

122 Penn Avenue
Telford, Pennsylvania 18969-1912
Phone (215) 723-5000 Fax (215) 723-5328

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VIA EMAIL

Mr. Jon Capacasa
Director
Water Protection Division
EPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Mr. Lee McDonnell
Director for the Bureau of Point and Non-Point Source Management
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17101

**RE: Comments on Draft TMDL for Sediment in the Indian Creek Watershed,
Montgomery County, PA – Existing Load Estimates and Load Allocations**

Mr. Capacasa and Mr. McDonnell:

On behalf of Telford Borough Authority and the Borough of Telford (“Telford”), please see the accompanying comments regarding the July 31, 2017 *Preliminary Draft TMDL for Sediment in the Indian Creek Watershed, Montgomery County, PA Indian Creek* (“Draft TMDL”) issued by EPA Region 3 and the sediment allocations discussed in EPA Region 3’s March 22, 2018 *Indian Creek Watershed Sediment Allocations Stakeholder Webinar* (“Webinar”).

Telford has previously identified several significant concerns regarding the Draft TMDL and sediment allocations which would directly impact it under a final TMDL. EPA has yet to respond to those critical issues that affect the reasonableness and scientific defensibility of this action and any potential allocation decision. These issues should be addressed at this preliminary stage to prevent the propagation of associated uncertainties, inaccuracies, and inappropriate assumptions into a final TMDL. These concerns are summarized below:

- Telford requests an explanation for the *six-fold increase* in Telford’s existing MS4 sediment load compared with the 2008 TMDL estimate.

- EPA needs to verify the massive sediment loads claimed to originate from bank erosion within our watershed boundaries with objective data – such as instream TSS measurements. Available data indicate that such estimates are not credible.
- Telford agrees with EPA’s approach to “focus on problem sources of sediment,” but such “problem sources” plainly are not the small community contributions in this watershed.
- Telford is a *de minimis* sediment load that does not require further regulation. EPA’s analysis shows that sediment contributions are dominated by natural streambank erosion and agricultural sources, not actual MS4 loads.
- Relevant extreme flows (a natural condition) that cause streambank erosion were not taken into account in TMDL modeling, and there is no indication that such extreme events can be controlled in any meaningful way.
- EPA Region 3 has failed to respond to Telford’s other detailed comments noting major discrepancies in this TMDL effort – when will EPA be publicly responding such that an opportunity to consider the basis for EPA’s position (yet unknown) will be provided to the public, as required by 40 CFR Part 25?

EPA’s Updated Sediment Load Assessment Increased Telford’s Sediment Load Six-fold

The original 2008 TMDL estimated an existing sediment load for Telford’s MS4 of 58,772 lbs/year or 26.7 metric tons/year (Draft TMDL at ii). The revised existing sediment load in the current analysis for Telford’s MS4 was calculated to be 165.8 metric tons/year (365,614.2 lbs/year). This amounts to greater than a six-fold increase in existing sediment load. While updating and revising Telford’s land use distribution accounts for a portion of this increase, Telford disagrees with such a substantial upward revision and requests a detailed explanation to justify this increase. Calculations utilizing this loading create unrealistically high TSS levels in the Creek exiting our jurisdiction indicating that the revised loading estimate is misplaced.

Telford Agrees with EPA’s Approach to “Focus on Problem Sources of Sediment”

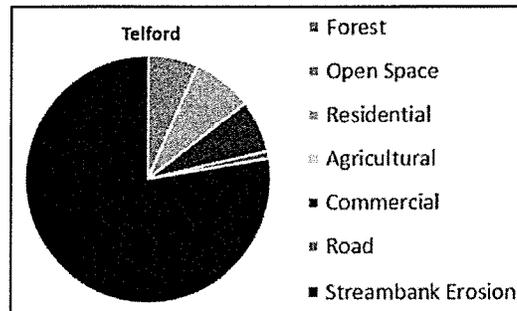
On the March 22, 2018 Webinar, EPA suggested and encouraged the TMDL’s sediment allocations be apportioned to “focus on problem sources of sediment.” Telford agrees with this approach as opposed to reducing all anthropogenic land-based sources equally. More specifically, of the four proposed scenarios, Telford prefers Scenario 3, providing for no future growth and an implicit factor of safety. The implicit factor of safety is incorporated due to the

Birch Run reference watershed’s IBI score exceeding the level of impairment by roughly 50%. Adding an additional factor of safety is inappropriate and unnecessary given this substantial implicit factor of safety. Regarding the “no future growth” component, EPA is authorized to limit loads, not specific growth. EPA should clarify its position on this issue.

| 0% Future Growth and Implicit MOS | | | | | |
|---|--|----------------------|-----------------------|---------------------------|-------------|
| Scenario 3: Focus reductions on Agricultural Lands & Streambank Erosion | | | | | |
| NPDES ID | Facility/Township | Existing Load (t/yr) | Allocated Load (t/yr) | Load to be Reduced (t/yr) | % Reduction |
| PA0024422 | Harleysville STP | 29.03 | 29.03 | 0.00 | 0% |
| PA0036978 | Telford Borough STP | 45.62 | 45.62 | 0.00 | 0% |
| PA0054950 | Pilgrims Pride | 4.15 | 4.15 | 0.00 | 0% |
| MS4 | Franconia, PennDOT, & Turnpike Aggregate | 2,756.40 | 875.35 | 1,881.05 | 68% |
| MS4 | Lower Salford & PennDOT Aggregate | 770.70 | 265.68 | 505.02 | 66% |
| MS4 | Souderton & PennDOT Aggregate | 64.85 | 26.68 | 38.17 | 59% |
| MS4 | Telford & PennDOT Aggregate | 165.84 | 66.12 | 99.72 | 60% |
| General Stormwater | Aggregate Load (1% of TMDL) | 14.39 | 14.39 | 0.00 | 0% |
| | Non-MS4 Nonpoint Source (Franconia) | 435.15 | 112.23 | 322.92 | 74% |
| | Implicit MOS | | N/A | | |
| | Total | 4,286.13 | 1,439.25 | 2,846.88 | 66% |

