

May 27, 2021

Will Pickering
Pittsburgh Water and Sewer Authority
1200 Penn Avenue
Pittsburgh, PA 15222
Email: wpickering@pgh2o.com

Re: DEP FILE E0205220-031
Technical Deficiency Letter
Four Mile Run Stormwater Improvement Project
City of Pittsburgh
Allegheny County

Dear Will Pickering:

The Department of Environmental Protection (DEP) has reviewed the above referenced application package and has identified significant technical deficiencies. The attached list specifies the deficiency items. The deficiencies are based on applicable laws and regulations, and the guidance set forth as DEP's preferred means of satisfying the applicable regulatory requirements.

Pursuant to 25 Pa. Code §105.13a of DEP's Chapter 105 Rules and Regulations you must submit a response fully addressing each of the significant technical deficiencies set forth on the attached list. Please note that this information must be received within sixty (60) calendar days from the date of this letter or DEP may consider the application to be withdrawn by the applicant.

You may request a time extension, in writing before the due date to respond to deficiencies beyond the sixty (60) calendar days. Requests for time extensions will be reviewed and considered by DEP. You will be notified of the decision in writing to either grant or deny, including a specific due date to respond if the extension is granted. Time extensions shall be in accordance with 25 Pa. Code §105.13a(b).

DEP has developed a standardized review process and processing times for all permits or other authorizations that it issues or grants. Pursuant to its Permit Review Process and Permit Decision Guarantee Policy (021-2100-001), DEP guarantees providing permit decisions within the published time frames, provided applicants submit complete, technically adequate applications that address all applicable regulatory and statutory requirements, in the first submission. Since you did not submit a complete and/or technically adequate application, DEP's Permit Decision Guarantee is no longer applicable to your application.

If you believe that any of the stated deficiencies is not significant, instead of submitting a response to that deficiency, you have the option of asking DEP to make a decision based on the information with regard to the subject matter of that deficiency that you have already made available. If you choose this option with regard to any deficiency, you should explain and justify how your current submission satisfies that deficiency. Please keep in mind that if you fail to respond, your application may be withdrawn or denied.

Should you have any questions related to the engineering comments, please contact Ryan McNatt at **412.442.4076** or rmcnatt@pa.gov. For questions related to the environmental comments, please contact Joseph Snyder at **412.442.4308** or jossnyder@pa.gov. Please refer to Application No. **E0205220-031** Authorization No. 1323859 to discuss your concerns or to schedule a meeting. You may also follow your application review process via *eFACTS on the Web* at: <http://www.ahs2.dep.state.pa.us/eFactsWeb/default.aspx>.

Sincerely,

Dana Drake

Dana Drake, P.E.
Environmental Program Manager
Waterways & Wetlands Program

Enclosure(s)

cc: Jim Turner, PWSA
Mallory Griffin – Johnson, Mirmiran & Thompson, Inc.
Allegheny Conservation District (ESP-02793)
US Army Corps of Engineers (LRP-2018-774)
PA Fish & Boat Commission
Karina Ricks, City of Pittsburgh
Division of Dam Safety, DEP
Permitting & Technical Services Section DEP File No. E0205220-031

PLEASE ENCLOSE A COPY OF THIS LETTER WHEN SUBMITTING
THE REQUESTED INFORMATION
Items Needed for TECHNICAL ADEQUACY

Engineering Comments

1. §105.13(e)(1)(i): Revise “Four Mile Run Outfall and Stormwater Improvement” plans to include the following:
 - a. End-wall Sections on Page 31 of 106 show R-7 Rip Rap to be implemented at base end-wall. Provide and verify that R-7 riprap will remain stable during 100-year storms. What erosion potential to the riprap arises from the 4.5-foot drop from culvert bottom to top of placed riprap?
 - b. Storm Plan and Profile; Page 37 of 106 shows a potential impact to the existing 144” RCP Sewer, provide minimum cover and explain if this impact is to remain in design.
 - c. Storm Plan and Profile; Page 40 of 106; provide the elevation transition from open channel to piped section on profile view.
 - d. In many locations Storm sewers have slopes less than 1%. Provide evidence that these minimum slopes will carry intended normal and flood flows.
 - e. Provide normal flow depth to all profiles showing that minimum slopes in many profile views will adequately transport normal waters flows through pipe network.

