UNITED STATES DISTRICT COURT
for the
DISTRICT OF MASSACHUSETTS

UNITED STATES OF AMERICA, Plaintiff, v. METROPOLITAN DISTRICT COMMISSION, et al., Defendants.	CIVIL ACTION No. 85-0489-RGS
CONSERVATION LAW FOUNDATION OF NEW ENGLAND, INC., Plaintiff, v. METROPOLITAN DISTRICT COMMISSION, Defendants.	CIVIL ACTION No. 83-1614-RGS

MWRA ANNUAL REPORT
FOR CALENDAR YEAR
2022

The Massachusetts Water Resources Authority (the "Authority" or "MWRA") submits the following annual report for the period from January 1, 2022 through December 31, 2022, and supplementary compliance information in accordance with the Court's order of December 23, 1985, and subsequent orders of the Court including the Court's February 18, 2022, Schedule Seven Compliance Order Number 250. (ECF No. 1901).

I. Introduction

The *CSO Annual Report – January 1 to December 31, 2022: CSO Discharge Estimates and Rainfall Analyses*, April 28, 2023 (Exhibit A) ("Annual Report") is the second in a series of three such reports filed by the Authority since the Court approved an amendment to Schedule Seven in Compliance Order No. 250. (ECF No. 1901). As the Court noted in that Compliance Order, the results achieved by implementation of the Authority's CSO Long-Term Control Plan ("LTCP") have been impressive. As a result of the Authority's and the CSO communities' significant efforts and expenditures in Combined Sewer Overflow ("CSO") control work, an estimated annual CSO discharge of 3.3 billion gallons to the harbor and rivers in the late 1980s has been reduced to 396 million gallons ("MG") in the Typical Year as of the end of 2022. This is 8MG less than the LTCP goal of 404MG. The well-documented success of the Authority's LTCP in significantly reducing untreated CSO discharges in a Typical Year is further illustrated in the Annual Report.

As the Court will recall from the last annual report, at the conclusion of 2021, the CSO LTCP goals for average annual CSO activation and volume were met, or materially met, at 70 of the 86 CSO outfalls for which performance targets were defined.[1] With respect to the 16 remaining CSO outfalls that did not meet

[1] *See*, *Notice of Filing Final Assessment Report and Interim Update as of December 30, 2021,* Exhibit A (ECF No. 1898)("Final Assessment Report"). As explained in the Final Assessment Report, among the 70 CSO outfalls are six that are noted with an asterisk in Table 2-2 where, while the predicted activation and/or volume exceeds the LTCP goal, the performance has improved since 1992 to a level believed to achieve water quality goals. In each of the six cases, the difference between the Q4-2021 performance and the LTCP goal is relatively nominal, and the inability to precisely meet the activation and/or volume goals at these locations is not considered material. Additionally, for these six outfalls water quality is not impaired by the deviation from the LTCP goals. *See id,* Final

the LTCP goals for activation frequency and/or volume by the end of 2021 (the "16 Outfalls"):[2] (i) the Authority had developed plans to enable six of these outfalls to meet LTCP goals after 2021;[3] (ii) the Authority had identified potentially feasible alternatives for four of these outfalls to possibly achieve CSO LTCP volume and activation goals;[4] and (iii) six CSO outfalls remained particularly challenging at the end of 2021 (the "Six Challenging Outfalls").[5]

The Authority is pleased to report that as of the end of 2022, it has achieved the overall volume reduction goal of 88% from 1988 levels as the Typical Year system-wide total discharge volume decreased by an additional 8MG - from 404MG (LTCP target) to 396MG (95% of which is treated). The Authority is also pleased to report that as of the end of 2022, two additional CSO outfalls (BOS014 and BOS003) are now meeting LTCP goals, effectively reducing the 16 Outfalls to 14 (the "14 Remaining Outfalls").[6] Annual Report at Section 3.1. For eight of the 14 Remaining Outfalls, projects forecasted to enable these outfalls to meet

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Assessment Report at Section 2.1.3. As detailed in the Annual Report, BOS064 now meets the LTCP goals, leaving only five outfalls where the difference between Q4-2022 performance and the LTCP goal is relatively nominal, and the inability to precisely meet the activation and/or volume goals at these locations is considered immaterial. *See*, Annual Report at Section 3.1, Table 3-1.

