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January 29, 2021

Patricia Gardner, Assistant Commissioner Water Resource Management, NJ DEP
Janice Brogle, Director Division of Water Quality, NJ DEP
Susan Rosenwinkle, Bureau Chief, NJ DEP

Dear Pat, Janice and Susan,

On behalf of New Jersey Future, I am pleased to submit comments on the Selection and Implementation of Alternatives Reports (SIARs), the final report for the combined sewer overflow (CSO) Long Term Control PLans (LTCPs). Our comments focus on five plans covering the areas where we have been most active: the Passaic Valley Sewerage Commission (PVSC), the cities of Bayonne, Paterson, and Perth Amboy, and the Jersey City Municipal Utilities Authority (JCMUA). Together, these four municipal reports represent 42% of CSO outfalls and 33% of the population living in combined sewer service areas across New Jersey.

We acknowledge the tremendous amount of work that has been done by all 25 of the combined sewer overflow permit holders, New Jersey Department of Environmental Protection (NJDEP) Division of Water Quality, Supplemental CSO Team members, and additional community members and stakeholder groups to bring us to this point. We appreciate the open lines of communication with the NJDEP and the CSO permit holders and the continued discussions throughout the permit process.

Representing a combined investment of up to $3.5 billion, New Jersey's proposed CSO solutions are a generational opportunity for Governor Murphy's Administration and the affected municipalities and utilities to achieve their goals for:

- Clean water—by reducing the pollution in our waterways and increasing the implementation of green infrastructure.
- Environmental justice—by ensuring that the needs and values of overburdened communities are not only addressed but prioritized.
- Climate resilience—by selecting projects and approaches that will protect public health and safety today and in the future.

New Jersey Future reviewed the SIARS reports as a champion of smart growth; as a member of the cross-sector Jersey Water Works collaborative, which has developed goals for Smart CSO Plans; and as a member of the Sewage-Free Streets and Rivers Campaign, which amplifies the voices of grassroots organizations and residents of environmental justice communities with combined sewer systems.

While there is much to commend in the five proposed SIARs that we reviewed in depth, each falls short of what is needed for clean water, environmental justice, and climate resilience. The following recommendations include specific revisions NJDEP should require before approval and also critical new measures to be included in the forthcoming five-year permits that will govern implementation.

Implementing CSO solutions will be the most expensive public works investments these communities will make in a generation, and they will be paid for by the residents and businesses who already suffer from dysfunctional infrastructure. CSO solutions must advance community priorities, treat residents fairly, and ensure public health and safety into the future; otherwise they lock these communities into the status quo for decades to come.

Thank you for considering these comments and recommendations as you review the proposed LTCPs and as you write the next permits so that CSO solutions are not only compliant but lead to stronger, healthier, more resilient communities for everyone. If you have any follow-up questions, please contact New Jersey Future Community Outreach Manager Mo Kinberg.

Sincerely,

Chris Sturm
Managing Director of Water and Policy

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New Jersey Future Recommendations on the Combined Sewer Overflow Long Term Control Plans January, 29, 2021

New Jersey Future's comments are divided into three sections:

I. Detailed review of the five SIARs reports for the Passaic Valley Sewerage Commission Region, the City of Bayonne, the Jersey City Municipal Utilities Authority, the City of Paterson, and the City of Perth Amboy.

II. A summary of findings from the review.

III. Recommendations for the DEP, first to incorporate into its review of the proposed Long Term Control Plans and second for new enforceable standards to include in the forthcoming CSO permits that will authorize implementation of the LTCPs.

I. Review of the Selection and Implementation of Alternatives Reports (SIARs)

New Jersey Future reviewed SIARs reports based on its perspective as a champion of smart growth, as a member of Jersey Water Works and its goals for Smart CSO Plans, and as a member of the Sewage Free Streets and Rivers Campaign, which amplifies the voices of grassroots organizations and residents of environmental justice communities.

Most of the reports include executive summaries, however, the summaries are not uniform and the information is not presented in a way that is comprehensible for the public. New Jersey Future invested thousands of dollars to review CSO plans, a summary of which can be found in a series of fact sheets on 10 LTCPs, which make the information in the plans more accessible to the public.

Our evaluation and recommendations focused on six key topics:

1. **Water Quality**
   - By what percentage will CSO volumes be reduced?
   - Was reduction of localized flooding considered?
   - Do the plans consider access to waterways?
   - Do the plans include any input from community members on their goals for water quality?

