

**Comments on the CSO Long Term Control Plans
Submitted on behalf of the four Jersey Water Works committees (CSO, Green
Infrastructure, Asset Management & Finance, and Education & Outreach)**

[Jersey Water Works](#) is a collaborative effort of many diverse organizations and individuals who embrace the common purpose of transforming New Jersey's inadequate water infrastructure by investing in sustainable, cost-effective solutions that provide communities with clean water and waterways; healthier, safer neighborhoods; local jobs; flood and climate resilience; and economic growth.

One of the collaborative's four shared goals is "*Smart Combined Sewer Overflow Control Plans*," which aims for municipalities and utilities to adopt innovative CSO Long Term Control Plans with cost-effective solutions that meet or exceed permit requirements and provide multiple community benefits. The Jersey Water Works CSO Committee has taken the lead in reviewing all of the plans, specifically the Selection and Implementation of Alternatives Reports (SIARs), with this goal in mind and drafted the enclosed comments. The Green Infrastructure, Asset Management & Finance, and Education & Outreach committees have reviewed the comments that were drafted by the CSO committee and provided input as well.

Jersey Water Works recognizes the immense efforts devoted to creating and implementing the CSO permits by the NJDEP within a five year timeline. Jersey Water Works also recognizes the time and efforts that each permit holder has put in place to the development of the Long Term Control Plan. We understand that these plans will require significant investment to reduce the combined sewer overflows that plague our most vulnerable communities. Some of the comments pertain to all plans and others to specific plans. They also pertain to both the SIARs and considerations for future CSO permit conditions. The intent of the comments is to ultimately ensure that the plans, with their technical feats and considerable investment, are equitable for the communities that they are meant to benefit.

CSO Committee co-chairs: Andy Kricun (Moonshot Missions) and Drew Curtis (Ironbound Community Corporation)

Backbone staff members: Mo Kinberg and Kimberley Irby (New Jersey Future)

The four Jersey Water Works committees (CSO, Green Infrastructure, Asset Management & Finance, and Education & Outreach) respectfully submit the following comments:

1. Nine Minimum Controls - Operations & Maintenance

We recommend that the Nine Minimum Controls continue to be included and enforced in the next CSO permit.

We commend the NJDEP for making the nine minimum controls a permit requirement. In particular, ***we suggest that NJDEP ensures that the LTCPs guarantee regular monitoring***

and (where appropriate) cleaning of sewers, regulators, and outfalls, declare sewer flow optimization through operations/maintenance as an ongoing commitment, and report on progress. Jersey Water Works issued a report called [Hidden Capacity: How Proper Maintenance and Cleaning of Sewer Systems Can Have Huge Benefits](#), emphasizing the importance of sewer cleaning and inspection as critical elements of a proper and effective sewer system operation and maintenance program.

This report was inspired by the situation in Camden, where one study indicated that 75-80% of the flooding was due to the sewers and outfalls being clogged. CCMUA had to dredge out seven of Camden's CSO outfalls in order to reopen them. While leading CCMUA, Andy Kricun arranged for a commitment that the entire sewer system be cleaned every three years to be included in the draft LTCP. This should be a consideration in other permit holder's plans as well.

2. Financial Capabilities Assessment and Implementation Schedule

We ask that NJDEP facilitates a thorough investigation of all possible CSO controls before considering any extension of the implementation plans and an evaluation of the cost distribution of the plans between utilities and municipalities, which may change the cost of the plans and the financial capabilities assessments. We also recommend keeping the implementation plans to the shortest feasible and fundable period.

We ask that NJDEP ensure that permittees have evaluated every possibility for reducing the cost of plans before any consideration to extend the implementation timelines, like:

- Utilizing more green infrastructure
- Securing low-cost financing and grants (e.g., from the I-Bank)
- Securing revenue sources besides increased wastewater rates (e.g., stormwater utility)
- More equitably allocating costs among wastewater customers (e.g., rate structure reform and low-income affordability programs)

Many of the plans take a 20 year timeline as a starting point for consideration, and then propose a more extended timeline to account for affordability. Several plans have an implementation schedule spanning 40 or more years, which is an unusually long timeline for compliance. This will likely lead to a significant delay in water quality and public health improvements. While this approach seeks to reduce costs to residents, it will leave lower-income communities with polluted waterways for additional decades. Extended implementation timelines also raise concerns related to the effects of climate change, given that precipitation intensity/frequency and sea level rise will gradually worsen.