2. §105.13(e)(1)(i): Revise “Junction Hollow Stream Project” plans to include the following:
 - a. CSX Pipe Crossing Plan and Profile; sheet C304 indicate that riprap will be placed at Panther Hollow Lake outlet, however, this does not correspond to sheet C400 were no riprap is shown at outfall. Evaluate the use of riprap in this area and provide calculations that detail that the 100-year storm velocity’s will not cause erosion to the newly constructed stream at the outfall.
 - b. Provide cross section of the 30-inch HDPE pipe outfall showing normal flow depth.
 - c. Provide cross section of the Concrete Headwall at station 23+00 showing normal flow depth. (Plans state see Concrete Headwall Details, however, no details were found.)

3. §105.13(e)(1)(viii): Please confirm that the all associated impacts (Department of Mobility and Infrastructure) of the current proposed project were incorporated in the letter from the City of Pittsburgh dated October 23, 2020 reviewing the floodplain and stormwater management ordinances. If the city is reviewing separately, provide a copy of letter from the city commenting on the analysis.

4. §105.13(e)(1)(iii): Figure 3 appears to be missing from your resubmission of “Section J – Project Description ARIT November 2020”. This figure in the original submission shows many stormwater pipes connecting to the existing system. Will these existing pipes remain in place or connect to the new open channel?

5. §105.161: Revise the Hydrology and Hydraulics (H&H) Report to include the following:
 - a. Provide an explanation as to why the design storm was determined to be 10-year storm. Please review §105.161(c) (1-3) & §105.161(d) and revise the H&H analysis as needed based on these requirements.
 - b. Provide the hydraulic calculations for the capacity of 36-inch, 48-inch and 60-inch stormwater pipe. In addition, develop cross sections/profiles starting at the 36-inch pipe inlet to show various water surface and flood elevations, including normal water surface and flood elevations up to the 100-year storm.
 - c. Please review Appendix A – Design Storm Inundation Maps & Figure 3 – Panther Hollow Lake Inundation Maps (Ex & Pre) as they do not appear to correspond. Selected Alternative #8 shows that 16 business or houses will be inundated by the proposed 100-year flood. Provide clarification to determine if additional comments are needed.
 - d. Was the area as a result of the Department of Mobility and Infrastructure proposed trail and road incorporated into the flood analysis inundation limits study for proposed conditions. Provide evidence that the impervious area will not contribute additional flow increasing water surface elevations detailed in Figure 01 & Figure 02 of Project 2018-GI-102-0.
 - e. Provide, in included stream cross sections, the location of the Department of Mobility and Infrastructure proposed trail and road.
 - f. Sheets titled S-401 & S-402 show areas where shear stress is particularly high, especially in the area surrounding the headwall to the stormwater piping network. In this area, plans sheets No. C402 shows steep slopes at the transition. What measures are taking place in these areas of high shear stress to prevent erosion to the streambank.
 - g. Provide Computer Runs/Outputs for Hydraulic Study of Junction Hollow Stream & JMT Piping Network Improvements.
 - h. Develop a Summary Table that depicts the project in its entirety (Daylighting, Piping Network & DOMI Improvements). This summary table should show cross-sections from the start of the project to its end detailing proposed vs existing water surface levels and velocities.
 - i. Any revisions to the H&H Report must include updated Engineering Seal and Date.

