Valley Creek Trustee Council
1400 North Outer Line Drive
King of Prussia, PA 19406-10009

RE: Comments on the PA DEP Analysis of Alternatives and Proposed Response for the Bishop Tube Site – a.k.a. Remedial Response Action

The Valley Creek Trustee Council (VCTC) is composed of representatives of the United States Department of Interior and the Commonwealth of Pennsylvania. The Department of Interior is represented by Valley Forge National Historical Park (Valley Forge) and the Commonwealth is represented by the Pennsylvania Fish and Boat Commission (PFBC). The VCTC was established in accordance with the federal Comprehensive Environmental Response, Compensation, and Liability Act – otherwise known as CERCLA or "Superfund" Law – when the Valley Creek watershed was contaminated in the mid-1980's by polychlorinated biphenyls (PCB's), which ultimately led to a significant loss of angler use as well as direct damages to natural resources. Monies to compensate for natural resource damages and lost angler use were received through legal settlements with the responsible parties and placed into a restoration fund administered by the VCTC. The VCTC has the responsibility to use its restoration fund to restore the natural resources of the Valley Creek watershed by improving the aquatic habitat for trout and by increasing public access to Valley Creek by anglers. The VCTC is currently evaluating a grant application to fund the proposed acquisition of the Bishop Tube property for the purposes of open space. Prior to providing funding for the acquisition, the property must be remediated and not represent a continued threat to the exceptional value of the Valley Creek watershed.

After careful consideration of the available material, the VCTC has concerns about the PA Department of Environmental Protection's (PA DEP) proposed Remedial Response Action. These concerns include comments that refute the adequacy of the Remedial Investigation Report (RIR) and Ecological Risk Assessment (ERA) Report completed by Roux, which are foundational to the Remedial Response Action (RRA), and we have identified the following deficiencies.

1. During the metals manufacturing process hydrofluoric acid was used and fluoride was stored on site. Concentrations of fluoride in site groundwater (Figure 36 of the Roux Remedial Investigation, Table R-4) and surface water (Table R-3) warrant a determination of the source. Fluoride in groundwater is indicative of per- and polyfluoroalkyl substances (PFAS) degradation. Chromium was also used during manufacturing and it and hexavalent chromium remain on site as constituents of concern and continue to leave the site via groundwater and surface flows. PFAS are known to be associated with chromium processes.

   Publicly available information from the U. S. Geological Survey and PA DEP indicates that water samples collected in 2019 from DEP's water quality network (WQN) station 154 in Valley Creek at Wilson Road had a relatively high concentration of total PFAS at

103.3 ng/L. The total number of PFAS chemicals detected out of the 33 tested in the discrete sample was 10. Station 154 is 1.2 miles downstream of the confluence of Little Valley Creek with Valley Creek.

No sampling for PFAS has been done on the site or proximally off site. Based on these factors, we request that sampling for PFAS be conducted to determine if it is present on site or leaving the site, the specific chemical constituents and their concentrations, and locations of any hot spot elevated concentrations. Detectable concentrations of PFAS in groundwater, surface water and sediment should be screened against both human health and ecological benchmarks for risk assessment.

2. The Ecological Risk Assessment is inadequate for multiple reasons including the omission of assessments of the site-specific standards and the remedial alternatives. According to Title 25 Pa Code Chapter 250 regulations, a *risk assessment* is defined as "*a process to quantify the risk posed by exposure of a human or ecological receptor to regulated substances. The term includes base-line risk assessment, development of site-specific standards and risk assessment of the remedial alternatives."*

3. As DEP is aware, the VCTC is interested in protecting Little Valley Creek's aquatic resources and potential future recreational use by anglers. The Human Health Risk Assessment (HHRA) model needs to be run for potential future recreational users including anglers. While the HHRA correctly states that the PFBC currently regulates (Little Valley Creek) LVC as catch-and release fishing, this restriction could be changed in the future. Recreational fishermen could be exposed to chlorinated volatile organic compounds ("CVOCs"), other volatile organic compounds ("VOCs"), and toxic metals through direct contact with the surface water in LVC. Through ingestion of fish, they could also be directly exposed to these contaminants. The omission of recreational use of LVC by recreational anglers under the existing Human Health Risk Assessment Report needs to be corrected by assessing such contaminant exposure risks.

