



State of New Jersey

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SHAWN M. LATOURETTE
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SHEILA OLIVER
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Via E-mail
June 11, 2021

Tim Boyle, Superintendent
City of Bayonne
610 Avenue C, Room 11
Bayonne, NJ 07002

Re: Review of Selection and Implementation of Alternatives, The City of Bayonne, CSO Long Term Control Plan – Appendix G
City of Bayonne, NJPDES Permit No. NJ00109240

Dear Mr. Boyle:

Thank you for your submission dated October 2020 entitled “Selection and Implementation of Alternatives, The City of Bayonne, CSO Long Term Control Plan”, 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) on behalf of the City of Bayonne as “Appendix G” 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 G which is specific to the City of Bayonne whereas a response to the Regional Report is provided under separate cover.

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, Introduction includes the following information regarding the conveyance of combined sewage in the City of Bayonne and the operating entities:

“...While the City of Bayonne owns all the combined sewage collection, control and discharge facilities, and pump stations, the City does not currently own any treatment facilities. Therefore, all combined sewer flows in the City that are conveyed to the Oak Street Pumping Station (OSPS) are transported to the Passaic Valley Sewer Commission (PVSC) wastewater treatment plant via a force main, parts of which the City wholly owns, and parts of which the City co-owns with the Jersey City Municipal Utility Authority (MUA) and the Kearny MUA. The flow from the force main enters directly into the primary treatment facility at the PVSC treatment plant in Newark, New Jersey. Under the City’s existing service agreement with PVSC, wastewater flows from the City of Bayonne to the PVSC plant are restricted to an average daily flow of 11 MGD and a peak flow of 17.6 MGD. This, along with local and regional hydraulic constraints, limited the amount of flow that can be transported for treatment during wet weather events, thus resulting in excess combined sewage being discharged into the receiving waters as Combined Sewer Overflows (CSOs).”

This excerpt aptly describes the criticality of the pumps and force mains that convey the combined sewage to the PVSC wastewater treatment plant and the role of such pumps and conveyance in reducing CSOs for the City of Bayonne. This includes the OSPS as well as the force main described above also known as the Hudson County Force Main. While this comment does not necessitate a response at this time, this information is noted for the Administrative Record.

Comment 2: Section A, Introduction includes the following statement regarding the LTCP:

“PVSC NJDEP Permit Part IV.G Section 10 requires that permittee is “responsible for submitting a Long Term Control Plan (LTCP) that addresses all nine elements in Part IV.G”. The nine elements are listed below:

1. Characterization Monitoring & Modeling of the Combined Sewer System
2. Public Participation Process
3. Consideration of Sensitive Area
4. Evaluation of Alternatives
5. Cost/Performance Considerations
6. Operational Plan
7. Maximizing Treatment at the Existing STP
8. Implementation Schedule
9. Compliance Monitoring Program

Elements 1, 2, 3, and 9 will be addressed in the Regional Selection and Implementation of Alternatives Report (SIAR). The Regional SIAR will also include the typical year selection and NJDEP approved Typical Hydrologic Period Report. This report addresses the remaining factors.”

Note that the nine elements of the LTCP from the Federal CSO Control Policy are included in the PVSC NJPDES permit as well as the City of Bayonne’s NJPDES permit. Correct the first sentence accordingly to state the City of Bayonne. In addition, in order to ensure that all nine components of the LTCP within this specific appendix are addressed for compliance purposes as well as to promote ease of understanding for public review, supplement this section or Section D with a chart of each of the LTCP elements included in Part IV.G of the NJPDES CSO permit along with the identification of the specific section of another report that serves to address the requirement. Below is a section from Appendix F of the Regional Report which can be used as a model:

Table A-1: Review of Major Requirements of the SIAR

Permit Section	Permit Requirement	SIAR Section Reference
Part IV G1	Characterization Monitoring and Modeling of the Combined Sewer System	Presented in the Regional LTCP as Appendix A
Part IV.G2	Public Participation Process	Presented in the Regional LTCP as Appendix E
Part IV G3	Consideration of Sensitive Area	Presented in the Regional LTCP as Appendix C
Part IV G4	Evaluation of Alternatives	Presented in the Regional LTCP as Appendix D and summarized in Section C of this SIAR
Part IV G5	Cost/Performance Considerations	See Section D.3 of this SIAR
Part IV G6	Operational Plan	See Section F.6 of this SIAR
Part IV G7	Maximizing Treatment at the Existing STP	See Appendix A of this SIAR
Part IV G8	Implementation Schedule	See Section F.5 of this SIAR
Part IV G9	Compliance Monitoring Program	Presented in Section K of the Regional LTCP

Section C, Development & Evaluation of Alternatives

Comment 3: In Section C.2.1, Alternatives Control Performance the following is stated

“Additional Conveyance: The contracted maximum rate that Bayonne can transport wastewater to PVSC for treatment is 17.6 MGD. With minor upgrades to the Oak Street Pump Station, the existing peak flow could be increased to about 20 MGD. The modeling analyses indicated that with increasing the peak conveyance rate to 20 MGD, the impact on the frequency and volume of CSO events would be minor.

Based on the regional solutions examined by PVSC, there is an additional ~10 MGD of capacity that can be conveyed to PVSC from the force main communities. Either Jersey City or Bayonne can be provided with this additional capacity for wet weather conveyance. Per PVSC, there is greater regional benefit to providing this capacity to Bayonne. The PVSC team has noted that 27.8 MGD is the maximum permissible flow from Bayonne, including this additional capacity. The 40 MGD capacity of the OSPS is not anticipated to be fully utilized given this restriction.

Per the direction of PVSC, Bayonne is to consider two municipal alternatives – keeping the OSPS at the current pumping rate of 17.6 MGD and increasing the pumping rate to 27.6 MGD.

To enable the Oak Street Pump Station to be able to pump at a capacity of 27.6 MGD, improvements would be required, including upsizing about 6,000 feet of force main (including 4,400 feet of 24-inch diameter pipe and about 1,600 feet of 30-inch diameter pipe) to make the entire force main a 36-inch diameter pipe. Increasing the peak conveyance rate to 27.6 MGD would help in capturing 85% of the combined sewage volume, as directed by PVSC. This does not reduce CSO event frequencies, which are driven by outfalls that are independent of hydraulics at the Oak Street Pump Station. Therefore, this option was required to combine with CSO storage to develop an alternative that meets the requirements of the Presumptive approach.”

This section explains that two pumping rates were evaluated. It is then stated in Section D.3.1, Description of Alternatives:

“For the municipal only alternative, Bayonne evaluated options for 17.6 MGD and 27.8 MGD conveyance from the OSPS to PVSC. This solution, in which Bayonne must meet all the LTCP requirements within their municipal borders, limits the discharge to 220 MG...”

As stated in Section D.3.1, Description of Alternatives, pumping rates of 17.6 and 27.8 MGD were evaluated to attain a goal of limiting the discharge to 220 MG where the storage options differ to ensure attainment of that goal. See also Comment 19 regarding the selection of the alternative and associated implementation schedule.

While Section C.2.1 provides an overview of the DEAR, where this topic is described in Section D.2.7 of that report, the pumping rate of the Oak Street Pump Station as well as the pumping rate of the Hudson County Force Main are key to the overall CSO reduction effort for Bayonne and the other force main communities as these flows are conveyed to PVSC. As such, provide an update on the status of increasing the peak conveyance rate as well as any necessary contractual updates or improvements. In addition, elaborate as to the current status regarding the allocation of the additional 10 MGD of capacity that can be conveyed to PVSC from the force main communities.

Comment 4: Section C.2.1, Alternatives Control Performance also states the following:

“Regional Deep Tunnel: The City also cooperated with North Bergen and Jersey City, neighboring municipalities that also send flows through a shared force main, to consider the possibility of utilizing a regional off-line storage tunnel for CSO flows from North Bergen, the western side of Jersey City, and Bayonne. To intercept CSO discharges, the analysis considered a regional tunnel extending roughly 18 miles, from the northern end of North Bergen to the southern end of Bayonne, at a vertical depth of 120 ft below ground. The regional tunnel would be dewatered to the Jersey City West Side Pump Station (JCWSPS), assuming the maximum rate that wastewater can be sent to PVSC’s STP is 45.4 MGD (as indicated in the hydraulic model)...Because the costs of the tunnel alternatives exceeded the costs of other options, this alternative was not evaluated further.”