Environmental Comments

6. §105.13(e)(1)(iv): Provide a picture of the river and riverbank, at the location of the proposed 60” diameter RCP storm pipe outlet.
7. §105.13(e)(1)(x): Based upon communication with the PA Historical and Museum Commission (PHMC), it appears that the trail project was added to the overall project after PHMC had reviewed the initial project. Accordingly, provide PHMC with an updated project scope and mapping (full narrative and project scope limits), preferably showing what was reviewed under the first submission and how it is different now, and provide evidence that PHMC was able to complete its review of potential impacts to historic properties. If applicable, provide evidence that any potential impacts have been adequately addressed.
8. §105.13(e)(1)(x), §105.191(2) and §105.231(a)(1)(ii & iii): Provide profile and cross sectional drawings that show the transition from the proposed open channel to the inlet of proposed 36” diameter stormwater pipe.

9. §105.13(e)(1)(i)(G), §105.231(a)(1)(ii & iii) and §105.301(5): Provide profile and cross sectional drawings that show the transition from the proposed outfall structure, from Panther Hollow Lake, to the proposed open channel.
10. §105.13(h), §105.13(i) and §105.14(b)(1): Provide evidence of authorization from the affected property owners, such as the City of Pittsburgh, railroad companies, Hazelwood Green site redevelopment project, etc.
11. §105.191(7): Provide proof of title or adequate flowage and other easements for lands included in the site of the proposed stream enclosure/stormwater pipe, including lands which may be subject to flooding by backwater from the structure during a 100-year flood.
12. §105.231(a)(1)(vii): Provide proof of title or adequate flowage and other easements for lands included in the site of the proposed channel change.
13. §105.13(e)(1)(x) and §105.14(b)(5): DOMI Project Drawing Nos. 8 and 9 of 16 show proposed PWSA channel and Three Rivers Heritage Trail (mobility trail?) overlapping with the Panther and Junction Hollow Trails – Are these trails the same? Who owns these trails? (Legends of several submitted pictures also show an existing trail.) Provide evidence of authorization from the affected owner(s) of these trails, regarding the proposed activities. If applicable, provide evidence that any concerns of the trail owner(s) have been adequately addressed.
14. §105.13(e)(1)(x) and §105.14(b)(1 & 5): The Environmental Assessment (EA) narrative identifies the Hazelwood Trail, within the project corridor. Evaluate, quantify and describe any potential impacts to this trail. In addition, provide evidence of authorization from the affected owner(s) of this trail, regarding the proposed activities. If applicable, provide evidence that any concerns of the trail owner(s) have been adequately addressed.
15. §105.13(e)(1)(x) and §105.14(b)(1 & 5): The EA indicates that the Four Mile Run (4MR) Project area includes Junction Hollow, a local recreation area, and portions of two local public parks, Four Mile Run Park and Schenley Park, in the City of Pittsburgh. The EA further states that “The sections of Schenley Park, Four Mile Run Park, and Junction Hollow included in the 4MR Project area are used mainly for public recreational purposes and include a trail network, lake, playground, and an athletic field... The 4MR Project will likely temporarily impact park and recreation area usage during construction...” Accordingly, provide evidence of authorization from the owners of these affected parks and recreational areas, regarding the proposed activities. If applicable, provide evidence that any concerns of the owners have been adequately addressed.
16. §105.13(e)(1)(x) and §105.14(b)(1 & 5): The EA, in a section regarding recreational uses, indicates that a walkway/sidewalk with benches and overview points has been constructed at Hazelwood Green in this general area. Evaluate, quantify and describe any potential impacts to this recreational area. In addition, provide evidence of authorization from the affected owner(s), regarding the proposed activities. If applicable, provide evidence that any concerns of the owner(s) have been adequately addressed.
17. §105.13(e)(1)(x), §105.14(b)(6), §105.14(b)(11) and §105.16(a): The project description indicates that Junction Hollow was used as a slag dump for several decades. Accordingly, evaluate and discuss the potential for the proposed daylighted watercourse to encounter this slag. In addition, evaluate the potential for the proposed watercourse to encounter or mobilize any leachable heavy metals or other contaminants.
18. §105.13(e)(1)(x), §105.14(b)(6), §105.14(b)(11) and §105.16(a): Related to the preceding comment, evaluate and discuss whether any chemical interactions between the proposed watercourse and the slag or any associated contaminates, or if there might be any resulting water quality concerns, including high pH levels, which might prevent, or interfere with, this

project from achieving some of its project goals, such as supporting aquatic functions, aquatic life, wildlife, etc.