4. There is a need to evaluate the human health and ecological risk associated with secondary by-products and/or metabolites of the proposed in situ treatment chemicals and the targeted contaminants in both soil and groundwater. Reductive de-chlorination of certain chlorinated volatile organic compounds could produce daughter metabolites of greater concern than the parent compounds being treated. No such risk assessment has been done. The formation of chloroethane or vinyl chloride by-products of treatment may warrant the use of an aerobic bioremediation step. Bench scale and/or pilot testing, as well as strict quality control for injected materials needs to be required.

5. The area identified for study in the ERA at Figures R-2 and R-3 does not include an assessment of the risks to the biota of LVC a sufficient distance downstream of the site. The study area was limited in size and thereby did not adequately assess the potential area of ecological concern. The reach of the LVC tributary being assessed in the ERA extended from near the Amtrak railroad bridge south of the property to an area just north of the Conrail

railroad bridge located to the north of the property. The reach of the LVC that was assessed for potential ecological concern is approximately 600 feet in length. Use of such a limited area for study excludes assessment of the off-site risks to the biota of LVC – especially wild trout and aquatic macroinvertebrates. LVC is a stream that gains flow from diffuse discharge of groundwater for a distance of approximately 1.0 mile downstream of the Bishop Tube property, and the stream channel corresponds to the direction of migration for the groundwater contaminant plume (see RIR, volume 2, Figures 4 and 40). Discharge of groundwater chlorinated volatile organic compounds (CVOC) to LVC is evident in samples collected at locations within approximately 1.0 mile downstream of the Bishop Tube property (see RIR, Volume 2, Figure 40 – Surface Water CVOC Sampling Results, June 2014). We want to obtain water sampling test results for the metals contaminant concentrations in this section of LVC, and then have the ERA determined for specific fish and aquatic macroinvertebrate species (i.e., wild Brown Trout and Eastern Crayfish).

6. There is a need to perform specific conductivity and temperature monitoring in LVC to locate higher volumes of diffuse groundwater discharge in order to identify sites for additional sampling that will primarily target inorganic contaminants (i.e., metals such as chromium, hexavalent chromium, fluoride, aluminum, manganese, and nickel). Metals contaminants were not adequately tested in the surface water samples collected from LVC downstream of the Bishop Tube source property. The additional water sampling in LVC is recommended for a section of stream extending approximately 0.9 mile downstream of the source property to the confluence with the Morehall Tributary (a.k.a., Warren Run) on the west side of Morehall Road (S.R. 29).

7. Unless the contaminated surface soil (0-2') is being removed, ecological risk analysis is needed for site soil. The ERA does not include soil screening and ecological benchmarks are not included in Tables 1 and 2 of the RIR. We have a particular concern about elevated metals concentrations in the soil, because soil invertebrates and birds are sensitive to some metals. Soil invertebrates and an avian vermivore (e.g., American robin) should be evaluated for direct exposure and food chain risks, respectively. Preference should be given to EPA Region 3 screening values and EPA Ecological Soil Screening Levels (Eco-SSLs).

8. Within the ERA, the Marsh Wren should be replaced with Carolina Wren as it is a year-round resident in SE PA and thus, has higher exposure potential. The Seasonal Use Factor in Table C-1 should be 100% and Table C-5 should be deleted. Belted Kingfisher is irrelevant as the site is too small to support this species.

9. The ERA needs to evaluate direct contact of contaminants from soil (stream substrate sediment) and surface water with <u>specific</u> macroinvertebrate, amphibian, and fish species. The ERA is deficient because it does not address all ecological receptors as described further in our comments below. The surface water direct contact pathway for fish and amphibians must be evaluated. Multiple contaminants of concern (COCs) were identified in surface water, including TCE concentrations as high as 7.3 g/L and hexavalent chromium of 22 ug/L. And yet none of the chosen remedies adequately address the current contamination in the

surface water. Direct contact toxicity reference values (TRVs) for fish and amphibians compiled by Environment Canada and EPA Ecotox are available for many of the contaminants present at the site. Preference should be given to TRVs for the most sensitive life stages - eggs and/or larvae.

As benthic invertebrates are in direct contact with sediment porewater in the small study reach of LVC, surface water direct contact should be evaluated using the groundwater concentrations for COCs (Table R-4) from the site overburden wells in close proximity to the creek. Alternatively, piezometer or passive sampling can be used to determine actual porewater concentrations at the sediment locations adjacent to and immediately downstream of the former facility. This evaluation is necessary to ensure that the selected groundwater remedy will address COCs for aquatic biota as well as human health.