This timeline expansion is directly related to the financial capabilities assessment, specifically the affordability calculations, some of which do not indicate plans to diversify funding or secure low-cost financing by utilizing the NJ Infrastructure Bank and/or establishing a stormwater utility. Thus, the affordability calculation, which is mostly based on the affordability to low-income residents, is not comprehensive or equitable if it only considers increases to existing wastewater charges as the sole source of revenue to fund investments, and does not take advantage of

low-cost financing or grants available from the state. We understand that permittees may not have considered other revenue sources due to their relative instability, but relying entirely on wastewater rate increases harms low-income communities. Furthermore, permittees could have considered changing the way they structure their wastewater rates to be more equitable, or adopting affordability programs specifically for low-income customers, but they largely did not.

For the next permit, permittees should assess the financial impacts using 20th percentile income, rather than relying exclusively on MHI.

Using median household income (MHI) to determine the financial capability of ratepayers to afford the LTCP could put an undue burden on households of lower incomes. Some of the permit holders considered the impact on lower income households. In the next round, every permit holder should.

3. Green Infrastructure

Green infrastructure (GI) should be prioritized first in the implementation schedule and there should be ample opportunities for the public to give input through the design phase (e.g., 30%, 70% design).

Though most plans include at least some mention of GI, whether part of or supplemental to the plans, we argue that it has not been thoroughly explored. Certain questions that were not considered include:

- Where should GI be installed?
- What types of GI practices should be installed?
- How will the GI projects be maintained?
- What is the potential for public-private partnerships?
- Have co-benefits of GI been considered?
- Were larger GI projects explored?
- Did GI costs consider reduced costs due to incorporation with other capital projects?

Some plans are completely gray and the GI that has been included in the remaining plans is not at a scale to be effective. It seems that most permittees that included GI did so because the community asked for it. Many permittees posit that they would need to do GI at a large scale to have a significant impact, which they argue wouldn't be cost-effective for them. EPA produced a [case study](#) on Lancaster, PA that addressed this specifically, showing that at least some level of GI is more cost-effective compared to gray.

Additionally, the timing of GI installation in certain projects should be scrutinized. Some plans have it upfront, whereas others plan on starting it as late as 2056. There are several reasons for doing GI upfront. First, it could reduce the size of gray infrastructure, which could provide additional cost savings. Second, it helps address the immediate impacts of climate change, which are expected to worsen with time. Besides reducing flooding, which promotes adaptation

and resilience, it also contributes to mitigation by reducing greenhouse gas emissions and heat island effects. Lastly, it provides a platform for the permit holder to further engage with the public regarding the entire phases of the LTCP.

For the next permit process, we recommend including a requirement for GI, specifically requiring permittees to set a goal of reducing at least 8% of flow using GI. There should also be a requirement to report the amount of stormwater planned to be managed via GI.

The Hudson River Foundation and the New York-New Jersey Harbor & Estuary Program released a [case study](#) in October 2018 that utilized stormwater models (developed using EPA's Stormwater Management Model) to assess the potential impacts of green infrastructure, in addition to site investigations, soil sampling and infiltration tests. They found that "with full implementation of the GI opportunities identified, it is anticipated that a 25%-30% reduction in wet weather flow can be accomplished, with a 20% average reduction in peak flow rates and total reduction in sewer flow by as much as 8%."

Though there may be reluctance to implement GI due to potential siting/installation difficulties in urban areas, as well as reluctance to rely on it to remove water from the system, there are many benefits beyond just delaying/retaining stormwater flow. For example, GI can be expanded in specific areas to address localized flooding. Additionally, GI should be considered for more than just the function of stormwater retention. Our large metropolitan area neighbors, Philadelphia and New York City, rely on GI to a much greater extent. Philadelphia looked at GI in relation to the pollutant load of stormwater, as opposed to the volume of reduction. This could be a more favorable way of assessing and adoption of GI.

4. Climate Change Impacts

NJDEP should provide guidance on how to model climate change impacts on precipitation events and sea level rise, and how to use what is being developed by NJ PACT. Additionally, future permit conditions should include a requirement to update models reflecting available climate data and incorporate projections from NJ PACT.

Most plans use 2004 as the base storm year for the modelling. Given what we know about climate change, there will likely be more frequent and/or more intense storms in the following decades. The permittees should be incorporating more sophisticated climate projections into their models. Specifically, permit holders should be guided by the NJ PACT process. There should also be more consideration of sea level rise and how that would affect CSOs backing up into streets.