Scenario 3 also reduces the burden on Telford’s and Souderton’s MS4s which contribute relatively minor sediment loads, *i.e.*, ~5% of the existing load combined – when natural bank erosion is included as an MS4 source (it is not). Including EPA’s bank erosion estimate, Telford’s MS4 contributes 166 t/yr out of the watershed’s existing load of 4,286 t/yr, or less than 4% of the existing load. Ignoring streambank erosion, Telford’s actual MS4 load totals 37 t/yr, or less than 0.9% of the existing load. This is a *de minimis* contribution that is not causing any violation within our geographic boundaries, and Telford believes the reductions reportedly required in EPA’s Draft Indian Creek Sediment Allocation Scenarios are still excessive given this minor contribution and the sources of Telford’s sediment loads. Telford should be allowed to offset this load by WWTP contribution decreases which confirm that there is no significant MS4 concern from this area.

For Telford, approximately 78% of the MS4 sediment load is due to streambank erosion which is largely natural and not an MS4 load.



This is recognized in the Draft TMDL:

Two source areas were identified as the primary contributors to sediment loading in Indian Creek and are the focus of this study – point sources and nonpoint sources, including surface runoff and streambank erosion. The sediment-delivery process is a naturally occurring and continual process, but is often accelerated by human activity. An objective of the TMDL method is to minimize acceleration of the process. (Draft TMDL at 15)

Given this statement, it is plainly arbitrary and capricious to assume 100% of streambank erosion is due to MS4 influences – this cannot be the case. Moreover, the much smaller components of residential (<8%) and commercial (<7%) sources are the actual MS4 loads. Fully eliminating these residential and commercial loads would still not be adequate to meet even the least stringent load reduction required in the proposed TMDL scenarios, verifying EPA’s analysis is internally inconsistent. Under applicable law and adopted rules, Telford’s MS4 cannot be expected or required to completely eliminate residential and commercial sediment loads and, in addition, substantially reduce streambank erosion, a primarily natural occurrence.

Moreover, if Telford is required to reduce streambank erosion, EPA must quantify the relative sediment load contributions of natural bank erosion and bank erosion from Telford’s MS4. This evaluation has not occurred. Our assessment is that bank erosion in our watershed is primarily caused by extreme rainfall events, not the minor increase in base flow emanating from our MS4 system. EPA is not authorized to claim that a natural condition constitutes impairment or attribute it to an NPDES permittee. Accordingly, the sediment allocations need to be revised to reflect this issue.

TMDL Modeling Fails to Account for Flow Conditions

The Generalized Watershed Loading Functions (GWLF) model was used to determine existing sediment loads for the Indian Creek and Birch Run watersheds as the basis for establishing load reduction requirements for Indian Creek (Draft TMDL at 10-11; 34). The GWLF model estimates sediment loads in a watershed based on historical precipitation, land use, and other watershed characteristics. According to James Kern (MapTech), the GWLF model sediment estimations are based on a monthly time step and are therefore neither event-based nor associated with a specific flow condition. As such, the model is disconnected from the actual mechanistic processes associated with the extreme precipitation events that cause streambank erosion and contribute sediment to Indian Creek.

This is particularly a concern for Indian Creek segments within Telford which have incised streambanks, and streamflow is confined to a relatively narrow central channel at all non-peak flows. As such, streambank erosion in this Indian Creek segment would be expected to be negligible under all but the most extreme rainfall flow conditions – which no MS4 community could reasonably control. This critical fact is ignored by the GWLF model. Finally, to the degree the MS4 is increasing erosion, Telford should be allowed to address specific streambank erosion areas through stream restoration projects focused on these incised streambanks, not the capture of extreme flows upstream – which is largely impractical to impossible.

Lastly, the GWLF model estimates the streambank erosion values using “mean channel depth.”¹ This assumes that the average streamflow depth is equivalent to the mean channel depth (estimated by EPA to be 1.5 m) in Indian Creek. This inaccurately assumes that the channel depth is representative of streamflow depth, resulting in a significant overestimation of streambank erosion sediment load. Such assumptions, absent site-specific verification, are clearly error-prone as stream and river channels tend to deepen over time but streamflow depth does not proportionally increase (see, e.g., Colorado River in the Grand Canyon). As such, the mean channel depth is an inappropriate input into the GWLF model; instead the model should perhaps use average stream depth and/or account for individual peak flow events in estimating streambank erosion.

¹ EPA. August 3, 2017. Indian Creek Watershed Existing Sediment Loads Stakeholder Meeting. Available at https://www.epa.gov/sites/production/files/2017-08/documents/existingloads_stakeholder_meeting_080317.pdf

EPA Region 3's Failure to Consider Telford's Previous Comments

Lastly, EPA Region 3 has failed to consider and respond to Telford's previously submitted comments (Attachment 1) regarding major technical deficiencies with the analysis. We respectfully request that, in addition to these timely submitted comments, the Region also consider Telford's previous comments on the Draft TMDL submitted on August 28, 2017.

We appreciate your attention on this matter. If you have any questions or concerns regarding these comments, please contact us.

Respectfully,



Mark D. Fournier

cc: Mr. John Hall
Mr. William Hall
Mr. Benjamin Kirby
Mrs. Mary Stover
Mr. James Jacquette, Esq.
Telford Borough Authority