The habitat assessment portion of the ERA was conducted in December 2018. No terrestrial or aquatic species were observed, but this is not surprising given the time of year that the survey was performed.

Wild Brown Trout *(Salmo trutta)* are an inhabitant of LVC and need to be included as an ecological receptor species. Since trout would have direct contact with the contaminants in the surface water and through ingestion of food (both piscivorous and insectivorous ingestion), this omission needs to be corrected.

The existing methodology does not satisfactorily evaluate bioaccumulation of contaminants within the tissue of these receptor species. We disagree with some of the content of Figure R-4 “Ecological Conceptual Site Model” (RIR, Volume 1, page 4090). Specifically, we request that a predatory fish and its common prey fish be included such that the pathway for “uptake by biota” accurately reflects a significant exposure through ingestion. Accordingly, we request that Brown Trout (*Salmo trutta*), which is both piscivorous and insectivorous, and a benthic macroinvertebrate such as Eastern Crayfish (*Cambarus bartonii;* a.k.a. Appalachian Brook Crayfish), which is primarily insectivorous, be used, because these species are known to inhabit LVC. Crayfish are part of the trout diet. Improved representation by crayfish will change the direct contact with sediment to significant because crayfish have such substrate contact from egg, juvenile, to adult life stages.

There is a need to do fish tissue sampling to detect the concentrations of hexavalent chromium in both Brown Trout and Eastern Crayfish collected within LVC at locations within 1.0 mile downstream of the site. If sampling for PFAS, as requested in comment 1 above results in surface water concentrations within LVC, laboratory analysis of fish tissue samples for this contaminant may also be appropriate. Such investigation is needed to determine whether a Fish Consumption Human Health Advisory needs to be considered. Currently, there is no such fish consumption advisory in place to recommend restrictions on the amount or frequency of ingestion of fish from these waters in the human diet. As a follow-up investigation, histopathology of gills from Brown Trout collected within the aforementioned sampling area may be warranted.

For amphibian species, we request that contaminant risks be assessed for the Northern Red Salamander (*Pseudotriton ruber ruber*) and the American Bullfrog (*Lithobates catesbeianus*) as representative biota of LVC, the drainage swale at the north side of the site, and all wetlands. This was not done in the ERA.

10. The ERA needs to include an evaluation of the contaminant risks to the Exceptional Value (EV) Wetlands adjacent to LVC. The "Ecological Receptor Map" of Figure R-3 (RIR Volume 1, page 4089) depicts four riparian wetland areas (i.e., A, B, B1, & C) along LVC. Although these riparian wetlands were identified by Roux Associates, they were not characterized as EV. LVC is an EV stream; therefore, the riparian wetlands are also designated as EV. The 25 Pa Code Chapter 105.17 and Chapter 250.311 require that EV Wetlands be evaluated in the Ecological Risk Assessment. This was not done by Roux Associates. The ERA omits mention of the presence of EV wetlands and excludes them as indicated on page 7 at Section 3.0 describing the elements that describe the scope of the "Ecological Screening Process." The DEP RRA recognizes that the riparian wetlands adjacent to LVC are EV. However, the Roux "Ecological Risk Assessment" makes no mention of the existence of EV wetlands on the Bishop Tube site, and therefore does not include them as receptors that were assessed. A risk assessment for these ecological receptors needs to be completed.

11. Although the aforementioned "Ecological Receptor Map" depicts the drainage swale conveying surface water flow to LVC at the north end of the property as a receptor, it is not identified as a wetland and is omitted as a receptor habitat for risk assessment. There is a need to evaluate contaminant concentrations in soil, groundwater, and surface water within this drainage swale at the north end of the property. This drainage swale also needs to be evaluated for the presence of wetlands and as habitat for amphibian species that should be assessed as receptors for contaminant ecological risk. Because this drainage swale is hydrologically connected to LVC and likely contains wetland habitat, it needs to be assessed for contaminant ecological risks. A risk assessment for the associated amphibian receptor species also needs to be completed.

