March 2, 2019

Anacostia River Sediment Project: Proposed Plan Comments

Dear Ms. Mikeska:

Thank you for the opportunity to comment on the Anacostia River Sediment Project’s Proposed Plan and supporting documents. While we continue to work closely with other stakeholders, and have submitted joint comments at other stages of this process, these comments represent the views of the DC Appleseed Center for Law and Justice only. We first submitted comments on the Draft Remedial Investigation (RI) in May 2016, and have continued to participate actively – recently with the help of a DOEE grant to hire technical experts for assistance in this process. A thorough technical review of the Proposed Plan and supporting documents produced by Tad Deshler of Coho Environmental is attached as Exhibit A to these comments and is part of these comments. That detailed review makes very specific suggestions for the complex issues raised by the Proposed Plan.

We appreciate the significant amount of new information about the Proposed Plan that DOEE has shared through our exchange of letters over the past two months. While much of what DOEE shared in those letters serves to improve and further explain the Proposed Plan, and we understand that it is part of the Plan, we believe that more improvement and explanation is needed. The comments in this letter are intended to highlight areas where the Proposed Plan could be strengthened, including with regard to: 1) schedule, 2) hot-spot Remedial Action Levels (RALs), 3) the 90% risk reduction estimate, 4) standards and triggers for future actions, and 5) communicating with the public. First, however, we believe it is important to speak to DOEE’s choice of an adaptive management approach.

1. Adaptive Management Approach

The Proposed Plan identifies 11 hot-spots that will be the focus of early action. Using an adaptive management approach, DOEE proposes to select a preferred action for each site, implement the actions, and then conduct performance monitoring of key environmental indicators every 3 years.

Essential features of an effective early action or adaptive management plan include expectations for each year of work, a specific goal for the work at each of the 11 sites each year, and steps that will be taken if annual goals are not met. These elements are not included in DOEE’s Proposed Plan, supporting materials, or subsequent correspondence. How the early action hot-spots work relates to the overall cleanup of the river and what further steps might be considered to ensure an overall river cleanup are included (in a separate document, Table 4.1 of the River-wide Feasibility Study (FS)) . However, the Plan does not make clear what monitoring outcomes would lead to which specific steps.

Moreover, the Proposed Plan acknowledges that water and sediment flow into the study area from 14 tributary streams and many municipal outfalls, but it does not specify how the hot-spots intersect with the rest of the river to ensure that the whole study area is cleaned up to the specified levels in fish by a
date certain. It also does not specify how this Plan meshes with ongoing cleanup sites in the river (e.g. Navy Yard). Nor does it specify what actions/role the National Park Service will take.

The Environmental Protection Agency’s (EPA’s) recent task force supports adaptive management, and we have supported its use in the Anacostia River cleanup under correct conditions. But in our view these conditions are not met in the Proposed Plan. According to the 2018 Superfund Task Force:

“Adaptive Management is an approach used at large and/or complex sites that focuses limited resources on making informed decisions throughout the remedial process…. Under an Adaptive Management strategy, Regions are encouraged to consider greater use of early and/or interim actions including use of removal authority or interim remedies, to address immediate risks, prevent source migration, and to return portions of sites to use pending more detailed evaluations on other parts of sites. […]

EPA believes that Adaptive Management will streamline decision-making, facilitate site progress, and help control costs. Key elements of EPA’s Adaptive Management plans include:

- Define Site/Project Objectives
- Model(s) the site being managed
- Identify potential actions
- Monitor and evaluate outcomes
- Incorporate learning into future decisions
- Stakeholder participation”

Accordingly, we would support an adaptive management approach that includes – before adoption of the Proposed Plan:

- **regular evaluations of fish tissue levels** designed to show whether remedial actions at each of the 11 hot-spots is meaningfully affecting river-wide fish concentrations, and a plan for what changes in actions will be called for if goals for each sampling interval are not met; these evaluations should be annual, unless DOEE puts forth a justification for a longer sampling interval

- **a deadline for accomplishing the expected outcome of the early action sites and a plan for what will happen if that outcome doesn’t occur by the deadline** for example, a specific percentage reduction in PCBs [polychlorinated biphenyls] in local fish within 5 years at each hotspot which, if not achieved, will trigger a specific follow-on cleanup action

- **clarity about how the early action projects will mesh with cleanup goals for the entire river** presumably through further study and additional cleanup actions

In summary, we can support an adaptive management correctly developed. However, without the critical components of a successful adaptive management plan outlined above, we cannot find that the
Proposed Plan will achieve an effective and timely long-run cleanup of the whole river to appropriate standards.