2. **Environmental Justice**
   - Do the plans identify the geographic location of environmental justice districts, do they identify the CSO impacts in those places, and do they prioritize projects that address CSO impacts in environmental justice districts?
   - Do the plans include input from representatives of environmental justice districts?

3. **Green Infrastructure**
   - To what extent will multi-benefit, cost-effective green infrastructure approaches be employed to capture stormwater? Is the impact effectively measured?
   - By what percentage will CSO volumes be reduced by green infrastructure?

4. **Financing**
   - What is the timeframe for solutions to be implemented?
   - Will implementation be affordable to low-income ratepayers?
   - Is there a fair distribution of costs between the municipal and utility permit holders?

5. **Public Participation**
   - Do CSO plans reflect the input and values of community residents and small businesses?

6. **Climate Change**
   - Will CSO solutions withstand precipitation and sea level rise expected during the useful life of the infrastructure projects to be constructed?
   - Will the plans mitigate climate change impacts including flooding and urban heat island effect?

The Passaic Valley Sewerage Commission Regional Report

New Jersey Future participated in the regional Supplemental CSO Team meetings.

Please note: Our comments are based on the overall approach in the PVSC regional SIAR, not on the specifics of the projects that were proposed for each of the municipalities.

We commend the leadership role and assistance that the Passaic Valley Sewerage Commission provided to the CSO municipalities in the PVSC and and North Bergen Municipal Utilities Authority (NBMUA) service areas. PVSC has taken a proactive approach to engage all of the municipalities and utilities in these service areas, invested in green infrastructure feasibility studies and pilot projects, and participated in municipal action teams. The Clean Waterways Healthy Neighborhoods initiative led by PVSC created a website, logo, and social media for the CSO permit holders in their service area and posted all of the meeting presentations, resources, and background information on the website.

Water Quality
The goal of the regional report is to reach 85% capture of the CSO volume for the region, rather than by municipality. We have some concerns about how this approach will impact water quality and localized flooding.

PVSC should explain:
- How this will impact water quality for specific water bodies.
- How this will reduce flooding in each municipality in the region.

Environmental Justice
Identification of, and impacts to, environmental justice communities are not stated in the report. The SIAR states that "minimizing community impacts is one of the key benefits of the Regional Alternative," (p. 4) but it does not explain how this finding was reached.

Green Infrastructure
PVSC's SIAR incorporates green infrastructure components into its plan, but some of these are planned for the distant future. The implementation schedule for green infrastructure in the regional plan pushes the start for these projects for some of the municipalities out for 20 years.

Financing
The report notes that the regional approach will cost $1,175 million, which is $545 million less than the municipal plans, but we do not know how this will be broken down by municipality. The plan notes PVSC will pay the $45 million capital cost for the plant's secondary bypass alone, however the cost of the $219 regional interceptor will be shared by the participating permit holders. It is difficult to assess the regional option without the specific details of the cost per municipality. The financial capabilities assessment indicates that there will be affordability issues across all eight municipalities but does not provide solutions other than extending the timeline for implementation. This also does not account for a potential cost difference per municipality if a regional approach is agreed upon. The report should also account for the health and environmental impacts of extending the timeline to 30-40 years.

Public Participation

The differences between the regional LTCP and municipal LTCPs have not been sufficiently explained to the public, nor was adequate public input gathered. The SIAR was not released to the Supplemental CSO Team before it was submitted to the NJDEP. There was one public meeting on Sept. 2, 2020 that explained the difference between the regional and municipal plans. The cost difference between the plans was emphasized, but how the costs would be distributed and other differences were not explained. For example, the implementation schedules are significantly different between the two plans. Up until the summer of 2020, all of the meetings focused mostly on municipal plans. The specifics of the regional plans are relatively new.

The regional supplemental CSO team meetings did not reach the affected public. The number of public observers documented in the report does not exceed 14, including paid consultants, and in some cases, there were no observers from the public other than paid consultants. Given that the population of communities with CSOs in the PVSC region is nearly 900,000, a more robust public participation process is needed to reach the affected public. The absence of metrics, such as the number of flyers distributed or the number of visits to the Clean Waterways Healthy Neighborhoods website, makes it difficult to assess the reach of these efforts.