12. The ERA has at Figure R-4 an "Ecological Conceptual Site Model" (RIR, Volume 1, page 4090) that does not address several of the previously identified receptors that need to be evaluated. This site model was used to develop the Roux ERA, so the omission of specific fish and amphibian species and EV wetlands as receptors was continued within the risk assessment narrative. As a result, the "Assessment and Measurement Endpoints" described in Section 5.3 need to be expanded to include these additional receptors. This section also contains the statement: "in this ERA the results of the benthic invertebrate risk characterization are employed as a surrogate for an assessment of fish communities." We disagree with this approach and request that fishes be evaluated for contaminant risk. Some of the constituents of potential ecological concern (COPECs), such as hexavalent chromium and aluminum, that fish are particularly sensitive to due to potentially lethal gill damage at low concentrations are not adequately assessed for risks to fish using macroinvertebrates as representative surrogates.

13. The PA Natural Diversity Inventory (PNDI) review result included in the ERA at Appendix B (and described on page 9) indicates that the person at Roux who submitted the request did not identify that wetlands of any type, including EV, are located within the project search area. This PNDI review result is identified as a "DRAFT NOT FOR ACTUAL USE" and is dated 2/20/2019. It further states that "it has not been submitted to jurisdictional agencies for review." It is now outdated, unreliable, and invalid because the presence of wetlands was omitted from the initial submittal and it was not submitted to jurisdictional agencies for review. The PNDI search needs to be resubmitted for review and must specify that EV wetlands are present in the project search area. There needs to be a legible signature on the PNDI search document indicating the name of the person who submitted the search request. In addition, the PNDI search indicated a potential impact risk to the Bog Turtle *(Glyptemys muhlenbergii)* and required submittal of additional information and further consultation with the U. S. Fish and Wildlife Service (USFWS). There is no documentation from the USFWS included to confirm that the potential impact to the Bog Turtle was satisfactorily resolved based on a Phase I survey to characterize the suitability of the habitat for this species that is federally listed as threatened and Pennsylvania listed as endangered. The only habitat assessment for any wildlife species that is documented in the ERA was conducted in December 2018, and this time frame is inappropriate for completion of a Phase I survey for the Bog Turtle, and there is no indication that any such survey was performed at an appropriate time.

14. With regard to the hazard quotients (HQ) discussed in the Roux ERA, there is a statement that HQ values between 1 and 10 are considered to be indicative of "acceptable risk." However, contaminant toxicity curves are not linear, but are likely exponential. To rely on an HQ, one would need to develop a dose response curve for each constituent of potential ecological concern (COPEC) and each receptor species. Otherwise, there is no way to know what level of mortality is likely from an HQ for a specific species. Without such additional study, an HQ cannot be used to claim that the ecological risk is acceptable. The HQ values >1.0 require further evaluation. The existing claim that there is no unacceptable ecological risk is not warranted.

15. In ERA Table C-3 Sediment-Invertebrate Direct Contact Exposure Estimate, under the Hazard Quotient columns, there are "No Direct Contacts TRV" for boron, hexavalent chromium, thallium, and vanadium. In the ERA at "Section 5.5.1 Evaluation of Potential Ecological Risk to Benthic Invertebrate Communities" is the following statement: "Boron, hexavalent chromium, thallium and vanadium did not have toxicity reference values (TRVs) that could be located in the published literature commonly used to conduct ecological risk assessments, therefore the potential for ecological risk to benthic invertebrates cannot be estimated" [for these Constituents of Potential Ecological Concern (COPECs)]. The following statement appears a few sentences later: "Based on the above information, it is concluded that the COPECs present in surface water and sediment for the assessed area of the LVC tributary do not pose an ecological risk to benthic invertebrates at the Site." Note the disconnect between the two statements and the fact that the conclusion that there is no

risk to the aquatic benthic invertebrates is not based on evidence, because the risk cannot be estimated.

The VCTC has additional comments on the PA DEP's proposed Remedial Response Action (RRA) and the associated documents in the Administrative Record.

16. The proposed selected alternatives for both Operational Unit 1 (Soils) and 2 (Groundwater) indicate that in situ treatment will occur through injection of oxidant or reductant chemicals yet to be determined. For Operational Unit 2, injection amendments may also include bacteria or nutrients yet to be determined. The amendments to be used will be determined following additional laboratory and field studies. There is no indication what specific remediation chemicals will be used, nor is there an assessment of the human or ecological risks associated with these chemicals. The chemicals and other amendments that will be used to treat the contaminants needs to be specified and evaluated for human health and ecological risks. DEP needs to develop a summary list of all the pre-remedial design investigations that it is requiring for completion prior to the implementation of site cleanup. Such a summary should include a time schedule for completion of each investigation.