2. Schedule
Our understanding of the schedule, based upon DOEE’s letter of February 20, 2020, is:

<table>
<thead>
<tr>
<th>Period</th>
<th>Activity Description</th>
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<tbody>
<tr>
<td>October 2020 to October 2021</td>
<td>Pre-design of remedy in each Early Action Area (EAA), including:</td>
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<td>• preparing work plans governing pre-remedy sampling</td>
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<td></td>
<td>• conducting pre-remedy sampling</td>
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<td></td>
<td>• reviewing, analyzing, and reporting on sampling events</td>
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<td>• (potentially) additional conversations with stakeholders via the Leadership Council for a Cleaner Anacostia River (LCCAR)</td>
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<tr>
<td>December 2020 to September 2022</td>
<td>Design and permit remedies for each Operating Unit (OU), and technical evaluations to support design phase, including pilot studies to support carbon amendment specifications and hydrodynamic modeling for cap design refinements.</td>
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<tr>
<td>September 2021 to December 2024</td>
<td>Complete work on sites so that remediation can begin</td>
</tr>
<tr>
<td>2021 to 2022</td>
<td>Construction in Kingman Lake OU</td>
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<tr>
<td>2022 to 2023</td>
<td>Construction in Washington Channel OU</td>
</tr>
<tr>
<td>As early as 2024 to as late as 2026</td>
<td>Completion of construction in Main Stem OU</td>
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<tr>
<td>September 2022 to December 2026</td>
<td>Performance monitoring and data collection</td>
</tr>
<tr>
<td>2026</td>
<td>First five-year review for Kingman Lake OU</td>
</tr>
<tr>
<td>2027</td>
<td>First five-year review for Washington Channel OU</td>
</tr>
<tr>
<td>As early as 2029 to as late as 2031</td>
<td>First five-year review for Main Stem OU</td>
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The Plan is not clear on several points that could allow for the remediation process to move faster. For example, we are unclear why generating a summary response to comments (rather than a comment matrix) should take nine months and delay design and permitting work by that length of time. The Plan is also unclear as to why work on the Operating Units (OUS) can’t be done in parallel or overlap. Finally, the more frequent annual review we suggest would allow for faster correction in the event that initial remedies aren’t having the desired effect. It is not clear why more frequent reviews are not being proposed.

3. Hot-spot Remedial Action Level (RAL) and 90% Risk Reduction Estimate
DOEE’s February 21, 2020 letter to DC Appleseed, now part of the Plan, provided the calculation method for the assumed risk reduction percentages. Although we now understand the calculation, we believe it is a flawed method that does not provide sufficient or accurate information for distinguishing between alternative RALs.

RALs
Your February 21, 2020 letter included a table (Table A) that provided the hypothetical risk reduction percentage associated with three RALs equivalent to 2x, 3x, and 4x of the site-wide RAL of 200 µg/kg.
The risk reduction percentages are identical for 400 and 600 µg/kg, in spite of the fact that the cleanup associated with the 400 µg/kg RAL would include 61% more area and cost an additional $26M. While one may interpret this result as supporting the selection of the 600 µg/kg RAL (i.e., same risk reduction for much less money), a metric this insensitive to a large difference in remediation area and cost is not sufficiently reliable for so important a measurement. This is further confirmed by the fact that the hypothetical risk reduction benefit associated with the 800 µg/kg RAL is only slightly lower than the risk reduction percentages for the 400 and 600 µg/kg RALs, again suggesting this is an insensitive metric. It should be changed as we set forth here.

Calculating Risk Reduction

To better understand why this risk reduction calculation is flawed, our consultant Tad Deshler reviewed the specific equations you provided in your February 21 letter. The post-EAA risk equation assumes that the risk is directly proportional to the post-remediation spatially-weighted average concentration (SWAC). If this were true, then you would expect the pre-EAA risk estimate to be less than 5x the target risk level of $1 \times 10^{-5}$, since the pre-EAA SWACs range from 207 (Main Stem) to 306 µg/kg (Washington Channel), a factor of less than 5x of the 65 µg/kg PRG that is associated with the target risk level of $1 \times 10^{-5}$. Instead, the pre-EAA risk level was $2.2 \times 10^{-4}$, a factor of 22x higher than the target risk level of $1 \times 10^{-5}$.

Mr. Deshler created a graph (below) for a variety of hypothetical post-EAA SWACs to further demonstrate the flaw in this calculation method. It shows the hypothetical risk reduction associated with various post-remediation SWACs. The post-remediation SWACs of interest in the proposed plan range from 84-184 µg/kg, according to Table 1.2 in the Focused Feasibility Report. At these SWACs, you can see that the risk reductions cluster around 90%, matching what is reported in Table 1.2. At much higher post-remediation SWACs, the risk reduction percentages become nonsensical. But, using a post-remediation SWAC of 306 µg/kg, which is the same as the pre-remediation SWAC for Washington Channel, Mr. Deshler calculated a 79% risk reduction with the equations you provided. In other words, according to this calculation method, if you do absolutely nothing in Washington Channel, you can expect a 79% risk reduction. At concentrations even higher than what is currently present, such as a SWAC of 1000 µg/kg, you would still get a 30% risk reduction according to your equations. In summary, this risk reduction calculation method should not be used to justify a specific early action RAL. Below, we propose alternative ways to address this issue.
Alternative Methods

We recognize that it is difficult to accurately estimate the anticipated risk reduction with any specific remedial action, given the imperfect understanding of the relationship between PCB concentrations in sediment and in fish. Presumably, data to be collected during the performance monitoring program will improve our understanding. In the interim, we would like to suggest other methods that could be used to compare hypothetical RALs.