It is unclear if the Supplemental CSO Team or the public had any influence on the recommended LTCP. The Public Participation Reports document comments from the Supplemental CSO Team meetings through the Oct. 16, 2018 meeting, but the rest of the meetings are summarized with bullet points that do not capture comments that were made by the Supplemental CSO Team. Concerns or comments from the last two years of the LTCP process were not included in the report. The report states that no comments had been received through the website contact form and that they had not received comments on draft submittals. While there was a presentation on the draft submittals, access to those drafts was not granted to the public before they were submitted to NJDEP, and at no point were the actual submittals shared with the public.

Climate Change

The report does not consider future climate conditions. PVSC looked at increased precipitation trends over a 46-year period from 1970 - 2015, with 2004 used as the average year. The report does not look forward to anticipating increased future rainfall intensity or sea level rise. The report does not consider the impact of climate change on frontline communities and how this relates to the selection of CSO mitigation strategies.

The City of Bayonne Municipal Report

New Jersey Future participated in the Bayonne Water Guardians group, which is also noted as the municipal Supplemental CSO Team, as well as in the regional Supplemental CSO Team meetings.

Water Quality
The difference between the regional and municipal plans for Bayonne is between 85% capture of CSOs in the municipal plan and 78% capture in the regional plan. We are concerned about the potential for increased local impacts of CSOs and flooding if a regional plan moves forward. This information must be added to the regional and municipal SIARs and shared with the public before adoption.

- The water quality goals of residents should be explained as well as how the plan achieves these goals.
- Public access should be considered in the report.

The baseline conditions that are presented on pages 4 and 5 of Bayonne's SIAR may be incorrect or need to be explained. The report states that diverting 27.8 MGD has a volume capture of 411.1 MGD whereas diverting 17.6 MGD would have a volume capture of 542.1 MGD. It seems illogical that diverting more volume would have a lower volume capture.

Environmental Justice
The Bayonne SIAR does not mention environmental justice communities.

Green Infrastructure
Bayonne's municipal SIAR proposed to route a modest 3% of impervious surface to tree pits, pervious pavement, and underground storage. The report describes three phases that would start in the first 10 years with four projects and would be completed in 10-year increments until the end of the 30-year plan. In the PVSC regional report, all green infrastructure phases for Bayonne are scheduled for 2046-2050. While we appreciate the inclusion of green infrastructure in the SIAR, we recommend the implementation schedule be moved up so all of the green infrastructure is completed in the first 10 years.

The report should explain why the green infrastructure projects in the municipal plan are implemented over 30 years while in the regional plan they are implemented over four years in the regional plan. Green infrastructure is not implemented until 2046 in the regional plan. By waiting 25 years to implement green infrastructure, or implementing it over the course of 30 years, the residents of Bayonne will not get the more immediate cost and environmental benefits of green infrastructure. Similarly, taking 10 years to implement the first four projects is a disservice to residents of Bayonne.

The Fitzpatrick Park project that is included in the plan as a green infrastructure project is described as park renovation which includes an underground detention basin. Adding green space is an effective green infrastructure technique, but the removal of such green space to accommodate storage basins would negate the benefits provided by preserving or expanding the park. It is unclear if consideration is being given to the green space that may be lost to the storage basins. It is also unclear if the extent to which current green spaces are capturing stormwater has been quantified. Are underground storage

basins considered green infrastructure by the NJDEP? How are these storage basins different from storage basins which are described as gray infrastructure in this report?

Financing

There are inconsistencies between the regional and municipal reports' financial capabilities assessment (see table I-11 in PVSC Plan pg 121). Bayonne meets EPA's high burden criteria in the PVSC report, but is considered mid-range in Bayonne's plan. Bayonne argues in the municipal report that although it technically meets the mid-range burden category according to the EPA guidelines, it should be considered high-burden because of the high cost of living in Bayonne. Will NJDEP be considering additional factors in the financial capabilities assessment, such as the cost of living, that are not included in the EPA assessment?

Additionally, Bayonne's SIAR indicates that, given current economic uncertainties, "Bayonne will be reticent to commit to long-term capital expenditures for CSO controls" (p. 46 of PDF). The projects that are slated in the regional plan for Bayonne within the first permit cycle would cost approximately $35 million without the additional costs of the regional projects. The municipal plan would cost between $60 - $70 million. Given this statement, will NJDEP allow Bayonne to postpone these projects?