[2] The 16 Outfalls are: SOM001A; SOM007A/MWR205A; MWR205; BOS014; BOS017; CHE008; BOS009; BOS003; BOS062; BOS065; BOS070/DBC; CAM005; MWR018; MWR019; MWR020; and MWR201.

[3] The six outfalls are: SOM007A/MWR205A; MWR205; BOS014; CHE008; BOS009; and BOS003.

[4] The four outfalls are: BOS017; BOS062; BOS065; BOS070/DBC.

[5] The Six Challenging Outfalls are: SOM001A; CAM005, MWR018; MWR019; MWR020; and MWR201.

[6] The 14 Remaining Outfalls are: SOM001A; SOM007A/MWR205A; MWR205; BOS017; CHE008; BOS009; BOS062; BOS065; BOS070/DBC; CAM005; MWR018; MWR019; MWR020; and MWR201.

LTCP goals are in design or construction. These projects are expected to be complete by the end of 2024.[7] *Id.* Although investigations continue, it should come as no surprise given the Authority's previous reports that the remaining Six Challenging Outfalls (that the Court aptly labeled "incorrigible" - Compliance Order No. 251) are not expected to meet their respective LTCP volume and/or activation goals by the final 2024 Schedule Seven milestone. Details as to their status are set forth below.

Schedule Seven

Schedule Seven, as amended, requires the Authority to file an annual report by April 2023. The Annual Report has also been posted on MWRA's website. Below is a summary of both specific components of the Annual Report required by the Court's Schedule Seven Compliance Order No. 250 and additional noteworthy updates since the Authority's last annual report in April 2022.

II. Summary of Annual Report for Calendar Year 2022

A. Typical Year Performance of All Outfalls As Compared to 1992 System Conditions and the LTCP

The Annual Report includes a complete accounting of the 86 CSO outfalls active in the late 1980s. Annual Report at Table 3-1. For the now 45 remaining active CSO outfalls, the Annual Report provides discharge estimates using MWRA's calibrated hydraulic model updated with system changes and new information acquired in 2022, run under Typical Year rainfall conditions. The

[7] The eight outfalls are: SOM007A/MWR205A; MWR205; BOS017; CHE008; BOS009; BOS062; BOS065; and BOS070/BDC.

hydraulic model configuration was set to represent the system conditions at the end of 2022. These results were compared against the 1992 system conditions as well as the LTCP goals.

In summary, of the 86 CSO outfalls, as of the end of 2022, 72 outfalls meet or materially meet the LTCP goals (two more than as of the end of 2021). Further, as of the end of 2022, the total CSO discharge, now predicted to be 396MG in a Typical Year, has dropped below the total LTCP goal of 404MG. With respect to the 14 Remaining Outfalls, improvements for eight outfalls are in design or construction, with anticipated completion of the projects by the end of 2024. Such improvements are predicted to result in LTCP attainment for these eight outfalls. With completion of these projects, as well as further CSO Community work to improve CSO control that will be incorporated into the hydraulic model over the next few years, the Authority anticipates further reductions below the total, system-wide CSO control goal. The remaining Six Challenging Outfalls are not forecasted to meet their respective LTCP goals by 2024, and investigations of these outfalls continue.

In 2022, one additional CSO outfall (BOS005) was permanently closed, increasing the number of permanently closed outfalls from 35 to 36 (11 more than required under the Second Stipulation).[8] When coupled with the five outfalls along the South Boston Beaches that were effectively closed (*i.e.*, achieving a 25-year level of control in 2011), 41 outfalls have been closed since

[8] *See*, Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control (March 15, 2006) (ECF No. 1636) (the "Second Stipulation").

the CSO control program's onset.

The MWRA's hydraulic model (as calibrated in 2019 and used to produce the Final Assessment Report results in December 2021), has been updated to reflect modifications made to the MWRA and community sewer systems and to better reflect newly acquired information of the system's configuration and hydrology. During 2022, several collection system alterations were made by the Boston Water and Sewer Commission ("BWSC") as part of work in East Boston to further reduce CSO discharges. The completed work has been reflected in the MWRA's hydraulic model, resulting in two additional CSO outfalls (BOS003 and BOS014) now meeting LTCP goals. BWSC sewer separation work continues in East Boston, which is expected to improve performance at CSO outfall BOS009 and move this last East Boston CSO outfall into the category of meeting LTCP goals. Also, BWSC independently performed additional sewer separation in Roxbury during 2021, allowing the redirection of separate brook and storm flows away from systems contributing to downstream CSO discharges. This work had not been identified to MWRA at that time and, therefore, was not reflected in the 2021 annual report.