19. §105.13(e)(1)(x): While the EA indicates that the streams flowing into Panther Hollow Lake have perennial flow, will the proposed stream channel intercept any additional groundwater inputs?
20. §105.231(a)(1)(vi): Provide a plan for the disposal of excavated material, in association with the construction of the proposed channel change.
21. §105.231(a)(1)(ii): Revise stream profiles to include normal water surface and depths, and flood water surfaces.
22. §105.13(e)(1)(x), §105.14(b)(4), §105.16(d) and §105.242(c): The proposed channel gradient is very flat from Sta. Nos. 0.66 to 6+50 (0.23%) and then very steep, starting around Sta. No. 22+00 (ranging from 7.76 – 10%). Accordingly, discuss the feasibility of revising the channel design to include a more uniform stream gradient throughout the length of the proposed open channel.
23. §105.13(e)(1)(x), §105.14(b)(4), §105.16(d) and §105.244: Pending your response to the preceding item, if Panther Hollow Lake will function as a water control structure, and given the flatness of the currently proposed channel slope along a major reach of the proposed watercourse, evaluate the suitability of the proposed channel design in terms of the type, frequency and number of proposed in-stream structures. Please consider the following comments from the PA Fish & Boat Commission when responding to this item: “The [Pennsylvania] Fish and Boat Commission (PFBC) recommends the applicant consider altering the proposed channel profile to have a more uniform slope over the entire reach of the project. The lower end of the project ranges from 7-10% slope while the rest of the daylighted channel is ~ 0.25%. Increasing channel slope slightly throughout the reach, will also provide additional margin for error when placing the instream grade control structures. As proposed the installation of the grade control structures will require precise setting of the throat elevation as to not impound water and impact the functionality of the next upstream structure. With the number of proposed structures and the shallow channel slope it is imperative that each structure be placed at the appropriate elevation or it will [affect] the overall outcome of the project.”
24. §105.13(e)(1)(x), §105.14(b)(4), §105.16(d) and §105.244: Why are the channel cross sections V-shaped at station Nos. 15+70, 18+11 and 20+39?
25. §105.13(e)(1)(iii), §105.13(h) and §105.13(i): Per Module S1, in the EA, “The purpose of the Project is to manage and/or remove direct stream inflow to the existing CSS within the Junction Hollow valley of Schenley Park and to improve the CSS system from Junction Hollow to the Monongahela River, by repair, replacement, and/or separation of the CSS and stormwater lines. The goals and benefits of the Project are to reduce CSOs; reduce flood risks and basement backups; reduce sediment transport; and leverage resources for regional benefit, including align with the Parks Master Plan.” Describe the relationship between PWSA’s project and the City of Pittsburgh’s project, in terms of the project purpose.
26. §105.13(h) and §105.13(i): The Pittsburgh Water and Sewer Authority (PWSA) is identified as the applicant, on the application form; however, the Project Description identifies the Mon-Oakland Mobility Project as a City of Pittsburgh project, led by the City’s Dept. of Mobility and Infrastructure (DOMI). Since PWSA is the applicant, will PWSA be responsible for the operation and maintenance of this section of DOMI’s project? Alternately, please consult with DEP, regarding additional permit requirements, if PWSA will not own or have primary responsibility for this section of DOMI’s Mon-Oakland Mobility Project.