The plans should indicate how the costs are being distributed between municipalities and utilities, especially in the case of high- burdened municipalities.

Public Participation

Bayonne's SIAR includes information that is in need of public input and feedback, such as the siting of gray and green infrastructure as well as costs and implementation schedule. However, the only comment related to public input in Bayonne's SIAR is that, "throughout the LTCP planning process, the participating public emphasized a desire to have green infrastructure included in Bayonne's LTCP." No comments related to the specific projects proposed in the LTCP, costs, timing, etc. are documented.

The PVSC regional report notes that Bayonne assembled its own Supplemental CSO Team, which we support as practice that could be established by other municipal permit holders. There is no documentation of this group in Bayonne's LTCP. Although residents from Bayonne participated in the regional Supplemental CSO Team meetings, their concerns are not documented in either report.

Climate Change

The Bayonne SIAR states that a "future baseline" was used to model the platform performance analysis. The model used the same "typical year" hydrologic condition—the rainfall recorded in 2004 at Newark Airport in Newark, New Jersey. The model also used the 2045 build year conditions and the anticipated demographic conditions (e.g., population, sanitary flow). We support the inclusion of a future year for the build year condition in addition to the anticipated demographic changes.

The Jersey City Municipal Utilities Authority (JCMUA) Report

New Jersey Future is a member of the Jersey City Stormwater Treatment & Resiliency Team (JC START) which has been actively engaged in Jersey City's Long Term Control Plan process.

Water Quality

The difference between the regional and municipal plans is between 85% capture of CSOs in the municipal plan and 78% capture in the regional plan. We are concerned about the local impacts of CSOs and flooding if a regional plan moves forward.

- The water quality goals of residents should be explained as well as how the plan achieves these goals. Does this meet the water quality goals of the City and residents?
- Public access should be considered in the report. Has public access been considered?

Green Infrastructure

The JCMUA's SIAR proposes managing 7% of runoff from hard surfaces with bioswales and rain gardens that would be installed by 2026. By implementing green infrastructure first, the JCMUA will be able to address some of the pressing issues impacting Jersey City residents, such as flooding, and the residents of Jersey City will get the multiple benefits associated with these projects within the first five years of the plan. This approach addresses the communities' needs first, while paving the way for a greater understanding and buy-in from the community for larger gray infrastructure projects. There is also a greater opportunity for adaptive management because the green infrastructure projects tend to be smaller and less design intensive. In the regional plan, green infrastructure for Jersey City is not implemented until 2036. Waiting 15 years to implement green infrastructure projects would leave Jersey City residents without the benefits of green infrastructure to reduce flooding and mitigate the impacts of climate change.

Environmental Justice

The JCMUA SIAR states that "care should be taken to ensure that implementation and benefits of the CSO control technologies are fairly distributed across groups of varying socioeconomic status." However, the report does not state how the CSO controls will be distributed fairly across varying economics statuses and specifically how overburdened environmental justice districts will be impacted.

Financing

The JCMUA SIAR uses the same language that is included in Bayonne's report regarding adaptive management for financing the LTCP. "Jersey City will be reticent to commit to long-term capital expenditures for CSO controls without the incorporation of adaptive management provisions." Jersey City scored an EPA mid-range qualitative score for the financial capabilities assessment. The JCMUA is proposing an extended implementation schedule of 30 years to ease the burden on Jersey City residents, especially for the 12.4% of the population who make less than $25,000 per household. Using the financial capabilities assessment to increase the timeline for reducing sewage overflows without exploring more equitable financing options is an inequitable trade-off between cost and access to clean water.

The plans should indicate how the costs are being distributed between municipalities and utilities, especially in the case of high- burdened municipalities.

Public Participation

The report notes that six public meetings were held that were attended by Jersey City Stormwater Treatment & Resiliency Team (JC START), Sustainable Jersey City, and Hudson County Sierra Club. The inclusion of these groups in the CSO permit process should be continued. The types of green infrastructure that are included in the report show that the groups' comments were considered. However, the only public comment that is referenced is that "they clearly have stated that they want additional green infrastructure including, but not limited to, bioswales, rain gardens, trees, and rain barrels or cisterns included in the JCMUA plan." The report did not include any feedback from the affected public on the selected alternatives to CSOs.