This newly acquired information has now been incorporated into the MWRA's model, along with other BWSC system details. These model updates have allowed MWRA to better evaluate alternatives to reduce CSO discharges at three of the six particularly challenging CSO outfalls (MWR018, 019, and 020). To confirm that these changes did not impact the model's ability to predict system overflows, the measured CSO activations and volumes in 2021 (an exceptionally wet year) and 2022 (a relatively dry year) were compared against the model results with these updates and enhancements. The model refinements brought the predictions closer

to the metered data for the treated discharges of the Prison Point CSO Facility (MWR203) and the untreated discharges from CSO outfalls to the Charles River (MWR018, 019, and 020) and Fort Point Channel (BOS070/DBC). At the Cottage Farm CSO Facility (MWR201) the model prediction was further away from the 2021 meter data; however, that was an exceptionally wet year, and there were no activations in 2022 against which to compare. These changes further resulted in nominal decreases in Typical Year CSO volumes at these same locations, although no changes to activation frequencies were predicted.

Finally, although not a requirement of the Court's Compliance Order No. 250 or the LTCP, the Annual Report includes calculations of the percent of combined sewage volume captured and treated during calendar year 2022, referred to as "percent capture." Percent capture is the ratio of combined sewage captured that is treated at MWRA's Deer Island Wastewater Treatment Plant, and as calculated at various CSO facilities, to the total stormwater and sanitary sewage entering the combined sewer system during wet weather periods. The Authority has calculated that 93.5% of combined sewage volume in a Typical Year is being captured and treated at MWRA's Deer Island Wastewater Treatment Plant. When considering MWRA CSO facilities that provide screening, detention/settling (providing total suspended solids (TSS) and Biological Oxygen Demand (BOD) reductions), and bacteria disinfection, the percent capture reaches 98.0% of combined sewage volume. Furthermore, when adding the Somerville Marginal CSO facility, which provides bacteria disinfection but does not provide detention/settling, this number increases to 99.7% of combined sewage volume being captured.

B. For the 16 Outfalls, Summary of any Improvement Work Completed Since the Prior Report, and Update on MWRA's Investigative Work and Analysis

As a result of planned improvements previously reported by the Authority, outfalls BOS003 and BOS014 met LTCP goals as of the end of 2022. Further, as previously reported, the Authority has identified projects that it believes will bring CSO outfalls SOM007A/MWR205A, MWR205, CHE008, and BOS009 into compliance with their respective LTCP goals. Since the submittal of the 2021 annual report, progress has been made towards implementing these projects and design has begun on four additional projects that MWRA believes will bring CSO outfalls BOS017, BOS062, BOS065, and BOS070/DBC into compliance with the LTCP goals. The final six outfalls – SOM001A, MWR201, MWR018, MWR019, MWR020 and CAM005 – remain particularly challenging.

BOS014, BOS003, and BOS009. The BWSC's current sewer separation project in East Boston (Contract No. 3), partially funded through a financial assistance agreement with MWRA (up to $2,181,667), is nearing the end of construction. As reported in 2021, the reconfiguration of the BOS014 regulator structure was completed in early 2022. As a result, CSO outfall BOS014 is now predicted to meet its LTCP goals. Further work during 2022 included the closure of two of the three regulators able to discharge to BOS003 and modifications to the one remaining regulator to increase its conveyance capacity to the MWRA's interceptor. As a result, CSO outfall BOS003 is now predicted to meet its LTCP goals. In addition, sewer separation as part of Contract No. 3 is estimated at 92% complete, with remaining work expected to be completed this summer. These

improvements are expected to result in BOS009 (the last underperforming East Boston outfall) meeting its LTCP goals. The Authority understands that BWSC intends to continue sewer separation work over the next several years, mainly within the area tributary to BOS003, further reducing East Boston CSOs.