17. The proposed use of chemical oxidation deals with volatile organics which will deal with the primary human health issue - TCE. However, if metals exceed ecological benchmarks in soil or groundwater near LVC, then additional amendments will need to be added to bind metals. The VCTC requests information demonstrating that the in situ treatments for both soil and groundwater will address any metals that pose ecological risk.

18. In the description of the Operational Unit 2 preferred alternative 3 for in situ injection (ISCO/ISCR/Bioremediation) to remediate contaminated groundwater there is the following statement: "In situ injection may not be viable for hot spot areas (i.e., acid rinse spill area) in close proximity to LVC because of potential negative impacts to surface water." We agree; however, there is no indication of how the determination on what distance is too close will be made. This injection proximity caution also needs to be applied to the drainage swale that drains to LVC at the north end of the property, because there are contaminant hot spots in relatively close proximity to this water feature that is an ecological receptor. The methodology for determining the locations where injection will be avoided needs to be explained. How will LVC be protected?

19. Injection of treatment amendments for both Operational Unit 1 (Soils) and 2 (Groundwater) may result in downward and/or lateral movement of the existing contaminants which could contribute to further spread of the contamination from soil to groundwater and/or from diffuse groundwater discharge to LVC. In the event contaminants and/or treatment amendments migrate via groundwater plume or discharge to LVC, there is no indication in the remediation plan of implementing prevention measures or developing a <u>contingency</u> plan to deal with such an adverse outcome. Although the proposed remediation includes performance monitoring, the frequency for such monitoring is not indicated. The VCTC requests that the closest groundwater wells and the surface water of LVC be sampled on a

daily basis during the in situ treatment of both soils and groundwater, and thereafter on at least a monthly frequency to detect contaminant concentrations and the extent of their migration. A contingency plan needs to state that in situ injection treatment will cease immediately upon detection of increased concentrations of contaminant metals or VOCs in monitoring wells and LVC until such time that means can be designed and implemented to prevent such an occurrence.

20. If the proposed in situ treatment of soil and/or groundwater results in undesirable migration of contaminants to LVC or groundwater, it could take months before such an adverse outcome is detected and a means of prevention is designed and implemented to effectively stop the unwanted migration and treat the areas of increased contamination. Rather than rely on performance monitoring or a contingency plan, it would be more advantageous to implement prevention measures prior to initiating the in situ treatment. A permeable reactive barrier (PRB) could be installed between LVC and the proposed areas for soil and groundwater treatment prior to any injection of treatment amendments. Following laboratory and field trials to determine the most effective treatment amendment to use for the reactive barrier, it could be installed parallel to LVC prior to the injections described for soil and groundwater treatment. Use of zero valent iron mixed with sand (to improve permeability) and bentonite (to improve removal of metals) is one potential material for installation in the PRB that could provide meaningful reduction in the metals entering LVC via groundwater.

21. For both Operational Unit 1 and 2, the engineering and institutional controls (ECs and ICs) that will or may be used are not specified. Again, such details are currently unknown and will be determined in the future. The variety of engineering and institutional controls that are likely to be used need to be specified in the Remedial Response Action. The need for ECs and ICs indicates that contamination will remain in place after the remedial action. In our experience, most of these controls break human exposure pathways and not exposure pathways to ecological receptors. Any proposed controls need to break the contaminant exposure pathways to ecological receptors.

22. Treatment chemicals injected as fluids into the ground for in situ treatment of contaminated soils and groundwater may displace (or “push”) contaminated pore water ahead of the injection front, leading to short-lived but dramatic changes in the distribution of groundwater contamination. So, concentrations of the contaminants may increase in some areas and the contaminant plume may spread. Explain the monitoring strategy that will be implemented to detect a spread of the groundwater contaminant plume and increases in the concentration of contaminants in groundwater and to LVC as a result of the in situ injection of treatment chemicals.

23. The Remedial Response Action should include a plan for future sampling to detect contaminant migration and increased concentrations, as well as planned contingency activities if contaminant concentrations leaving the site increase. Such a plan needs to specifically identify the groundwater well and surface water measurement locations which

will be tested in the future to verify the expectation that groundwater contamination will not be migrating horizontally or vertically beyond the area of groundwater contamination existing prior to in situ treatment.