Climate change impacts need to be considered in the modeling, design, and implementation of projects and in relation to frontline communities. Modeling should be done in communities to understand how climate change will impact specific communities, this data can be used to prioritize the implementation of CSO controls.

Additionally, wastewater treatment plants and pumping stations will need to be more resilient to flooding and power outages. Most plans did not address these issues. The Passaic Valley Sewer Commission (PVSC) did; however, its method of increasing natural gas sources will lead to more emissions, and its method of constructing a flood wall will only divert the water elsewhere. In general, there needs to be consideration of the triple bottom line benefits of increasing the resiliency of these systems.

5. Public Participation Process

Make the best practices from the NJDEP guidance document ([Public Participation Resource Document](#), page 3) a requirement in the next CSO permit and add more specificity, the following:

- Give community members at least two weeks' notice (10 business days) for any public meeting. Make sure that the location and the timing of the meeting is as accessible as possible to the affected public.
- Present the information in terms that are understandable for the general public. Avoid major use of technical language, acronyms, etc., and explain any that are used.
- Make deliberate efforts through multiple modes of news, online resources and social media to reach affected communities, and report on the effectiveness of those efforts.
- Articulate how community voices are being heard and taken into consideration by publishing notes from the meetings and including these notes in annual reports on public participation.
- Follow up after the meetings to address community feedback.
- Frame the importance of the LTCP in a way that resonates with communities (e.g., incorporated in master plans, potential rate increases, increased public access, etc.).

Though the issue of engaging community members may be challenging, the NJDEP provided guidance on best practices that permit holders could utilize to improve public participation. In general, some permittees could have done a much better job of being more intentional with their outreach and offering transparency. There are a number of grant programs run by the state that require more rigorous public participation. Aspects of the NJDEP's existing framework and strategies used by other agencies as well as other rubrics that have been developed to engage the public on infrastructure projects could be incorporated into the next permit (e.g., Rebuild by Design). Clear requirements are needed to ensure that the public is engaged in the implementation of these plans.

Public participation should be continuous and effective throughout the next permit cycle. Specifically, the next permit should require an interim step of public participation between submission of the plan draft and approval from NJDEP. This would help ensure that the public knows what is in the plan and the consequences.

Community members may not think to ask certain questions or give certain feedback related to water quality, given that the water bodies in their communities are not fishable/swimmable (or otherwise accessible) in the first place. Thus, they should be prompted with questions such as, “What does recreational access and water quality mean to you?”

6. Maximizing Benefits

In the next permit, NJDEP should require permittees to describe how they are:

1. Moving towards the goal of fishable and swimmable waters as it relates to their sewer and stormwater systems
2. Talking to the community about water quality and public access to open waters
3. Considering what the community wants and their input regarding public access
4. Considering integrating other long-term planning needs like resiliency, sustainability, water supply protection, development

The LTCPs are billion dollar plans that stretch across multiple decades, and thus, there is an inherent opportunity to align them with resiliency, sustainability, water supply protection, development, or other long-term goals at the municipal or regional level. This would also benefit permittees by helping them to identify better cost-sharing opportunities, avoid unnecessarily redundant or conflicting infrastructure, and provide a more thoughtful approach to meeting the intent of the permits. Most of the reports did not seem to consider these opportunities, which would ultimately benefit communities, for the alternatives/controls selected.

Additionally, the plans did not consider anything beyond the minimum existing water quality standards and criteria outside of the CSO reduction requirements. None of the permittees considered how water quality standards might change in the future, given that they may become more stringent. The plans, as they stand now, assume that the standards will not change over the next 30 to 40 years.

Also, there are concerns about the 85% capture requirement not being evenly distributed in the regional plans and public access locations, existing and future, not being considered in relation to the impacts of continued CSOs. For PVSC, there will not be 85% capture in each municipality. This seems to go below the minimum requirement for CSO capture and could have a negative impact on water quality at the local municipal level.

7. Options to Reduce Flows

NJDEP should provide guidance on options that help reduce flows and require that permittees explore all of these options.

Sewer separation, treatment, and storage assume maintaining flows, not reducing them. There are other options available to help permittees reduce flows, and thus, costs. There are regulatory options like zoning requirements, site plan ordinances, and other permits. There are

also options outside of infrastructure, such as water conservation and stormwater fees to disincentivize impervious surfaces.

NJDEP should examine the intersections between MS4 and CSO permits, specifically how both permits can work with one another to better incorporate GI into the plans.