SOM007A/MWR205A and MWR205. Design of the supplemental connection and control gate upstream of the Somerville Marginal CSO facility, which is expected to significantly reduce CSO discharges from CSO outfalls SOM007A/MWR205A and MWR205 and further optimize system capacity, is nearly complete. Earlier modeling projected these modifications would result in CSO reduction of approximately 29MG, in a Typical Year. Design has taken longer than expected due to necessary additional geotechnical investigations and coordination on an adjacent roadway project planned by the Massachusetts Department of Transportation. The construction project, however, is expected to be bid in the fall of 2023 and be substantially complete by the fall of 2024.

CHE008. Design work to increase the connection size from CSO outfall CHE008 regulator structure to the MWRA sewer has been completed. The project has been competitively bid, and the contractor has started the work, which is expected to be complete in July 2023.

BOS017, BOS062, BOS065, and BOS070/DBC. Finally, MWRA, in coordination with BWSC, has made further progress on system modifications for CSO outfalls BOS017, BOS062, BOS065, and BOS070/DBC. Since the prior annual report, MWRA entered into another financial assistance agreement with BWSC in November 2022, in an amount not to exceed $10 million, for the design and construction of modifications to BWSC's collection system expected to bring

these four CSO outfalls into compliance with the LTCP goals. BWSC preemptively hired a consultant in October 2022 to fast-track the design phase and is planning to complete the design and award a construction contract in time for the 2024 construction season, with the expectation of substantially completing the work before the end of 2024.

SOM001A, MWR201, MWR018, MWR019, MWR020 and CAM005. As detailed in the Annual Report, the Authority continues to investigate alternatives with respect to these Six Challenging Outfalls. Developing potential engineering solutions to bring these locations in line with LTCP goals that are not disproportionate to receiving water quality benefits, has been particularly challenging.[9] Even if such solutions were identified, they could not be designed and constructed by the final 2024 milestone.

At SOM001A, MWRA has developed a multi-component alternative, including: (a) weir raising, (b) further connection capacity relief with a modulating gate, and (c) sewer relining to marginally increase downstream conveyance capacity. This alternative lowers the activation frequency and volumes below SOM001A's LTCP goals but shifts some overflows to upstream CSO outfall MWR003, causing a slight exceedance in the CSO LTCP volume goal at that location. The Authority continues to coordinate with the City of Somerville as it continues to evaluate stormwater flood mitigation alternatives that could provide

[9] The Six Challenging Outfalls are among the outfalls that discharge to the Variance Waters. As detailed in the Final Assessment Report, receiving water modeling demonstrated that the impact to water quality from these outfalls was minimal; compliance with bacteria standards is 97.9-99.9% during the Typical Year when CSO is the only contributor. The most significant impact to water quality was from stormwater, where modeling showed that standards are met only 47-64% of the time when assessing only stormwater contributions.

added benefits of reducing or attenuating flows within the SOM001A system, potentially eliminating the negative effects of MWRA's multi-component alternative. The Authority intends to develop a preliminary cost estimate for this multi-component alternative to aid in assessing the cost/benefit of further work to reduce CSO outfall activation frequency and volumes at SOM001A.

At the MWRA Cottage Farm CSO Facility (MWR201), several alternatives were evaluated; CSO storage was the only potentially viable alternative identified to further reduce CSO by approximately 1.5MG to meet the LTCP goals during the two activations predicted in a Typical Year. The Authority is currently developing potential storage layouts and costs to aid in assessing the cost/benefit of further reducing treated CSO volumes from MWR201.

At CSO outfall CAM005, alternatives of sewer separation, raising and lengthening the overflow weir, and implementing green infrastructure have been explored. The Authority and the City of Cambridge are evaluating the constructability of raising and lengthening the weir, but this is only predicted to reduce activations to five in a Typical Year versus the LTCP goal of three. This would also further reduce CSO volumes, which are already below the LTCP goals. MWRA is currently evaluating the extent of green infrastructure and/or sewer separation in combination with the raising and lengthening of the CSO outfall CAM005 weir needed to fully meet the LTCP goals along with each component's estimated cost. This information will be used in assessing the cost/benefit of further CSO activation reductions from CAM005.