24. There are two approaches commonly used to perform hydraulic containment: the use of pumping wells to change the hydraulic gradient and the excavation of trenches or installation of drains to intercept the contaminant plume. This technology requires a simple operation system. Targeted contaminants could include non-aqueous phase liquid (NAPL) and a wide range of dissolved contaminants. Several applications of hydraulic containment need to be further considered for treatment of the CVOC's and inorganic contaminants degrading LVC through diffuse discharge of contaminated groundwater.

    a. **Pumping Wells:** When using pumping wells, the goal is to modify the groundwater gradient to slow down or stop the migration of the contaminated plume. The pumped groundwater is either treated or disposed of in an appropriate manner. A row of pumping wells could be installed parallel to LVC to intercept, remove, and treat contaminated groundwater moving toward this stream prior to discharging to it. Treatment of the pumped groundwater could be done onsite with potential use of the cleaned water for injection with other treatment chemicals used for in situ remediation of contaminated groundwater at other locations on the site. Alternatively, the treated groundwater could be evaluated for reinjection on the site in areas upgradient from the locations of known contamination.

    b. **Trenches and Drains:** Trenches and drains could be used to intercept shallow contaminated groundwater that is migrating towards LVC. Trenches and drains could be installed upgradient of the contamination to prevent the non-contaminated groundwater from entering a contaminated plume, or downgradient of the contamination to prevent the contaminated water from migrating to LVC and its associated exceptional value wetlands. The contaminated water that is intercepted could be pumped from trenches or drainage systems, and then directed into an on-site treatment system or sent off-site to an authorized disposal facility. Alternatively, a Permeable Reactive Barrier (PRB) could be installed downgradient of the metals and VOC contaminated groundwater in a trench parallel to the LVC. The PRB could be constructed with Zero Valent Iron (potentially mixed with clean sand to improve permeability and bentonite to improve removal of metals) to treat both metals and TCE prior to the groundwater flow reaching LVC. The use of a PRB is not proposed as a replacement to in situ treatment of soils and groundwater, but as a supplemental treatment method.

25. There is no indication that the remediation plan will maintain and preserve the existing riparian buffer of trees and shrubs along LVC. The "Feasibility Study" includes a site map depicting the application of phytoremediation through the proposed plantings of poplar trees and the installation of a trench filled with wood mulch parallel to the stream channel. The proposed treatment approaches would adversely impact the EV Wetlands adjacent to

LVC. The plan to use phytoremediation by planting poplars in the LVC riparian corridor will be more harmful than helpful because there are existing mature trees performing a shallow groundwater uptake function that would likely be removed. The existing mature trees and shrubs are already providing phytoremediation and need to be retained. As illustrated in the Roux Feasibility Study at Figure 22 - Conceptual BMPs for LVC Tributary, it appears that the existing mature trees and shrubs would need to be removed for the placement of new trees and the installation of a mulch trench. Native species of poplars (such as Quaking Aspen and Big-tooth Aspen) could be planted within the riparian corridor to supplement the remediation provided by the existing trees. Removal of existing mature trees and shrubs in the riparian corridor is not recommended. However, the installation of a Permeable Reactive Barrier (PRB) within a trench paralleling LVC could be installed at a location set-back further from the forested riparian corridor along LVC, so that removal of existing trees is unnecessary. The use of a PRB is not proposed as a replacement to in situ treatment of soils and groundwater, but as a supplemental treatment method.

26. Although not proposed in the Bishop Tube site remediation plan, hydraulic containment is often used to control the migration of dissolved contaminants. PA DEP should consider the use of hydraulic control by pump dewatering of drilled wells upgradient of the contaminant hot spots in the groundwater to keep clean water clean. Such pump dewatering could slow the spread of clean groundwater down gradient into the areas of existing soil and groundwater contamination. The water pumped from the upgradient wells could then be used in the injection of treatment amendments for the in situ remediation of contaminants in both soil and groundwater.

27. Who will be performing site inspections and construction oversight during the implementation phase of the remediation plan? Will this task be done by PA DEP staff, Township staff, other agencies, or third-party consultants hired by DEP or the responsible parties? If a third-party consultant is the inspector, will the results of all site inspections be promptly reported to PA DEP and the Township? Who will determine, if implementation of the remediation plan needs to be revised based on the performance monitoring results or site inspections – PA DEP, the contracted remediators, or the responsible parties of the contamination?