This section of the report provides an overview of the DEAR regarding a control alternative that was not pursued; however, this section is helpful in understanding the hydraulic limitations throughout the system. Elaborate as to how the 45.4 MGD pumping rate was derived and how that relates to the hydraulic connection with the Oak Street Pump Station and the Hudson County Force Main.

Section D, Selection of Recommended LTCP

Comment 5: Section D.3.1, Description of Alternatives states the following:

“For the municipal only alternative, Bayonne evaluated options for 17.6 MGD and 27.8 MGD conveyance from the OSPS to PVSC. This solution, in which Bayonne must meet all the LTCP requirements within their municipal borders, limits the discharge to 220 MG. Each alternative also includes the CSO storage tanks and the implementation of GI improvements to manage 3-5% of the overflow volume.

Municipal Only Alternative 1b with 17.6 MGD of conveyance consists of the following:

- Offline storage tanks
- GI Projects to manage 3-5% of overflow volume
- OSPS improvements to ensure long term operability and stability of the system.

Hydraulic modeling was performed to determine how much offline storage is needed to meet the 85% by volume capture requirements. Flow modeling also determined the best location of these tanks based on overflow volume, frequency, and available space for tankage. Seven tanks are needed to store a volume of 24.8 MG. While no regulatory changes are needed, the OSPS is in need of improvements to ensure operational reliability.

Municipal Only Alternative 1b with 27.8 MGD of conveyance consists of the following:

- Offline storage tanks
- GI Projects to manage 3-5% of overflow volume
- Upgrades to the Oak Street Pump Station and the OSPS force main.

Five tanks are needed to store a volume of 19.8 MG. In this scenario the OSPS is assumed to pump wastewater to PVSC at a rate of 27.8 MGD. Upgrades to the pump station as well as 6,000 LF [linear feet] of force main are included. This rate was provided to Bayonne by PVSC, as an additional 10.2 MGD of conveyance is available to either Bayonne or Jersey City. For this to happen, PVSC must allow for Bayonne to pump at this increased rate. Additionally, NJDEP must allow for these changes to the associated permits. Approximately 6,000 LF of existing force main will need to be replaced with 36” pipe to accommodate the increase in OSPS flow.”

This section serves to illustrate the difference in tanks needed for the 17.6 MGD option (seven tanks) and 27.8 MGD option (five tanks) as indicated on Figure D-1 Bayonne Outfall Storage Location Map. Questions are as follows:

- a) The statement under the 27.8 MGD option only indicates that “NJDEP must allow for these changes to the associated permits” is unclear whereas the 17.6 MGD option states that “no regulatory changes are needed.” Similar statements are included in Section D.4.
- b) In Section D.3, Selection of Alternative it is stated that “the preferred municipal solution includes increased conveyance of 27.8 MGD from the OSPS to PVSC.” “While the Department acknowledges that options of 17.6 MGD and 27.8 MGD were evaluated and 17.6 was selected, it is unclear why 20 MGD was not considered as this flow can be attained with the existing force main. Please elaborate.
- c) Confirm that the storage tank will be designed to coordinate with any limitations set by PVSC regarding conveyance. Clarify the draw down time.

Comment 6: Section D.3.1.1, Pump Station/Force Main Improvements states the following:

“The OSPS conveys flow to the PVSC wastewater treatment plant. This pump station is in need of updates to ensure continued reliable operation regardless of whether 17.6 MGD or 27.8 MGD is conveyed.”

Table D-1, Oak Street Pump Station Assessment then lists the necessary improvements needed. This section then further states:

“Based on information provided by HDR and the DEAR, the existing force main can convey up to 20 MGD to PVSC. Flows above that rate will require upsizing approximately 6,000 LF of 24-inch and 30-inch force main to 36-inch force main. Improvements needed for the 17.6 and 27.8 MGD options are as follows:

17.6 MGD

- Reliability upgrades to existing pump station

27.8 MGD

- Upgrade existing pumps to convey 27.8 MGD
- Increase existing 24-inch and 30-inch force main to 36-inch diameter.”

Since both the 17.6 MGD and the 27.8 MGD conveyance options require upgrades to the OSPS, this project should be completed in the short term. The OSPS serves a critical purpose in conveying flows to PVSC and other selected control technologies, such as storage, are reliant on this improvement. As shown later in Comment 19, upgrades are proposed for 2025 and 2026 for the 17.6 MGD conveyance option and 2021 and 2022 for the 27.8 MGD conveyance option. The Department agrees that with the front loaded nature of the proposed schedule for this improvement and intends to include a schedule for this project in the next five year NJPDES permit cycle. Finally, provide a detailed schedule so that this project is prioritized to take place in the next five year permit cycle.

Comment 7: Section D.3.1.2, Offline Storage Tanks states the following:

“Offline CSO Storage was selected as the primary CSO control technology for the municipal only alternatives. The hydraulic model was used to identify which CSO storage tanks provide the most economical approach for achieving the overflow reductions required to meet the 85% volumetric capture goals.

Based on the above it is clear that storage is a key component of Bayonne’s CSO control strategy for the 17.6 MGD and 27.8 MGD pumping options as well as for the municipal and regional approaches. Climate change can have an impact on sea level rise for the design of storage tanks. As a result, be sure to consider resiliency requirements 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.

These protective measures will need to be addressed as part of implementation. Please confirm.

Comment 8: Section D.3.1.2, Offline Storage Tanks states the following:

“The 17.6 MGD conveyance scenario results in overflow storage tanks being needed at 7 locations providing a total storage volume of 24.8 MG. They are shown in Table D-2.

Alternative 1b Selected Improvements – OSPS 17.6 MGD Conveyance		
Tank Location	Size (MG)	Location Notes
BA001/002	14	Former location of Bayonne WWTP; existing tankage to be repurposed.
BA007	3.2	Coordination with developer required.
BA021	2.0	Coordination with PANYNJ required.
BA015	2.0	Location acceptable as is.
BA017	1.6	Location acceptable; coordinate with proposed redevelopment.
BA010	1.0	Coordinate to ensure location is within clean soils area.
BA014	1.0	Location acceptable as is.
Total	24.8	

Table D-2 | Oak Street Pump Station Assessment

The 27.8 MGD conveyance scenario is similar to the 17.6 MGD option, with the exception that the pump station and force main are moving more flow and fewer tanks are needed. Table D-3 illustrates the offline storage needed for this option.

Alternative 1b Selected Improvements – OSPS 27.8 MGD Conveyance		
Tank Location	Size (MG)	Location Notes
BA001/002	11	Former location of Bayonne WWTP; existing tankage to be repurposed.
BA007	3.2	Coordination with developer required.
BA021	2.0	Coordination with PANYNJ required.
BA015	2.0	Location acceptable as is.
BA017	1.6	Location acceptable; coordinate with proposed redevelopment.
Total	19.8	

Table D-3 | Storage Requirements for Alternative 1b with 27.8 MGD Conveyance

Figure D-1, Bayonne Outfall Storage Location Map depicts the various tank sizes and locations associated with each conveyance option. As shown above, BA001/002 is presented in both options and is the former location of the Bayonne WWTP and could store approximately 50% of the Bayonne overflow volume. The Department maintains that repurposing of this infrastructure should be expedited given the sizable volume this existing infrastructure could store. Address whether or not this project can be expedited.

As a second comment on this excerpt, it is unclear why differing sizes are included for these two options namely 14 MG for 17.6 MGD conveyance and 11 MG for 27.8 MGD conveyance. Explain and clarify, as it demonstrates 11 MG for 17.6 MGD conveyance and 14 MG for 27.8 MGD conveyance in Figure D. Specifically, it is unclear why the size is limited to 11 MG while the tank size is 14 MG. In addition, while some information is included regarding coordination with other affected parties, elaborate on these arrangements to ensure that the viability of these location is better supported.

Comment 9: Section D.3.1.3, Green Infrastructure states the following:

“GI will be incorporated into either alternative. GI inclusion in the alternatives will provide important benefits to the community by improving the surrounding air quality, reducing the heat island effect, reducing surface flooding, and providing public education opportunities...”

The Department acknowledges that GI has the potential to decrease localized flooding. Please describe any areas within Bayonne that are prone to flooding and explain if this flooding is related to sewer backups, stormwater flooding or tidal inundation. Flooding of combined sewage in streets is a public health concern and is not acceptable. The LTCP must address the elimination of street flooding where this should be the utmost priority.

Comment 10: Section D.3.1.3, Green Infrastructure states the following:

“...GI inclusion in the alternatives will provide important benefits to the community by improving the surrounding air quality, reducing the heat island effect, reducing surface flooding, and providing public education opportunities. GI options consist of tree pits, pervious pavement, and underground detention basins. An underground detention basin is already under design through a City project at Fitzpatrick Park.

Example GI projects and implementation costs are provided as part of this report. However, actually siting and sizing green infrastructure practices will require additional investigations, including geotechnical investigations, that go beyond this planning level study. Site specific drainage area analysis will be performed during the planning and design stages of each project, however preliminary estimates indicate that roughly 40 total drainage acres managed is feasible.

Bayonne plans to route at least 3% of impervious surface runoff to tree pits, pervious pavement, and underground detention basins. Figure D-11 and Figure D-12 show example concepts for the Mary J. Donohoe School and at 1st & Avenue C housing, respectively..”

The Department appreciates the proactive inclusion of the underground detention basin where this project is targeted in the beginning of the Implementation Schedule as discussed in Section F. The Department also acknowledges the inclusion of green infrastructure. However, while this excerpt above cites 3% of impervious surface runoff will be allocated to green infrastructure projects the header of Table D-4, Overflows for Alternative 1b with 17.6 MGD Conveyance with 5% GI. Please clarify.

In addition, similar to any other CSO control technology, green infrastructure will require preparation of an operations and maintenance plan as well as a clear delineation of the parties responsible for that maintenance in order to ensure that such features are properly maintained including who will be responsible for that maintenance. Provide confirmation that the City of Bayonne will ensure the maintenance for green infrastructure.

Comment 11: Section D.3.2, Remaining Overflows states the following:

“Flow modeling was completed for both 1b municipal solutions – OSPS pumping rates of 17.6 MGD and 27.8 MGD with 5% GI. Table D-4 and Table D-5 illustrate the existing overflow volume and anticipated overflow volume with the 17.6 and 27.8 MGD solutions, respectively. Both solutions meet the 220 MG volume goal needed to meet the 85% removal requirement...”

The Department acknowledges that the permittee has selected the following option under the Presumption Approach as a means of compliance:

“ii. The elimination of the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis;”

As a result, the derivation of percent capture is central to a review of this report. Supplement this report with the specific percent capture equation utilized as well as a detailed table of the numerical values utilized within the equation that was used to derive these results in the tables presented in this section. In particular, describe how the value of 220 MG was derived. Approval of this report hinges in part on the inputs and results of this equation being clearly demonstrated and reproducible.

In addition, the selection of either the Presumption or Demonstration approach is required in the NJPDES CSO permit where the Presumption Approach has been selected. Note that it is not acceptable to switch between the Presumption Approach (85% wet weather capture) and the Demonstration Approach (modeling based approach) since a commitment was required as part of the 2015 NJPDES CSO permit requirement.

Comment 12: Section D.3.3, Ability to Meet Water Quality Standards states the following:

Per the permit, it is noted that:

“The ‘Presumption’ Approach, in accordance with NJAC 7:14A-11 Appendix C provides: A program that meets any of the criteria listed below will be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the Department determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above.

Bayonne is meeting the requirements of capturing 85% by volume of the combined sewage collected in the CSS. No more than 15% of the total flow collected in the CSS during storm events is discharged without receiving minimum treatment. By this method, the water quality standards are met.”

While the Department agrees that the above excerpt summarize the Presumption Approach as stated in the Federal CSO Control policy and N.J.A.C. 7:14A-11 Appendix C, the Department maintains that it is premature to state that Bayonne is meeting the requirements of capturing 85% by volume of the combined sewage in the CSS and that water quality standards are “presumed” to be met at this time. Rather, this is the goal that Bayonne intends to meet through the municipal approach of the LTCP. Revise accordingly.

Comment 13: Section D.3.5, Cost Opinion states the following regarding Operations and Maintenance (O&M):

“To provide consistency in cost estimating throughout the communities that discharge wastewater to PVSC, PVSC released “Updated Guidance on Costing for LTCP CSO Planning” to all PVSC permittees...

To calculate O&M cost, per the memo, it was assumed that storage facilities would require a visit by a crew following each storm event for flushing, cleaning, and overall maintenance, and that there would be 60 storm events per year. Tank maintenance time was based on the tank size (3/4 day for 1 MG tank, versus 2 days for a 10 MG tank).

The capital and O&M costs for installing and maintaining GI were provided by PVSC as part of their costing guidance. Based on this document, capital costs for GI are \$390,000 per acre and O&M costs

are \$2,250 per year per acre. These costs are specifically from the PVSC provided document and actual costs may vary from these assumptions.

No information was provided by PVSC for pump station costs. Costs were based on a previously completed analysis by the City of Bayonne. Pump station O&M costs were estimated at 5%.”

The Department recognizes the acknowledgement of O&M as it relates to CSO control technologies, including green infrastructure, and recognizes that this has been addressed in the report. Note that Part IV.G.6 of the NJPDES CSO permit states the following regarding Operational Plan:

“a. Upon Departmental approval of the final LTCP and throughout implementation of the approved LTCP as appropriate, the permittee shall modify the O&M Program and Manual in accordance with D.3.a and G.10, to address the final LTCP CSO control facilities and operating strategies, including but not limited to, maintaining Green Infrastructure, staffing and budgeting, I/I, and emergency plans.”

In accordance with N.J.A.C. 7:14A-6.12 of the NJPDES Rules, the permittee must maintain and operate the treatment works and facilities installed by the permittee to achieve compliance with the terms and conditions of the discharge permit. The rules provide that proper operation and maintenance includes, but is not limited to, effective performance; adequate funding; effective management; adequate staffing and training; regularly scheduled inspections and maintenance; and adequate laboratory/process controls. While you have provided information regarding the O&M Program and Manual and updates that will be performed in the future for CSO controls, expand upon this section as to how the Operational Plan for the LTCP, including the Emergency Plan and Asset Management Plan, will address effective performance; adequate funding; effective management; adequate staffing and training; regularly scheduled inspections and maintenance; and adequate laboratory/process controls. While this comment does not necessitate a response at this time, the Department hereby notes this information for the Administrative Record.

Comment 14: Section D.4, Description of Recommended LTCP states the following:

“Bayonne’s preferred municipal only LTCP is Alternative 1b with 27.8 MGD of conveyance which consists of offline storage tanks, GI, and upgrades to the Oak Street Pump Station and related force main. Five (5) tanks are needed to store a volume of 19.8 MG. Additionally, the OSPS is assumed to pump wastewater to PVSC at a rate of 27.8 MGD. This rate was provided to Bayonne by PVSC, as an additional 10.2 MGD of conveyance is available to either Bayonne or Jersey City. For this to happen, PVSC must allow for Bayonne to pump at this increased rate. Additionally, NJDEP must allow for these changes to the associated permits. Additionally, approximately 6,000 LF of existing force main will need to be replaced with 36” pipe.

If agreement can’t be reached on pumping additional flows to PVSC, Bayonne would revert to Alternative 1b with 17.6 MGD of conveyance consisting of offline storage, GI, and upgrades to the Oak Street Pump Station to meet the 85% by volume overflow removal requirements. Flow modeling was performed to determine the best location of the tanks based on overflow volume, frequency, and available space for tankage. Seven (7) tanks are needed to store a volume of 24.8 MG. This alternative allows for the Oak Street Pump Station to pump at agreed upon flow of 17.6 MGD to PVSC. No regulatory changes are needed.”

Elaborate on the determining factors that are needed for agreement to be reached on pumping additional flows to PVSC. For example, are these factors related to capacity within the Hudson County Force Main, Jersey City Pumping Station or treatment capacity at PVSC?

Section E, Financial Capability

Comment 15: Section E.1, Introduction includes the following excerpt:

“The Financial Capability assessment is a two-step process including Affordability which evaluates the impact of the CSO control program on the residential ratepayers and Financial Capability which examines a permittee’s ability to finance the program. Affordability is measured in terms of the Residential Indicator (RI) which is the percentage of median household income spent on wastewater services. Total wastewater services exceeding 2.0% of the median household income are considered to impose a high burden by USEPA. The financial capability analysis uses metrics similar to the municipal bond rating agencies.”

To supplement this section the Department requests to see in table format in an Excel spreadsheet showing calculations, a year-by-year listing of (1) existing O&M costs and debt service; (2) CSO control program additional O&M costs, capital outlay and loan amounts, additional debt service and other additional costs; (3) current and projected wastewater treatment and CSO costs including residential share, number of households, cost per household; and (4) median household income and resulting residential indicator. A review of the financial capability analysis can not be conducted until this information has been provided.

Comment 16: 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, Bayonne 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. As detailed in Section F of Bayonne’s SIAR, these provisions could include scheduling the implementation of specific CSO control measures to occur during the five year NJPDES permit cycles. A revised affordability assessment should be performed during review of the next NJPDES permit to identify controls that are 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/>

The Department agrees that 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 a future NJPDES permit action. 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 17: While Section A, Introduction references that public participation is a required element of the LTCP, public participation is not discussed within Section F or elsewhere in the LTCP. The Department acknowledges that public participation and public outreach has taken place through the PVSC Supplemental

CSO Team as well as through the local group the Bayonne Water Guardians. 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. In addition, describe how this public input may have informed the selection of the LTCP alternatives.

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 18: Section F.1, Introduction states the following:

“...the recommended LTCP has been designed in a phased approach. This enables the City to monitor CSO volume improvements as projects are constructed and placed into service. This adaptive management strategy will help the City progress towards meeting the LTCP requirements while maximizing the impact of available dollars. It will also allow the City to reevaluate the proposed CSO improvements throughout the 30 year implementation schedule as more information becomes available through the post construction monitoring program and as other programs are occurring within the City. For example, the City is already requiring sewer separation for new development and redevelopment projects near the waterfront. The reduction in CSO volume from these types of activities may allow for the downsizing or elimination of one or more storage tanks included in the 30 year implementation schedule while still achieving the 85% volume capture target.”

The Department acknowledges that a phased approach is appropriate especially given that pump and force main improvements must be completed prior to new or repurposed storage elements contributing to those conveyance systems. Enhance the information included in Table F-4 (27.8 MGD conveyance) and F-5 (17.6 MGD conveyance) by providing a Gantt chart for each option to indicate the start and end time for each of these projects as well as any overlap between projects. More specificity is requested for the first five years of planned projects for inclusion into the next NJPDES permit. In addition, provide additional justification regarding the 30 year timeline for the proposed projects.

As previously stated, the Department agrees that adaptive management provisions will be a likely component of the next NJPDES permit. In order to evaluate percent capture compliance over time, the Department is evaluating a requirement to install flow meters at certain pump stations, CSO regulators or outfalls in the next NJPDES permit dependent on the timing of CSO improvements. Address the viability of flow metering at the Oak Street Pump Station, as well as other pumps stations impacted by improvements, to track increased conveyance of combined sewage over time.

Comment 19: Section F.2, Recommended LTCP states the following

“Of the two LTCPs considered in this report, they are ranked in order of preference as follows:

1. Increase capacity of OSPS to 27.8 MGD, increase force main diameter to 36” where needed, implement a 3-5% GI and build the required 5 storage tanks.
2. Provide reliability improvements to OSPS for 17.6 MGD pumping rate, implement 3-5% GI and build the required 7 storage tanks.

Due to the regulatory uncertainty surrounding additional conveyance to PVSC, options with and without increased conveyance are provided.”

Section F.5, Implementation Schedule then includes the following tables:

Implementation Schedule - 27.8 MGD Conveyance							
Alternative 1b Selected Improvements	Updated Capital Cost (\$M)	Updated Annual O&M Cost (\$M)	Updated Life Cycle Cost (\$M)	Year(s) Constructed	# Years to Construct	Average Capital Cost/Year (\$M)	Average Equivalent Annual Cost (\$M)
Phase 1 GI	5.20	0.03	5.66	2021-2030	10	0.52	0.56
OSPS Improvements	12	0.6	21.14	2021 & 2022	2	6	6.76
2.0 MG Storage Tank at BA015	32.18	0.09	33.60	2023 & 2024	2	16	16.63
Forcemain Capacity Increase	23	0.06	23.91	2023-2025	3	8	7.94
3.2 MG Storage Tank at BA007	47.45	0.11	49.20	2027 & 2029	3	16	16.37
Phase 2 GI	5.20	0.03	5.66	2031-2040	10	0.52	0.56
1.6 MG Storage Tank at BA017	26.77	0.08	28.05	2036	2	13	13.84
Phase 3 GI	5.20	0.03	5.66	2041-2050	10	0.52	0.56
2.0 MG Storage Tank at BA021	32.18	0.09	33.60	2040-2041	2	16	16.63
11.0 MG Storage Tank at BA001/002	131.58	0.20	134.58	2045-2049	4	33	34.00

Table F-4 | Implementation Schedule for 27.8 MGD Conveyance

Implementation Schedule – 17.6 MGD Conveyance							
Alternative 1b Selected Improvements	Updated Capital Cost (\$M)	Updated Annual O&M Cost (\$M)	Updated Life Cycle Cost (\$M)	Year(s) Constructed	# Years to Construct	Average Capital Cost/Year (\$M)	Average Equivalent Annual Cost (\$M)
Phase 1 GI	5.20	0.03	5.66	2021-2030	10	0.52	0.56
1.0 MG Storage Tank at BA010	18.16	0.07	19.20	2020-2022	2	9	9.40
2.0 MG Storage Tank at BA015	32.18	0.09	33.60	2023 & 2024	2	16	16.63
OSPS Improvements	12	0.6	21.14	2025 & 2026	2	6	6.76
3.2 MG Storage Tank at BA007	47.45	0.11	49.20	2027 & 2029	3	16	16.37
Phase 2 GI	5.20	0.03	5.66	2031-2040	10	0.52	0.56
1.6 MG Storage Tank at BA017	26.77	0.08	28.05	2031-2032	2	13	13.84
2.0 MG Storage Tank at BA021	32.18	0.09	33.60	2033-2034	2	16	16.63
1.0 MG Storage Tank at BA014	18.16	0.07	19.20	2035-2036	2	9	9.40
Phase 3 GI	5.20	0.03	5.66	2041-2050	10	0.52	0.56
14.0 MG Storage Tank at BA001/002	160.58	0.22	163.92	2044-2049	4	40	41.47

Table F-5 | Implementation Schedule for 17.6 MGD Conveyance

The Department acknowledges that a coordinated effort is needed between PVSC and the other CSO municipalities that pump their flows through the Hudson County Force Main namely Bayonne, Jersey City and North Bergen. However, it is unclear what is mean by “regulatory uncertainty” in Section F.2;

therefore, provide additional clarification. The Department maintains that the LTCP shall include a final selection regarding the conveyance capacity.

Comment 20: Section F.7, CSO Reduction Versus Time, shows the planned dates for construction of the various tanks and the resultant reductions in CSO volumes through Tables F-6 (27.8 MGD) and F-7 (17.6 MGD). However, in Section F.6, Basis for LTCP Development and Implementation Schedule, the following is stated:

“The largest tank, at outfall BA001/002 is last as the required size of the tank may change based on implementation of earlier improvements.”

The Department maintains that the LTCP elements should be scheduled so that the higher-impact projects come earlier in the process thereby maximizing the total CSO volume captured in the short term especially given the requested 30 year implementation schedule. As noted in Section D.3.2.1, implementation of storage within the BA001/002 tanks, which is included under both the 17.6 MGD and the 27.8 MGD conveyance scenarios, could reduce Bayonne’s CSOs by approximately 50%. Explain why improvements to BA001/002 cannot be the first tank to repurpose.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Dwayne Kobesky".

Dwayne Kobesky
CSO Team Leader
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