At CSO outfalls MWR018, 019, and 020, initial model assessments indicated that weir raising resulted in adverse hydraulic conditions without substantive CSO

reductions. Storage alternatives were investigated, but are likely to be infeasible given siting issues along the Charles River Esplanade. The Authority is now investigating alternatives to remove already separated stormwater from the sewer system through redirection to the receiving water or green infrastructure/subsurface stormwater infiltration. Alternatives consisting of combinations of these methods to remove system inflow in an effort to meet the LTCP goal of no activations in a Typical Year at CSO outfalls MWR018, 019, and 020 are now being developed, with preliminary cost estimates to be used in assessing the cost/benefit of further CSO activation and volume reductions at MWR018, 019, and 020.

C. Analysis of Prior Year's Rainfall in Comparison to the Typical Year

The Annual Report presents the rainfall data measured during the period from January 1, 2022, through December 31, 2022. It also describes the analysis of the rainfall data used to characterize the return period of each storm event and compares measured rainfall for the 2022 period to the rainfall included in the Typical Year.

The analysis of 2022 rainfall in comparison to the Typical Year includes the following observations:

- In 2022, the rain gauges recorded an average of 93 storm events, with an average annual rainfall depth of 33.63 inches, compared to 93 storm events and a total rainfall depth of 46.80 inches for the Typical Year.

- In general, the breakdown of numbers of storms by rainfall depth categories for 2022 skewed toward the smaller storms compared to the Typical Year, with nine more storms with depths less than 0.5 inches and nine fewer storms with depths greater than 0.5 inches. In terms of larger storms, 2022 had substantially fewer storms with greater than two inches of total rainfall across the four rain gauges with

closest proximity to the CSO systems, where more detailed evaluations were performed (two or fewer storms greater than two inches) in comparison to the Typical Year (six storms greater than two inches), with the largest storm in 2022 having a depth of 2.14 inches versus the Typical Year's largest storm depth of 3.89 inches.

- The number of storms with peak intensities greater than 0.40 inches of rainfall per hour ranged from three to four for the four rain gauges with closest proximity to the CSO systems, where more detailed evaluations were performed, compared to nine for the Typical Year. These evaluated gauges had a peak intensity of 0.71 inches per hour, compared with the Typical Year peak storm intensity of 1.08 inches of rainfall per hour with the remaining eight storms having peak intensities between 0.75 and 0.42 inches of rainfall per hour.

Based on the analysis performed, it is evident that the storms during 2022 were significantly less in depth and intensity than those in the Typical Year. This dry year resulted in model-predicted total CSO volume of 114.34MG, with only 1.19MG discharging from untreated CSO outfalls. This contrasts with the current Typical Year total CSO volume predictions of 396MG, with 21MG discharging from untreated CSO outfalls.

D. Summary of Measured Overflows from MWRA Treated and Untreated CSO Discharges

Measured activations and volumes for all 45 active CSO outfalls (BOS005 was permanently closed in 2022) are provided in Table 2-6 of the Annual Report with comparisons to modeled predictions. Further discussion on the measured overflows is provided in Section E, below.

E. Comparison of MWRA Meter and Model Data to Community Meter Data for Those Outfalls Where it Exists

For the entirety of 2022, MWRA and its CSO member communities (Boston, Cambridge, Somerville, and Chelsea) have used meters in their collection systems to determine when a CSO discharge is occurring and to

calculate and estimate volume for each CSO discharge. The Annual Report compiles these activation frequency and measured CSO discharge volume estimates for all 45 active CSO outfalls in Table 2-6.[10]

The MWRA's hydraulic model was run using various rain gauges throughout the service area as input to the hydrodynamic portion of the model, which computes the rainfall runoff that is directed into the hydraulic model for routing, along with sanitary and infiltration flows through the complex combined sewer network.

