to incorporate these measures beyond the project limits. However, this will be added to the agenda for the pre-application meeting with the permitting regulatory agencies (PADEP and USACE).”*

Channel scour and channel erosion are not inconsequential tangents to the bridge work, but instead are core components to the project. They cannot be addressed via an agenda-item at a later meeting, but must be addressed comprehensively during and as an integral part of these early evaluations of alternative designs.

Additional areas of incomplete and inadequate environmental impact evaluations include the following:

- increased water velocities are acknowledged, but the resulting impacts from higher velocities remain unaddressed (pg. 41, responses “b” and “d”);
- sediments impacts to water quality from pumping within cofferdams are ignored (pg. 43, response “b” to comment III.d);

- failure to protect and restore riparian buffer function through choking and seeding riprap as a mitigation measure leading to inadequate woody vegetation reestablishment and failure to restore their ecosystem function (e.g., biofiltration, in-stream habitat, biogeochemical cycling) (multiple citations, including pg. 44 within response “c”);
- the continued use of conventional riprap in an historic setting with an Exceptional Value stream, and the failure to appropriately address both channel stability and in-stream biological habitats (pg. 52, response “e”);
- a complete lack of any evaluation from the expansion of the bridge from one lane to two lanes, with the increased footprint and the removal of significant numbers of mature riparian trees with no mitigation or replacement;
- failure to consider the erosion, flow, flooding, habitat and other impacts that will result from significantly moving the bridge footprint and therefore the resulting stream channel and flows;
- flooding impacts, inaccurate flood mapping, and the broader flood considerations are essentially ignored in the CRD;
- postponement of detailed analyses and modeling fails to demonstrate that antidegradation protections for this EV stream will be met;
- a failure to consider improved methodologies more appropriate for an EV stream, such as combinations of large woody debris (LWD) and natural stone in streambank protections.

In total, the “Comment Response Document” continues to demonstrate a troubling and serious disregard for significant environmental risks and harms, trivializing feedback on these risks from professionals conducting outside reviews of this work (including organizations such as the Army Corps of Engineers), and seeking to postpone any consideration of these impacts by using a Categorical Exclusion to circumvent the full environmental analysis.

The risks to Tinicum Creek, one of the only Exceptional Value streams in the southeastern region of Pennsylvania, are substantial and clear. By failing to acknowledge these risks, PennDOT increases the likelihood that bridge rehabilitation work will cause serious and permanent impacts to Tinicum Creek. Indeed, there is no doubt that, among other problems with the CRD and the process engaged in thus far by PennDOT, a “substantial controversy on environmental grounds” exists for this project. A Categorical Exclusion cannot be justified.

Sincerely,



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