There could be opportunities for additional water quality benefits in communities that have MS4 permits. Municipalities with both CSO and MS4 permits would benefit more broadly from a comprehensive GI approach that incorporates flooding, resiliency, and water quality considerations.

The next CSO permit should require permit holders to report anticipated flows.

Many plans did not analyze current versus anticipated flows (or at least not definitively). In these cases, this lack of information does not allow one to calculate cost per gallon to get an idea of the efficiency of these plans.

Municipality-Specific Comments

Perth Amboy

Based on the rate impacts on a lower income community, it is recommended that the NJDEP convene a value engineering session among the MUA, Perth Amboy, and itself to discuss possible opportunities to reduce the cost of the LTCP to the residents of Perth Amboy, without impacting environmental benefit.

The LTCP prepared by Middlesex County Utilities Authority (MUA) on behalf of Perth Amboy, calls for \$380 million in improvements to be borne entirely by Perth Amboy, a city with a median household income of \$49K, less than the national average. User rates are projected to go up from the current \$330 to \$1500 in 2050. And that would be if the entire cost of the project can be funded through the NJ I-Bank, which has the lowest possible interest rates. If funding is not available in its entirety from the I-Bank, then the rate increases would be even greater.

The inevitable replacement of Perth Amboy's existing pipe, the cost of which the city will have to bear anyway, should be considered as a sunk cost in the analysis of alternatives. By transmitting a lot more flow to the MUA treatment plant, the cost of dealing with the volume of flow that remains should be significantly less than the \$380 million currently projected.

One possible idea is to build a parallel line from Perth Amboy to the MUA treatment plant. The existing line, which goes through Woodbridge, is only 60 inches in diameter and is a brick sewer that is well past its useful life. Therefore, it will need to be replaced very soon, regardless of the LTCP. Thus, the plan, as it currently stands, would result in Perth Amboy residents bearing the

\$380 million cost for the LTCP *plus* the cost of the replacement line through Woodbridge. So, the rate increases, as large as they are already, would actually be significantly greater.

Instead, it may be more cost effective for Perth Amboy to install a parallel line, with a much larger diameter, (the largest diameter that would still enable the minimum 2 feet per second velocity during dry weather days) to convey more of the combined sewage flow to the MCUA treatment plant. The larger pipe diameter would also serve as storage. If the condition of the current pipe could stand it, there could be interconnects between the new pipe and the current pipe; then, the original pipe could provide some limited additional wet weather storage as well.

That is only one idea; there may be others that may arise from the recommended value engineering session on behalf of the residents of Perth Amboy. Accordingly, JWW recommends that the Long Term CSO Control Plan not be approved in its current form but, instead, that the NJDEP conduct a value engineering session among MCUA, Perth Amboy and itself to evaluate lower cost options for the residents of Perth Amboy.

Newark and Paterson

Also applicable to Bayonne, East Newark, Kearny, Harrison, Jersey City, and North Bergen.

PVSC should pay for the cost of the \$219 million regional interceptor upgrade.

The LTCP prepared by PVSC calls for Newark to spend \$92 million and for Paterson to spend \$122 million for its share of the regional LTCP. In addition, the plan also calls for all eight CSO cities and PVSC, to share in the cost of a \$219 million regional interceptor upgrade.

It should be noted that, since the PVSC sewage treatment plant is rated at 330 MGD dry weather capacity, but only has 400 MGD wet weather capacity, it is not in compliance with NJAC 7:14A-23.13 (o) which requires the plant to have capacity of no less than 250% of rated flow, which would be 825 MGD.

The cost to expand the PVSC plant to 825 MGD hydraulic capacity would be significantly greater than the cost of the \$219 million regional interceptor upgrade. Therefore, based on this, the significant obligation (\$92 million for Newark and \$122 million for Paterson) and the economic challenges faced especially by both municipalities, it is recommended that, instead of requiring PVSC to expand the plant to achieve compliance, as per the aforementioned NJDEP regulation, PVSC should pay for the cost of the \$219 million regional interceptor upgrade.

For Newark especially, this argument is strengthened when it is noted that the city hosts the PVSC treatment plant and so does not benefit from the proposed regional interceptor at all. Depending on how PVSC intends to apportion this \$219 million cost among the six other CSO cities, prevailing in this regard could save the City of Newark and the City of Paterson approximately \$25-27 million. The LTCP would remain as is; the only proposed change is the apportionment of responsibility for the \$219 million regional interceptor expansion, for the reasons described above.