Table 2-6 of the Annual Report compares the results for all metered and modeled CSO activation and volume estimates for the 45 active CSO outfalls. For calendar year 2022, a total of 107.8MG of CSO volume was measured in comparison to 114.3MG of CSO volume predicted using MWRA's hydraulic model. Notable differences for individual CSO overflows are addressed in Table 2-7. In Table 2-7, the Authority points out that it is working with Cambridge to better understand metering configurations and estimates at CAM401A and impacts from possible continued sediment deposition within the Cambridge system downstream of the regulator tributary to this CSO outfall. It is also further evaluating if the capacity enhancements made at RE003-12, the only remaining regulator to CSO outfall BOS003, are achieving the modeled benefits and will be working with BWSC to further evaluate whether the model accurately represents field conditions. Overall, however, the metered CSO volume estimates and model predictions are

[10] MWRA, Cambridge, and Somerville, per the requirements in the Variances, have implemented a CSO Notification system, through which subscribers are notified within 4 hours of a CSO activation and estimated volumes are posted to public-facing websites within five business days. Under recent state legislation, Boston was also required to provide a similar notification system by July 6, 2022, while Chelsea's existing notification system needed to be modified to reduce its notification time.

comparable for storm events in 2022, demonstrating the model's ability to quantify CSO discharges in a year with less than typical rainfall.

III. Additional Update of Events Since Prior Annual Report

A total of sixteen outfalls, including the Six Challenging Outfalls, discharge to the Variance Waters of Lower Charles River/Charles River Basin or the Alewife Brook/Upper Mystic River.[11] CSO outfalls that discharge to the Variance Waters operate under regulatory variances to the Class B Water Quality Standard that permit a limited amount of CSO discharge. The most recent variances were effective on August 31, 2019, when DEP issued final determinations to adopt variances for an additional five-year term, to August 31, 2024 ("Variances").[12] Since the submittal of the 2021 annual report, the Authority has kept an open dialogue with interested parties and stakeholders and has continued required work under the Variances. This has included the following meetings, presentations, and submittals:

- The MWRA participated in a meeting on May 5, 2022, with the Mystic River Watershed Association ("MyRWA") Steering Committee, to hear about MyRWA's mission and priorities for 2022 through 2024, as well as a presentation on projecting rainfall extremes in a changing environment.

- Consistent with Schedule Seven Compliance Order No. 250 n. 2, a meeting was held on May 19, 2022, with representatives from the local watershed advocacy groups to review the prior annual report.

- The second quarterly meeting with EPA and DEP required by Schedule Seven Compliance Order No. 250 to review progress on the 16 Outfalls was held on June 16, 2022.

[11] The sixteen outfalls that discharge to the Variance Waters are: CAM001, CAM002, MWR003, CAM401A, CAM401B, SOM001A, SOM007A/MWR205A, CAM005, CAM007, CAM017, MWR010, MWR018, MWR019, MWR020, MWR201 and MWR023.

[12] EPA subsequently approved the Variances.

- On June 29, 2022, the Authority, Cambridge, and Somerville hosted the first public meeting on the updated CSO control planning for the Charles River and Alewife Brook/Mystic River. The key focus items included an introduction and history of CSOs in the region, CSO control background, the regional CSO planning process, and information on future activities, followed by a question and answer session. The materials from this meeting can be found at: https://www.mwra.com/cso/presentations/062922-publicmeeting1.pdf.

- The MWRA coordinated a CSO Tour on July 28, 2022, with representatives from the Cities of Cambridge and Somerville and interested watershed associations, to improve understanding of the MWRA's and the municipalities' existing systems associated with the Alewife Brook/Upper Mystic CSOs and overall progress made in CSO control.

- The MWRA coordinated a CSO Tour on August 24, 2022, with representatives from the Cities of Cambridge and Somerville and interested watershed associations, to improve understanding of the MWRA's and the municipalities' existing systems associated with the Charles River and overall progress made in CSO control.

- The third quarterly meeting with DEP and EPA required by Schedule Seven Compliance Order No. 250 to review progress on the 16 Outfalls was held on September 22, 2022. The Authority provided further updates on the alternatives that could impact discharges from CSO outfalls MWR018/019/020 to the Charles River.

- On December 15, 2022, the Authority, Cambridge, and Somerville hosted a the second public meeting on the Combined Sewer Overflow Control Planning for the Charles River and Alewife Brook/Mystic River. The key items discussed at the public meeting included background, the control plan goals and priorities, and the new typical year development, followed by a survey and question and answer session. The materials from this meeting can be found at: https://www.mwra.com/cso/presentations/121522-publicmeeting2.pdf.