The simplest metric to use would be to compare the post-EAA SWACs for a variety of hypothetical RALs. In the draft documents currently under review, you have presented those data only for the RAL of 600 µg/kg. You could replace the risk reduction column in your Table A from your February 21 letter with the post-EAA SWAC for each RAL. The difference in these SWACs would presumably be much greater than the differences in the risk reduction percentages you have currently presented, thereby providing a more meaningful metric to compare alternatives.

Since a SWAC alone does not provide any quantitative measure of risk associated with fish consumption, we suggest that you consider additional trend analysis, using existing data, to determine what relationship may exist between PCB concentrations in sediment and fish. Although there may be significant data limitations with this approach, sediment and fish data have been collected for many years. It may be possible to create “binned” sediment datasets consisting of data collected within 1-2 years of the various fish tissue datasets that have been collected in the last 10-15 years. Summary statistics for each dataset could then be compared and used to explore whether the declining trend in fish tissue concentrations can be at least partially explained by a declining trend in sediment concentrations. While, it is unlikely that this exercise would yield equations that could be used to precisely estimate post-EAA fish tissue concentrations (and hence risk), the result of such an effort could potentially be used to provide some semi-quantitative information to the post-EAA SWAC estimates suggested above. Ideally, a range of hypothetical fish tissue concentrations could be derived using such an exercise. The validity of these estimates could then be evaluated using the results of the performance monitoring.

4. Standards and Triggers for Future Actions

In your letter of February 21, 2020, you stated that “[t]hese issues (development of the trigger criteria) are best addressed once public feedback is obtained regarding the concept of site cleanup via performance of early actions within an adaptive management framework.” We disagree with this statement.

As we noted in our February 7, 2020 letter, you make clear that DOEE is using EPA’s 2017 OLEM Directive as its adaptive management framework. Under that Directive, as you note, early action should include key indicators, specific trigger criteria, and actions to be considered or taken if goals are not attained. You have clearly indicated the factors in the bullet points you set forth. But, there should be interim goals (triggers) with timeframes, as well as specified adjustments if the interim goals are not met on those timeframes, and you have not provided those. The statement that the Performance Monitoring Work Plan will be developed after you issue the Interim ROD does not provide a basis for the public to evaluate whether effective adjustments will be made on a sensible schedule if the approaches chosen at each hot spot are not working at that hot spot or on the site overall. The period between the Interim Rod and Final ROD is too late in the process to begin that conversation. The Proposed Plan should make
clear how the public can expect this process to proceed. Without the information, we and other public participants cannot meaningfully evaluate or comment on whether the Plan approach to cleaning the river is sound.

We request that you promptly provide information for each of the bullet points derived from the EPA Directive, so the public may fairly evaluate this information in its comments.

5. Communicating with the Public

As noted, we appreciate DOEE’s responses to our several letters seeking clarification, and that they are easily accessible in the electronic record. However, we think it is important for DOEE to make a concerted effort to make the information from those letters, and from the Proposed Plan’s supporting documents, available in one place, especially since those letters are part of the Plan. We commend DOEE for writing a Proposed Plan intended to be approachable for the general public, but think that a significant amount of greater detail is necessary for meaningful public participation by anyone who doesn’t have the expertise or time to sort through several disparate documents. We also encourage DOEE to be as specific as possible regarding future opportunities for public participation – will the LCCAR meetings continue past their original expiration date? Will additional public meetings be held? Can the public expect to be kept abreast of milestones and measurements at those milestones as well as adjustments if a milestone measure is not met? Will the public be informed of this information via email list and/or the AnacostiaRiverSedimentProject.com website?

Finally, because our correspondence, including in your letter of February 20 (updated on February 21), provided significant new information about the ARSP Proposed Plan we urge you to make clear that you will accept comments until March 30, 2020. DC Appleseed, with our team of pro bono legal consultants and technical consultants, and full-time staff, has been able to submit these comments by March 2. However, we could do so much more to share this information and materials to help others in the broader community to draft comments of their own. We appreciate your dedication to community engagement throughout this process, and therefore hope that you will accept comments from community members without access to their own experts through at least March 30 to allow for more robust and informed participation.

*     *     *     *     *

In conclusion, we reiterate our support for an adaptive management approach to the clean-up of the river. But we also reiterate our view that this approach requires a clearer statement of the schedule and standards the agency intends to follow and how it will adapt to the various results it may encounter as work proceeds at the hot spots.

We thank DOEE for its strong support of community involvement in this process, the opportunity to submit these comments and for your consideration of suggestions we have made through more informal means. We look forward to continued collaboration between now and the conclusion of a successful remediation. We would be happy to meet with you at any time to discuss our comments. We’re certain that our partners Anacostia Watershed Society, Audubon Naturalist Society, Clean Water Action / Clean Water Fund, and Anacostia Riverkeeper, who have endorsed these comments, would be happy to speak with you as well.
Sincerely,

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