Climate Change

The SIAR states that 2004 was used as the model storm year to model precipitation and sea level rise was considered by analyzing 100 years of tidal data to evaluate CSO alternatives. We support the use of sea level rise data to evaluate the CSO alternatives. However, both of these data points are based on historical data.

The City of Paterson

New Jersey Future was a member of the Paterson SMART and is currently working with the Paterson Green Team on the Paterson adopt-a-catch basin program.

Water Quality

The City of Paterson will meet 85% volume capture in both the regional and municipal plan. Paterson will attain the current water quality standards.

- The water quality goals of residents should be explained as well as how the plan achieves these goals. Public access should be considered in the report.

Environmental Justice

Environmental justice considerations are not included in Paterson's SIAR.

Green Infrastructure

Paterson's SIAR proposes using green infrastructure to manage 2.5% of the runoff from hard surfaces which would be implemented over the course of the 40-year plan. The plan starts with a green infrastructure pilot study in 2021. The implementation of green infrastructure in Paterson in the regional plan would not start until 2056. Waiting 25 years to implement green infrastructure will leave the residents of Paterson without relief from localized flooding and the multiple benefits of green infrastructure.

The plan should state the purpose of the pilot program and why this is needed given the work that has already been done in Paterson to design green infrastructure projects by the Rutgers Water Resource Program and Paterson SMART.

- The timeline should be expedited and the City should build off of the work that has already been done to design green infrastructure in Paterson.

Financing

Paterson is proposing a 40-year implementation plan based on the financial capabilities assessment which indicated that Paterson is meeting the EPA's high burden criteria.

The plans should account for the economic cost of prolonging the implementation of the plans on residents who are suffering from flooding and sewage back ups.

The plans should indicate how the costs are being distributed between municipalities and utilities, especially in the case of high-burdened municipalities.

Public Participation

Public participation is referenced in the report, and we support the efforts that were made to engage the public in Paterson's CSO LTCP. Other than a preference for green infrastructure, no other comments, concerns, or issues are documented in the report. Public acceptance of the CSO technologies is referenced in the report but there is no documentation of how the chosen technologies were communicated to the public or future plans to engage the public.

Climate Change

Paterson used the same model storm year as the other municipalities in the PVSC region for its modeling.

Perth Amboy

New Jersey Future participates in the Perth Amboy SWIM group.

Water Quality

According to Perth Amboy's SIAR, the reduction in CSO loads will only have a limited effect on attainment in current criteria due to the dominance of the stormwater and runoff loads impact based on the Pathogen Water Quality Model (PWQM).

Primary recreation is a goal of the community as documented in the report. Perth Amboy has a beach that is not accessible to the public because of the CSOs. The report should have included an assessment of higher water quality criteria, but failed to do so.

Environmental Justice

The report states that "the CSO control alternatives were analyzed for their practical and technical feasibility, community and environmental justice impacts." The report does not include information on the potential impacts, or how environmental justice communities or impacts were defined.

Green Infrastructure

The SIAR proposes a target coverage of 46.8 acres or 10% of the directly connected impervious area within the city to be implemented over 38 years (the first two being for identification/design).

Green infrastructure implementation can be started at the same time as the identification of sites and a two-year design phase based on the work that has already been done by Perth Amboy SWIM.

Financing

The anticipated implementation plan based on Perth Amboy's financial capabilities assessment is 40 years. The projects and activities to be included in each five-year permit cycle would be selected and scheduled such that the residential indicator in the city at that time not exceed the 2.0% of median household income triggering the US EPA high burden definition. Should economic or other conditions occur in the future such that the residential indicators exceed 2.0% during a given permit cycle or lead to reasonable expectations that the 2.0% value be exceeded in subsequent permit cycles, the projects and activities in subsequent permit cycles will be modified in cooperation with NJDEP.

The plan relies entirely on upgrades within Perth Amboy and substantial rate increases on its residents. Middlesex County Utility Authority (MCUA) is not proposing any upgrades to the sewer treatment plant, to the sewage pipeline between Perth Amboy and the MCUA, or any other improvements to the system that could reduce the costs. A further examination of the LTCP for the City of Perth Amboy and MCUA would enable the consideration of alternatives so that the residents of Perth Amboy are not overburdened by these costs.

Public Participation

The public participation section in the LTCP includes some inaccurate and outdated information. The Perth Amboy Green Team and Environmental Commission are cited as groups who provided feedback on the decision-making process. Perth Amboy does not have an environmental commission and the green team is not active. The list of future meetings includes Dec. 2020, but this meeting was not held.