27. §105.11(a) §105.13(a), §105.13(e) and §105.13(e)(1)(i): Sheet No. 11 of 16, regarding the Mon-Oakland Mobility Corridor project, shows a portion of the Junction Hollow Trail to be constructed over the proposed outlet structure, from Panther Hollow Lake. (It appears that the mobility corridor project and the Junction Hollow Trail merge together, at this point.) The proposed stormwater pipe/stream enclosure is not, however, shown on Sheet No. 7 of 16. Accordingly, revise Sheet No. 7 of 16 and other drawings, as necessary, to show the proposed pipe/enclosure. In addition, revise your application to describe and quantify impacts to aquatic resources, from the proposed mobility corridor.
28. §105.13(e)(1)(i): Related to the preceding item, the route/layout of the proposed DOMI Mobility Trail, as shown on CEC's Drawing No. C400, appears to differ from the route/layout that is shown on DOMI's Sheet No. 11 of 16. Revise all of the drawings, within the plan sets, as needed, to be consistent, throughout the entire, overall project.
29. 25 Pa. Code Chapters 93, 95, 102 and 105: Since this application only includes a section of DOMI's Mon-Oakland Mobility Project, identify and describe, to the extent possible, any and all potential impacts to aquatic resources, including watercourses, floodways, floodplains and bodies of water, from the overall Mon-Oakland Mobility Project. Please note that based on your response to this item, that a Comprehensive Environmental Assessment may be requested.
30. 25 Pa. Code Chapters 93, 95, 102 and 105: Related to the preceding item, CEC's Drawing No. C400 appears to show a spur of the DOMI mobility trail affecting a watercourse (Stream 25?). If this is the case, evaluate and discuss the feasibility of revising the project to avoid or minimize this impact. If this impact cannot be avoided, revise your application to describe and quantify this impact, as needed.
31. §105.13(e)(1)(ix): Revise your monitoring reports to include the Riverine Level 2 Rapid Assessment protocols, along with the geomorphic surveys and riparian vegetative monitoring, that will be completed, per pages 23 & 24 of your EA.
32. 25 Pa. Code Chapters 93, 95, 102 and 105: Page 1 of the EA states that the "...Four Mile Run (4MR) Stormwater Improvement Project (Project) represents one of several projects in the M-29 sewershed of the City of Pittsburgh to separate direct stream inflows, stormwater runoff, and sediment transport from the combined sewer system (CSS)..."; however, page 5, regarding the Cumulative Impacts Evaluation, states that "The 4MR Project is the only project planned by PWSA for the M-29 sewershed. Please revise your Cumulative Impacts Evaluation to describe the additional projects that are anticipated within the M-29 sewershed. In addition, describe and quantify any impacts to aquatic resources that are anticipated from these other projects. Please note that based on your response to this item, that a Comprehensive Environmental Assessment may be requested.
33. §105.13(e)(1)(x), §105.14(b)(4), §105.16(d) and §105.243: CEC Drawing Nos. C700 and C701 show only a medium density tree and shrub legend along significant reaches of the watercourse to be daylighted; however, Drawing No. C702 shows a high density tree and shrub legend for a majority of the depicted reach. Accordingly, evaluate and discuss the suitability of the proposed Junction Hollow Tree Planting Plan to provide shading, detrital inputs and other benefits, along the proposed watercourse. Based upon this evaluation, revise the landscape plan to provide a higher density of tree and shrub plantings, within the riparian corridor, along longer reaches of the proposed watercourse, if/as needed.
34. §105.13(e)(1)(x), §105.13(g), and §105.15: While the E&S Construction Sequence mentions the construction of a temporary diversion pipe and diversion channel during the proposed lake dredging and construction, which is the subject of a separate permit application that is being reviewed by DEP's Division of Dam Safety, it is not clear how water from Phipps Run

and Panther Hollow Run will be managed during construction of the proposed Junction Hollow stream and downstream stormwater pipe. Describe the E&SC measures that will be implemented to manage these water flows during the construction of the Junction Hollow stream and downstream stormwater pipe. Revise the E&SC Plan if/as needed.

35. As requested, public comments regarding your application for a Water Obstruction and Encroachment Permit, which were submitted to and considered by DEP during its technical review of your application, will be forwarded, separately, to your consultant, Mallory Griffin, PE, at JMT, Inc.

All requested information should be provided electronically using the Department's OnBase Electronic Forms Upload tool. Please use the following link as we are no longer accepting paper copies and submit the revisions as an entire section so that we can exchange with the original submission. Any sections revised should bear the revision date.

<https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx>