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SHAWN M. LATOURETTE
Acting Commissioner

Via E-mail
June 11, 2021

Tom Laustsen, Chief Operating Officer
Passaic Valley Sewage Commissioners
600 Wilson Avenue
Newark, NJ 07105

Re: Review of Selection and Implementation of Alternatives Report – Appendix F
Passaic Valley Sewerage Commissioners, NJPDES Permit No. NJ0021016

Dear Mr. Laustsen:

Thank you for your submission dated September 2020 entitled "Review of Selection and Implementation of Alternatives Report", as submitted, in a timely manner, to the New Jersey Department of Environmental Protection (the Department).

This report was submitted by the Passaic Valley Sewerage Commission (PVSC) as "Appendix F" in the "Selection and Implementation of Alternatives for Long Term Control Planning for Combined Sewer Systems – Regional Report" (Regional Report), where it was prepared in accordance with Part IV.D.3.b.vi of the above referenced New Jersey Pollutant Discharge Elimination System (NJPDES) permit. The Regional Report serves to comply with the Long-Term Control Plan (LTCP) submittal requirements as due on October 1, 2020.

The Regional Report presents a "Regional Alternative" for all PVSC's combined sewer communities as well as a "Municipal Alternative" which is shown in the individual appendices for each of its eight (8) member combined sewer municipalities. This subject letter serves to provide a response to Appendix F which is specific to PVSC whereas a response to the Regional Report is provided under separate cover. In addition, the findings of this subject letter are intended to be consistent with the recommendations of EPA as per the Order of Consent (CWA-02-2018-3009) dated April 16, 2018.

The overall objective of the LTCP is to identify and select CSO control alternatives that meet the requirements of the Federal CSO Control Policy Section II.C.4, N.J.A.C. 7:14A-11, Appendix C, and the USEPA Combined Sewer Overflows Guidance for Long-Term Control Plan (EPA 832-B-95-002). The Federal CSO Policy establishes a framework for the coordination, planning, selection, and implementation of CSO controls required for permittee compliance with the Clean Water Act. This subject report builds on other previously submitted LTCP reports referenced in Part IV.D.3.b of the NJPDES permit, which includes an approved hydrologic, hydraulic and water quality model and other information in the June 2018 "System Characterization Report" (approved by the Department on April 12, 2019); the June 30, 2018 "NJCSO Group Compliance Monitoring Program Report" (approved by the Department on March 1, 2019); the June 2018 "Public Participation Process Report" (approved by the Department on March 29, 2019); the

June 2018 "Identification of Sensitive Areas Report" (approved by the Department on April 8, 2019) and the June 2019 Development and Evaluation of Alternatives Regional Report (DEAR) (approved by the Department on January 17, 2020).

The below represents the Department's initial comments. The Department reserves the right to further comment on these issues. Comments are as follows.

Section A, Introduction

Comment 1: Section A.2.3, Long Term Control Plan Approach states the following:

> "Given that PVSC does not own or operate any CSO outfalls, the PVSC Recommended Alternative could not be evaluated for the reduction of yearly CSO overflow events or percent capture. Thus, PVSC applied the Presumption Approach of achieving a minimum of 85% capture by volume on an annual average (typical year), consistent with the approach selected by Permittees for their individual plans. However, since PVSC does not own or operate any CSO outfalls, it is noted that the PVSC Recommended Alternative as discussed in Section F of this Report is intended to complement the implementation of alternatives that are being proposed by the Permittees within the PVSC Treatment District. Therefore, the placement into operation of the PVSC Recommended Alternative shall be the performance criteria that will be used for the PVSC Recommended LTCP capital project since the implementation of the capital projects by the other Permittees are required to collectively achieve 85% capture by volume."

The Department acknowledges that PVSC has selected the Presumption Approach (Section A.2.3) as have the 8 CSO municipalities within the PVSC district where the Presumption Approach is defined in the NJPDES permit at Part IV.G.4.f.ii and states "the elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a hydraulically connected system-wide annual average basis." While the Presumption Approach criteria of achieving of 85% capture by volume on a system-wide annual average basis may not be applicable to this POTW, the CSO Policy requires maximization of flow to the POTW under the NMCs. See also Comment 4 and Comment 7 below.

Section D, Selection of Recommended LTCP

Comment 2: Section D.1, Introduction states the following:

> "The NJPDES Permit issued to PVSC and each of the eight Permittees includes requirements for PVSC and the Permittees to cooperatively develop a CSO LTCP. As discussed in Section C, to facilitate collaboration among the Permittees, PVSC developed and evaluated alternatives that could be implemented at the regional level as part of the PVSC DEAR and Regional DEAR required by the Permit.
>
> However, to address individual compliance with the Permit in the event that implementation of a Regional CSO LTCP is not feasible due to technical or financial constraints, PVSC and the Permittees must select alternatives that can be implemented independently by each Permittee, in addition to the selection of a Regional Alternative. As such, this report and the SIARs, developed by each of the Permittees (included as Appendices to the Regional LTCP), discuss selection of alternatives to be implemented by each Permittee independently from the region. The Regional LTCP discusses selection of a Regional Alternative to be implemented at the regional level.

> Based on the above, this Section focuses on the selection of alternatives that can be implemented by PVSC independently."

The Department acknowledges that PVSC and the CSO municipalities have presented a regional approach and a municipal approach to compliance. As a result, the Department maintains that the solutions presented by PVSC are critical to the overall CSO reduction effort and that implementation of such should proceed in an expeditious manner. This comment does not necessitate a response at this time but this information is hereby noted for the Administrative Record.

Comment 3: Section D.3, Selection of Alternatives, states the following:

> "This CSO control technology can be selected and implemented as an Alternative that meets the criteria listed above, as it is a CSO control technology selected during the PVSC DEAR screening process (See **Table B-3**), it can be applied independently by PVSC, and it maximizes flow to the WRRF [Water Resources Recovery Facility] for treatment, which is one of the nine minimum control requirements from the NJPDES Permit and the National CSO Policy…Further the installation and implementation of a Secondary Treatment Bypass is permitted by the PVSC NJPDES Permit, as last modified on December 10, 2019. The Secondary Treatment Bypass enables increased wastewater treatment capacity during wet weather."

As noted in this excerpt, the Department modified the NJPDES permit on December 10, 2019 to incorporate an interim bypass approval in order to allow the acceptance of additional wet weather flows that are currently untreated and discharged as combined sewer overflows (CSOs). Any discharged effluent is required to meet all effluent limitations. As stated in this modification, this action will result in incremental water quality improvements to the affected receiving waters through the reduction and/or elimination of CSOs in the short term as part of an overall integrated plan which is consistent with the intent of the Water Infrastructure Improvement Act (H.R. 7279) (see https://www.congress.gov/bill/115thcongress/house-bill/7279). This subject permit modification also served to address these conditions consistent with the recommendations of EPA as per the Order of Consent (CWA-02-2018-3009) dated April 16, 2018.

Based on these reasons, the Department maintains that the interim bypass should become operational within the next NJPDES permit cycle. Given that the other CSO permittees are evaluating methods to store and/or convey additional flow, these flows need an ultimate location for treatment. See also Comment 12 regarding the timeline for the bypass. This comment does not necessitate a response at this time but this information is hereby noted for the Administrative Record.

Comment 4: Section D.3, Selection of Alternatives, also states the following:

> "The Parallel Interceptor is one of the Regional Alternative technologies proposed in the Regional LTCP. **Figure D-1** shows the potential location of the Newark Parallel Interceptor. **Table D-1** summarizes the associated CSO capture and overflow event performance for the Secondary Treatment Bypass and the addition of the Parallel Interceptor to maximize the regional benefits of the bypass."

Table D-1 is then included as follows:

Table D-1: Performance Summary for the Secondary Treatment Bypass and Parallel Interceptor

Performance Indicator	Secondary Bypass Only	Bypass + Parallel Interceptor Parallel Interceptor
Parallel Interceptor Length (ft.)	-	29,296
Annual Overflow Volume Reduction (MG)	752	1,085
Annual Overflow Percent Reduction	16%	24%

It appears that this is an estimate of additional flows that will be conveyed to PVSC which would otherwise be directed to CSO outfalls. Provide additional detail as to how these values were derived and the estimated timeframe as to when these additional flows would be realized. In addition, present this information in a graphical format to show reductions over time as estimated in the LTCP based on the municipal approach as well as in the regional approach as presented in the Regional Report.

Comment 5: Section D.3.1, Description states the following regarding the NFA Analysis:

> "Further detail of the analysis completed in 2019 can be found in the NFA Analysis Report included in **Appendix A**. Updates to modeling and cost of implementation that have occurred since the final report was issued in 2019 are not reflected in the report and are presented in this Section, as applicable.
>
> Upon evaluation of the various alternatives, including criteria such as permit compliance, schedule, and cost, in addition to operational feasibility and efficiency, the NFA Analysis Report concluded that the Secondary Treatment Bypass is the only alternative that can reliably expand the wet weather treatment capacity up to 720 MGD while maintaining permit compliance, providing operational flexibility, relative low cost, and a short implementation schedule."

As noted in Comment 3, the Department issued a final major NJPDES permit modification on December 10, 2019 that approved an interim bypass line where operations of such are conditioned on a variety of factors including a TWA and where there was no relaxation of effluent limitations. As part of that permit modification, the Department acknowledged that the permittee addressed the bypass regulations at 40 CFR 122.41(m)(3). The Department notes that an updated analysis of the federal bypass criteria was addressed again in Appendix A of this subject report as entitled "Passaic Valley Sewerage Commission, New Jersey - WWTP No Feasible Alternatives (NFA) Analysis Report, Final Report, January 2019. Confirm that the revised NFA will be incorporated as part of the design analysis.

Comment 6: Section D.3.1, Description states the following:

> "The implementation of a secondary treatment bypass expansion would allow PVSC an alternative to capture, provide primary treatment, and disinfect wet weather flows above 400 MGD and reliably treat up to 720 MGD of influent while meeting the effluent permit requirements summarized in **Section A.2.4**. Upon implementation of the secondary treatment bypass, the existing interceptor will be able to convey a total flow above 400 MGD to the PVSC WRRF. However, in order to convey 720 MGD, a new regional interceptor and increased pumping capacity from the HCFM [Hudson County Force Main] will be required due to hydraulic limitations of the existing CSS [combined sewer system].

The Hudson County Force Main is utilized to convey flows from Jersey City, the City of Bayonne and the North Bergen Central Area to PVSC. While pumping capacities for the HCFM of 146 MGD and 185 MGD are presented in Table C-1, PVSC CSO Control Alternatives, provide additional detail on the current hydraulic pumping capacity and conveyance capacity of the Hudson County Force Main since it is integral

to the overall CSO reduction effort. In addition, confirm that PVSC will be able to accept these increased flows.

Comment 7: Section D.3.2, Remaining Overflows, is stated as follows:

> "As PVSC does not own or operate any CSO outfalls or regulators, it does not have jurisdiction over the overflow discharges at the CSO outfalls owned and operated by other Permittees within the hydraulically connected system. However, implementation of the Secondary Treatment Bypass will enable treatment of higher wet weather flows at the PVSC WRRF, thereby maximizing flow to the Publicly Owned Treatment Works (POTW) for treatment which is one of the Nine Minimum Controls required by the Permit. The Secondary Treatment Bypass will also increase the CSS's ability to convey wet weather flow. The latest hydraulic modeling analysis updated after the Final NFA Analysis Report was submitted estimates the Secondary Treatment Bypass can contribute to reductions in CSO discharges of about 750 million gallons per year based upon the typical rainfall year. Additional reduction in CSO discharges totaling 1 billion gallons per year (based on the typical year) can be realized with the simultaneous implementation of the Regional Parallel Interceptor described in **Section D.3**."

While the Department acknowledges that PVSC does not own or operate any CSO outfalls, it is the Department's understanding that PVSC does operate regulators within the system. Revise the first sentence in this excerpt. In addition, the Department hereby acknowledges that the estimated reductions in CSO discharges has changed in the Final NFA Analysis Report based on updated hydraulic modeling analysis and is broken down for the bypass and interceptor projects. These updated estimates do deviate from the values referenced in the NJPDES permit modification application. This updated information is hereby acknowledged for the Administrative Record.

Comment 8: Section D.3.6, Selection of Recommended Alternative provides an overview as to why the bypass alternative was selected. This section also states:

> "The Secondary Treatment Bypass was presented to the Public by PVSC in the context of the NFA Analysis team in October 16, 2018, and was introduced to the public in the context of the DEAR and SIAR development at the Public Participation Meetings held in the years 2019 and 2020. Refer to the Public Participation Report in Appendix E of the Regional LTCP for more detail."

The Department acknowledges that the bypass alternative was presented at numerous public meetings since October 16, 2018 that were typically held on a quarterly basis. As a result, the Department acknowledges that the bypass alternative underwent the public participation process as required at Part IV.G.2 of the NJPDES CSO permit.

Comment 9: Section D.3.6, Selection of Recommended Alternative also states the following regarding Public Participation:

"The Secondary Treatment Bypass was presented to the Public by PVSC in the context of the NFA [No Feasible Alternatives] Analysis team in October 16, 2018, and was introduced to the public in the context of the DEAR and SIAR development at the Public Participation Meetings held in the years 2019 and 2020. Refer to the Public Participation Report in Appendix E of the Regional LTCP for more detail."

Public participation is a required element of the LTCP. The Department acknowledges that public participation and public outreach has taken place through the PVSC Supplemental CSO Team and that the CSO related bypass control was discussed in October 2018. Provide a brief summary of public participation

activities to date subsequent to the submission of the June 2018 Public Participation Process Report. This may also include any town council or municipality government meetings where CSO alternatives were discussed.

Public participation will continue in the next NJPDES permit and could include three primary goals: inform, educate and engage. The Department is evaluating this issue and is in the process of preparing updated NJPDES permit language to advance this issue for the next permit renewal. One element for future public participation could include public input on the siting of green infrastructure projects. Provide input on the viability of public input on this topic.

Comment 10: Section D.4, Description of Recommended LTCP states the following:

> "Section D.3 describes the process to select the alternative for the PVSC LTCP. The screening of CSO control technologies as part of the DEAR, NFA Analysis, and criteria established as part of the SIAR resulted in the selection of the PVSC WRRF Secondary Treatment Bypass Expansion to 720 MGD Alternative. Implementation of this Alternative is recommended for the PVSC LTCP regardless of whether a regional collection system alternative or independent LTCP implementation is selected by PVSC and the CSO Permittees of the hydraulically connected communities."

As described in Comment 1, PVSC developed and evaluated alternatives that could be implemented at the regional level as part of the PVSC DEAR and Regional DEAR required by the permit. The Department agrees that the bypass project is integral to the overall CSO reduction effort and will be implemented regardless of whether the municipal or regional approach is ultimately chosen. This updated information is hereby acknowledged for the Administrative Record.

Section E – Financial Capability

Comment 11: Section E.3.1, Affordability Impacts of the Proposed CSO Controls is stated as follows:

> "PVSC has committed to expanding the wet weather treatment capacity at its wastewater treatment plant to 720 MGD which will provide substantial CSO control benefits to the eight combined sewered municipalities. Planning and design work for this capacity expansion is underway and the project is projected to be completed in 2024. The estimated capital costs for this project total approximately $45 million and the projected incremental annual operation and maintenance costs resulting from the plant expansion are $640,000."

Since increased wet weather capacity is integral to the CSO reduction effort, provide a detailed timeline of the necessary steps to implement the wet weather capacity expansion via a Gantt chart. In addition, provide detail regarding the status of funding for the bypass improvements.

Comment 12: Section E.3.1, Affordability Impacts of the Proposed CSO Controls states the following:

> "Since the capacity expansion will provide benefits to the overall PVSC service area, it anticipates that these costs will be allocated across the entire service area utilizing its existing cost allocation methodology. For purposes of this analysis only, it is assumed that the entire $45 million in capital costs will be financed through new borrowing using the New Jersey Infrastructure Bank with 20 year loans. The resulting annual debt service payments and incremental O&M costs are estimated to be $3.9 million. Of this, the eight combined sewered municipalities would be responsible for around $2.5 million. Based on the 2019 PVSC intermunicipal cost allocations, the projected incremental costs by municipality are as shown on **Table E-2**."

Table E-2, Impacts of PVSC Plant Capacity Expansion on Municipal and Residential Costs then shows the costs to the 8 CSO municipalities. It is then further stated:

> "As shown on **Table E-2**, the impact on typical single family residential user costs per year are around $5.60 weighted by the number of households. The total cost per household would increase to around $426 from $421 and the residential indicator would increase slightly from 0.88% to 0.90%. It should be noted that the projected costs per typical residential user do not include the municipalities' costs of implementing their respective CSO Long Term Control Plans. The above analysis is limited to the impacts of the PVSC plant expansion costs."

The report states that the cost of the bypass will be distributed across the entire PVSC service area even though the cost analysis was only provided for the 8 CSO municipalities. Confirm the distribution of the cost. The Department notes that water quality benefits will extend to many communities within the PVSC service area.

Comment 13: Section E.3.4, Potential Impacts of the COVID-19 Pandemic in Affordability states the following:

> "Given the current and likely continuing uncertainties as to the New Jersey and national economic conditions, PVSC and the municipalities will be reticent to commit to long term capital expenditures for CSO controls without the incorporation of adaptive management provisions, including provisions to revise and reschedule the long term CSO controls proposed in this SIAR based on emergent economic conditions beyond the permittees' control. These provisions could include scheduling the implementation of specific CSO control measures to occur during the five year NJPDES permit cycles. Although an implementation schedule is being proposed as part of this SIAR based upon the findings of the FCA, a revised affordability assessment should be performed during review of the next NJPDES permit to re-evaluate and validate financial capability and to identify any revisions to the proposed controls that may or may not be financially feasible during that next permit period."

The Department agrees that financial capability and economic conditions are critical components of the LTCP review. As a separate process, the Department is currently conducting rulemaking for New Jersey's Environmental Justice Law (N.J.S.A. 13:1D-157) as signed by Governor Murphy on September 18, 2020, as indicated on the Department's website: https://www.nj.gov/dep/ej/.

As noted in this section, as well as in Section F.8, Adaptive Management, an Adaptive Management approach could serve as a compliance "check in" as the projects proceed and an Adaptive Management requirement could be a component of the next NJPDES permit renewal. The Department agrees that Adaptive Management could also allow flexibility from the perspective of treatment technology advancements and compliance provided the resultant percent capture requirement is attained. However, while flexibility can be a component of each five year permit cycle, the permittee is obligated to set forth a path for compliance with the Federal CSO Control Policy through measures set forth in the LTCP. Note that any changes to projects set forth in the NJPDES permit as part of the LTCP will require a NJPDES permit modification or renewal. While this comment does not necessitate a response at this time, the Department hereby notes this information for the Administrative Record.

Section F - Recommended Long-Term Control Plan

Comment 14: Section F, Recommended Long Term Control Plans includes information regarding the selection of CSO related bypass as a CSO alternative. Note that climate change can have an impact on sea level rise for the chosen CSO technologies.

Resiliency requirements must also be considered in the design of any infrastructure (e.g., storage). Specifically, in accordance with the provisions of Executive Order 11988, the USEPA and the New Jersey Water Bank require that funded infrastructure be located outside of floodplains or elevated above the 500-year flood elevation. Where such avoidance is not possible, the following hierarchy of protective measures has been established:

1. Elevation of critical infrastructure above the 500-year floodplain;
2. Flood-proofing of structures and critical infrastructure;
3. Flood-proofing of system components.

Address that climate change and resiliency will be accounted for given this selected alternative.

Comment 15: Section F.4, Implementation Schedule states the following:

Table F-1: Implementation Schedule for the PVSC LTCP

Project	Description	Year
Secondary Treatment Bypass	Final Design	2022
	Submit to NJIB for Authorization to Advertise	2023
	Construction Start[1]	2023
	Construction Completion[2]	2025
	Placed in Operation[3]	2026

1. Assuming an Authorization to Advertise is issued in a reasonable amount of time by the NJIB, a successful bid process and an Authorization to Award is issued by the NJIB.
2. Assumes construction start in the third quarter of 2023 and no issues encountered during construction including impacts due to coordination with other ongoing construction projects.
3. Assumes no issues during construction including impacts due to coordination with other ongoing construction projects.

Section E.3.1 (as excerpted above in Comment 11) identifies a date of 2024 for completion of the project which is inconsistent with this table which identifies a construction complete date of 2025 and an operational date of 2026. As noted in Comment 3, the bypass alternative is critical to the overall CSO reduction effort where this project is anticipated to be completed within the next five year NJPDES permit cycle. Provide additional detail on the proposed completion of this project.

Comment 16: Section F.6 states the following:

> **"**According to the NFA Analysis Report and further updated through modeling, once the Secondary Treatment Bypass is implemented, the reduction in CSO discharges are projected to be 750 million gallons per year based on the typical hydraulic year. Additional reduction in CSO discharges totaling 1 billion gallons per year (based on the typical year) can be realized with the simultaneous implementation of the Regional Parallel Interceptor described in **Section D.3."**

The Department acknowledges that these estimates are the result of modeling. Note that the December 10, 2019 NJPDES permit requires influent flow metering in order to track these trends over time as CSO volumes are directed to PVSC to supplement monitoring requirements on monthly monitoring report forms at CSO outfalls as specified in NJPDES CSO permits issued to municipalities. Use of flow metering is also

acknowledged in the report in Section D.3.1. Confirm that a flow meter will be installed to quantify the reduction in CSOs and to provide confirmation of the modeling results.

Please incorporate these changes to the report and submit a revised version of Appendix F to the Department no later than 60 days from the date of this letter. Thank you for your continued cooperation.

Sincerely,

Dwayne Kobesky
CSO Team Leader
Bureau of Surface Water & Pretreatment Permitting

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