The report states that some of the LTCP reports are available for public review at the Water Department offices but that no one has requested copies of the reports. The two most important reports for public review, the Evaluation and Alternatives Report and the Selection and Implementation of Alternatives Report from 2019 and 2020 are not listed as available for public review.

Just one Supplemental CSO Team meeting was held in 2020 and, although public feedback is summarized in the report, this feedback does not include comments on the evaluation or selection of alternatives to CSOs.

Climate Change

Climate change is listed as a factor that could influence the implementation schedule. The report also noted that the Supplemental CSO Team, "expressed desire to have LTCP elements be functional and resilient, and reflective of impacts due to climate change." The model used the typical year 2004 that was approved by NJDEP.

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[1] No. Pg 126

II. Summary of Findings on Proposed LTCPs

Our review of the five SIARS listed above (PVSC, Bayonne, Paterson, Perth Amboy, and JCMUA) found that the reports were thorough, submitted on time, include some public engagement, and generally meet the regulatory standards. Below is a summary of our key findings:

1. **Water Quality**

- Water quality sections of the plans focused on reaching the current standards and criteria; they did not consider potential changes in the water quality standards and how these plans could meet those standards.
- The approach to 85% capture on a regional basis does not explain how water quality will be achieved by the municipalities who will achieve lower than 85% capture in the regional plan.
- Public access and how these plans are moving towards the goals of residents to have access and recreational use of the waterways is not included in the plans.

2. **Green Infrastructure**

- By waiting decades to implement green infrastructure, or implementing it over the course of the entire plan, communities will not get the more immediate benefits of reducing localized flooding, green space, and climate change mitigation, and the municipalities will not get the benefit of being able to assess the reduction of stormwater from green infrastructure and possibly reduce the size of gray infrastructure projects.
- Green infrastructure was evaluated based on the reduction of CSO volume rather than the reduction of pollutant load or stormwater capture. Given the nature of green infrastructure to both store and clean stormwater pollutants, evaluating it based on pollutant load would be more accurate.

3. **Environmental Justice**

- Attention to environmental justice communities varied in the reports from no mention to stating that consideration will be taken to ensure that the benefits of the plans are distributed "fairly across groups of varying socioeconomic status."
- None of the reports we reviewed define the geographic location of environmental justice districts, how they will specifically be impacted, if they are aware of the plans, or if the community members had any input into them.

4. **Financing**

- The proposed rate increases for all four of the municipal permit holders is substantial, especially for municipalities with high rates of poverty (see chart below with the proposed rate increases).

Permittee	Annual Residential Cost - 2019/2020	Annual Residential Cost *with* Inflation	Annual Residential Cost *without* Inflation	Year
		As presented in the PVSC regional report		
Bayonne	$701	$3,733	$1,279	2051
JCMUA	$482	$1,652	$703	2051
Paterson	$460	$1,683	$633	2061
Perth Amboy	$330	$540		2030
		$1,087		2040
		$1,573	--	2050
		$1,383	--	2060

- The allocation of costs between municipal ratepayers and regional ratepayers places the greatest burden on municipal ratepayers many of whom are low-income. We believe there are solutions where regional ratepayers would pay a more equitable share of the cost for regional infrastructure.
- The plans do not take into consideration the implementation of a stormwater utility which could more equitably distribute costs and raise additional revenue to finance these plans.
- Most of the permit holders have requested extended timelines of an additional 10 to 20 years based on the financial capability of their residents to finance these plans, which will leave communities that are already overly burdened by pollution with flooding and other impacts of CSOs for a total of 30 to 40 years.

5. Public Participation

- The public participation sections of the reports do not describe how the affected public was actively involved in decision-making and the selection of long-term CSO controls, per the requirement stated in the nine minimum controls.
- Two of the CSO permit holders had municipal Supplemental CSO Teams which potentially had more local involvement, and two relied on regional Supplemental CSO Teams for public outreach, which consisted of a few people representing municipalities whose populations range from 100,000 to 300,000 people.
- Public input was not well documented, especially in the SIARs. Some of the information in the public participation section for the Perth Amboy report is inaccurate.