28. Who will the implementers of the remediation plan be directed and supervised by – the responsible parties for the contamination, the technical consultants for the responsible parties, consultants for the PA DEP, or DEP staff?

29. There needs to be a discussion in the DEP RRA about the specific requirements for various permits, EV wetland protection, and stormwater management that will need to be met prior to the implementation of any contaminant remediation measures.

30. What role, if any, does the U. S. Environmental Protection Agency (EPA) have for cleanup of the hazardous contaminants at the Bishop Tube site? The EPA Region 3 has assigned this site the identification number PAD081868309. Do they perform a review of the DEP RRA

and provide technical assistance to PA DEP? Do they assist DEP with the public participation process? Do they provide any funding for contaminant cleanup or post remediation monitoring of the site if the responsible parties are unwilling or unable to pay the entire cost? The One Cleanup Program Memorandum of Agreement signed by PA DEP and EPA Region 3 on April 21, 2004 appears to provide opportunities for collaboration between the two agencies that has not been evidently exercised for the Bishop Tube site remediation.

31. Has a written public involvement plan been developed for this site? If not, I recommend that DEP prepare such a plan. PA DEP did not meet with the public to answer questions about the RRA. One public hearing with a summary presentation describing the RRA was insufficient to prepare the public for commenting. The technical complexity and volume of documents associated with the RRA warranted opportunities for the public to obtain further explanation and interpretation from DEP. Yet, DEP requested public comment on this proposal from an audience that it inadequately prepared to accomplish that task. More interaction with the public could have promoted trust of the agency and better understanding of the remediation planning and implementation process and the associated technical methods used for contaminant cleanup and the various cleanup standards. DEP has substantially deferred to East Whiteland Township for providing opportunities for public participation. This lack of state agency engagement with the public is not only disappointing, but it is also deficient relative to the public participation provisions of PA Act 2 – the Land Recycling and Environmental Remediation Standards Act – and the public participation provisions described in PA Title 25, Chapter 250, 25 PA Code Section 250.6. Public Participation. In order to accomplish a Bishop Tube site remediation outcome that will be satisfactory to the public, we recommend that PA DEP provide opportunities for increased public participation in the future and assign a member of staff to serve as the coordinator for public participation to actively solicit input and to respond to questions from the stakeholder community. Active outreach by DEP to encourage public participation needs to be implemented before, during, and after the site remediation.

32. In both the Roux Associates Remedial Investigation Report (RIR) and the Feasibility Study (FS) there is a foundational premise agreed to between PA DEP and Roux that the Bishop Tube site will not be used for residential purposes. Within the Remedial Investigation Report (Volume 1, pages 3-4, under 2.0 Scope of Remedial Investigation) there is discussion about this land use premise that includes the following statement: “as agreed with DEP, both the RIR and the FS assume that present and future use of the Site will be non-residential only.” Similar language appears within the FS on page 2, Section 1.2 Clarification of FS Scope. Both documents include footnotes referencing Roux’s letter dated December 16, 2016 and DEP’s response dated January 11, 2017 that further clarify this premise for mutual agreement. However, neither of these two letters is included within the PA DEP Administrative Record Docket. Both letters need to be added to the Administrative Record. Despite this premise, there appears to be some uncertainty about the potential use of the property for residential purposes based on the omission within the Remedial Response Action of any such discussion limiting future land use. The use of the site for only

non-residential purposes needs to be definitively stated by DEP within the Remedial Response Action.

33. The VCTC requests that the PA DEP provide it all future documentation and data re: any and all additional site investigation, treatability studies, selected remediation techniques and treatment amendments, ecological risk assessments, and pre-treatment sampling as well as monitoring results during and following implementation of the selected remediation methods.

Valley Creek is designated by DEP as an EV water and is also designated by the PFBC as a Class A wild trout stream. EV designation is a special protection water meeting certain criteria which afford it the highest protection against degradation, and Class A wild trout streams comprise less than 3% of the flowing water resources in Pennsylvania. Class A wild trout streams support robust populations of naturally reproducing wild trout due to a significant biological, ecological, or environmental condition within the watershed. DEP is mandated to properly protect the exceptional values of the Valley Creek watershed and we hope the comments provided by the VCTC will help DEP to meet its obligation.

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