6. Climate Change

- Climate change considerations were based on using 2004 as the model storm year. The model storm year should be tested on an annual basis to ensure that it is still accurate based on the latest information, to ensure that we build the CSO controls to meet the impacts of climate

change, and for these plans to assist with the Department's goals to build resilient communities.

- The SIARs do not Include a section on how they plan to design their alternatives to withstand the impacts of sea-level rise and increased precipitation caused by climate change or a section on how they will consider social vulnerabilities to climate change, flooding, and combined sewer overflows as a way to prioritize investments.

III. Recommendations

A. Recommendations for the NJDEP regarding all permits

The following comments are for the NJDEP's consideration in its review of the CSO Long Term Control Plans and in its development of requirements for the forthcoming CSO permits. In many cases, the permit holders are compliant with the CSO permits, but not with the NJDEP guidance. Therefore, the forthcoming permits must include new, enforceable requirements regarding environmental justice, climate change, and public participation.

1. Water Quality

- Require PVSC and the municipal permit holders to revise the SIARs to explain the differences between how the regional and municipal approaches will impact the reduction of localized flooding, water quality, and sewer back-ups. (LTCP review)
- Require permit holders to prioritize the reduction of localized flooding in the LTCP implementation schedule. (LTCP review and next permit).
- Require permit holders to include public access discussions and the communities' goals for water quality as part of the public participation process. (Next permit)

2. Environmental Justice

- Require CSO permit holders to identify the location of environmental justice districts, perhaps based on a version of NJDEP's "overburdened communities" definition overlaid with water impacts like flooding, measure CSO impacts in those districts, engage representatives of those districts in the public participation process, and report on their participation level and priorities. (Next permit)
- Provide a mapping tool for the identification of environmental justice districts or require CSO permit holders to use the EPA's Environmental Justice Screening Mapping Tool to map the neighborhoods that are overburdened and map the demographics of the neighborhoods closest to the CSO outfalls. (Next permit)
- Require permittees to prioritize environmental justice districts for CSO mitigation. (Next permit)

3. Green Infrastructure

- Require CSO permit holders to set bold, clear, and immediate targets for implementation of green infrastructure. For example, the Camden County Municipal Utilities Authority (CCMUA) approach and its LTCP recognize green infrastructure as a key control technology of its strategy and provides a useful model for further refinement of all of the LTCPs. The CCMUA plans to implement most of the green infrastructure within the first five to 10 years of their plan in order to reduce localized flooding. (Plan review)

- Consider using the reduction of pollutant load in the next CSO permit to evaluate green infrastructure either in addition to CSO reduction or instead of it. NJDEP should provide guidance and a process for municipalities to calculate pollutant load reduction to both enable this approach and to provide a uniform standard and process within New Jersey. NJDEP should also evaluate the benefits and challenges encountered in Philadelphia's pollutant load reduction approach and incorporate any lessons learned. Reducing CSO impacts by reducing the pollutant load (as a result of green infrastructure and other measures) could provide:
    - Economic savings for permittees
    - An incentive for wider use of green infrastructure
    - Triple bottom line benefits associated with green infrastructure, including urban heat island reduction and climate resiliency

  For example: Philadelphia negotiated a presumptive approach that is based on the pollutant loads associated with 85% pollutant load instead of 85% volume. If quantifiable benefits have resulted from Philadelphia's pollutant load reduction approach, it may be worthwhile for NJDEP to evaluate the benefits to NJ, both moving forward with LTCPs and in renegotiating performance targets in the current plans. If green infrastructure provides a pollutant load reduction (in terms of CSOs) that is more than one-to-one volume, this could be beneficial. (Next permit)

4. Financing

- Evaluate the financial capabilities assessments to consider whether the CSO permit holders are using the most cost-effective financing for their plans, such as using the I-Bank. If not, require them to redo the assessment using I-Bank financing. (LTCP review)
- Ask CSO permit holders to assess the rate impacts of using innovative financing options including creation of a stormwater utility to more equitably fund the LTCPs before agreeing to extend the LTCP implementation schedules. (LTCP review)
- Require permit holders to measure and report on the economic, environmental, and health impacts of extending the implementation schedules. (Plan review)
- Require the PVSC to compare alternative payment scenarios, including: 1) PVSC (and its entire rate base) pay for the cost of the regional interceptor; and 2) distributing the costs between the nine permit holders. (LTCP review)
- Evaluate how the costs and CSO controls are shared between Sewage Treatment utilities and municipalities to alleviate as many costs as possible on economically distressed communities such as Paterson and Perth Amboy.

5. Public Participation

- Confirm that the groups listed as providing feedback on the decision-making process are accurate and list the types of their participation in the decision-making process. (LTCP review)
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- Recommend that the SIARs include how each permit holder intends to continue to inform, educate, and engage the public in implementing the LTCP.
- Require the permit holders to continue public outreach on the projects that have been selected in the LTCP. (Next permit)
- Issue guidance for public outreach with metrics for each of the activities and require permit holders to publish an annual report using the metrics. For example:
    - Require permit holders to confirm that the members of the Supplemental CSO Team were still involved throughout the planning process, by listing the years in which they attended meetings.
    - Require permit holders to report on the number of people who engaged each in public meeting; the types of public information that were distributed; the number of flyers distributed; the number meetings held, location, time, how the meetings were advertised; and meeting notes and how they were distributed.
      (LTCP review and next permit)

- Require a municipal Supplemental CSO Team in addition to allowing participation in a regional team. (Next permit)
- Ask the permit holders to revise the public participation section in the LTCP to include the number of people who engaged in public meetings; the types of public information that were distributed; the number of flyers distributed; the number meetings held, location, time, how the meetings were advertised; and meeting notes and how they were distributed. (LTCP review)
- Require future public participation that engages residents in the planning process for CSO projects, focusing on projects that will have an impact on their neighborhoods. (Next permit)
- Require the permit holders to conduct outreach or partner with municipal action teams or other groups that work on clean water on the impacts of CSOs, flooding, and polluted waterways in CSO communities. (Next permit)

6. Climate Change

- Require permit holders to utilize a range for precipitation increase through 2050 (such as 4% - 11% from the NJ Scientific Report on Climate Change) in their LTCPs and projections for sea level rise through 2050 (such as provided by the New Jersey Climate Change Alliance reports.) (Next permit)
- Require CSO permit holders to revisit their rainfall modeling every five years and update it within six months, to the extent the science allows, to account for current and anticipated climate change impacts. Where the updated modeling shows that CSO plans would fall short of established CSO control goals, the permittees should be required to modify their plans. (Next permit)
- Require inclusion in the SIAR of an assessment of the impacts of climate change on the recommended CSO mitigation projects as well as on frontline communities. (Next permit)

B. Recommendations for all of the municipal permit holders

This final set of recommendations is for the CSO permit holders to use as they implement their CSO Long Term Control Plans.

Green Infrastructure

- We recommend implementing green infrastructure within the first five to ten years of these plans.
- Increase the requirements for municipal stormwater ordinances by January 2022 to:
    - Lower the project area threshold at which stormwater management and green infrastructure are required from the state level of one acre to a lower threshold (0.5 acres to 5000 square feet). This will allow communities to achieve CSO reduction and green infrastructure as development and redevelopment occurs.
    - Eliminate allowing the exemption of a project from the existing imperviousness in the current and model NJDEP stormwater ordinance. When developing stormwater calculations, stormwater management should be based on total project imperviousness, regardless of conditions prior to development. This will result in redevelopment projects improving stormwater conditions instead of simply maintaining existing conditions.
    - Both of these recommendations provide economic relief to local taxpayers as the cost of stormwater management and CSO reduction is borne by the redevelopment project and not the municipal taxpayer.
- Discourage the increase of impervious surfaces through stormwater ordinance, master plans, and stormwater management plans.

Environmental Justice

- We recommend that permittees prioritize environmental justice districts for projects that will reduce flooding and the impacts of CSOs as well as for workforce development and contracts for local businesses related to CSO mitigation.

Financing

- We recommend that all of the CSO permit holders utilize the I-Bank's low-interest loan programs as well as grants to pay for the LTCPs.
- We recommend that all of the CSO permit holders create a stormwater utility to ensure that the costs of the plans are equitably distributed between the contributors of stormwater and to thoroughly explore innovative financing options that will reduce the cost to ratepayers.
- We recommend that all of the CSO permit holders re-evaluate their rate structures to minimize the impact of rate increases on households with lower incomes.

Public Participation

- Post the Long Term Control Plans on the municipal and utility website and include summaries of the reports.

- Continue public outreach with the Supplemental CSO Team and active local groups before the next CSO permit is issued and during the next CSO permit.