- Consistent with Schedule Seven Compliance Order No. 250 n. 2, the Authority hosted a meeting with interested watershed associations and the Conservation Law Foundation on December 16, 2022, in order to provide an update on the progress toward further mitigating CSO discharges at the 16 Outfalls.

- In accordance with the Variances, the MWRA submitted the Alewife Brook and Charles River System Optimization Evaluations Report on December 22, 2022.

- The fourth quarterly meeting with DEP and EPA required under Schedule Seven Compliance Order No. 250 to review progress on the 16 Outfalls was held on January 19, 2023. The MWRA provided an update on the 10 CSO outfalls where designs are underway and construction is anticipated to be completed by the end of 2024 and the Six Challenging Outfalls.

- On January 31, 2023, the Authority submitted to DEP and EPA and published on its website an Annual Report on Progress of Additional CSO System Optimization Measures for the Charles River and Alewife Brook/Upper Mystic River watersheds.

- The fifth quarterly meeting with DEP and EPA required by Schedule Seven Compliance Order No. 250 to review progress on the 16 Outfalls was held on March 23, 2023. The meeting also reviewed model updates based on new information from BWSC on the Roxbury Canal Sewer and other Back Bay enhancements that have been integrated into the hydraulic model.

- A meeting was held with the DEP on April 5, 2023, to discuss the progress and respond to questions on the Somerville New Pipe Connection project, which is expected to improve performance at CSO outfalls MWR205 and SOM007A/MWR205A. MWRA reviewed current Somerville Marginal operational protocols, expected CSO performance, updates on the design, and the anticipated construction schedule.

- A public press release was issued on April 15, 2023, which included general information on CSOs, the location of outfalls in the Alewife Brook/Upper Mystic River watershed and the Charles River watershed, and potential health risks posed by exposure to receiving waters during CSO events.

- Commencing in May 2022 Cambridge, Somerville, and MWRA began holding (and continue to hold) bi-weekly meetings to coordinate on issues and joint efforts in developing updated CSO control plans (discussed further below) for CSO outfalls discharging to the Variance Waters as well as coordinate on efforts to meet existing LTCP goals. (Previous meetings with the communities in 2022 were held separately and on a monthly basis.)

- Beginning in June 2022, Cambridge, Somerville, and MWRA began holding (and continue to hold) monthly meetings with EPA and DEP to update each on the progress and solicit feedback associated with the development of updated CSO control plans for the Variance Waters.

- MWRA held and continues to hold monthly coordination meetings with the City of Chelsea and BWSC to coordinate on CSO-related issues, including those supporting the efforts towards meeting existing LTCP goals.

Extension Requests for Variances: The CSO outfalls that discharge to the Variance Waters are subject to certain requirements of the Variances that include, among other things, the development of updated CSO control plans. The Authority and the Cities of Cambridge and Somerville are each responsible for preparing an updated CSO control plan for their respective outfalls. There is significant collaboration between the Authority, Cambridge, and Somerville in the preparation of their updated CSO control plans. Under the Variances, each entity is required to submit to DEP and EPA a draft and final recommended updated CSO control plan by June 30, 2023 and December 31, 2023, respectively.

During DEP's and EPA's review of the scope of work, the Authority, Cambridge and Somerville were encouraged to perform certain additional items, including updating the Typical Year to reflect more recent rainfall data and the projected impact of climate change and engaging in additional public participation to allow for outreach to Environmental Justice populations and public input. These items were not included in the Variances, and the parties need additional time to collaborate and fulfill the requests in connection with the updated CSO control plans. On September 22, 2022, the Authority, Cambridge, and Somerville each submitted to DEP a schedule extension request for their respective draft and final updated CSO control plans. The requests seek a 36-month extension for the relevant deliverables, so that the parties can fulfill the additional requests of DEP and EPA. Given that the Variances currently expire in August 2024, a 36-month extension would effectively extend variances for the Variance Waters to in or about August 2027. The Authority expects the next step of the process to include a

public comment period.

IV. Conclusion

As of the end of 2022, with the overall CSO volume prediction of 396MG in a Typical Year, the Authority has exceeded the overall LTCP goal of reducing discharges below 404MG. Although the 35 projects under the LTCP were successfully completed as of 2015, the Authority, with the assistance of its CSO community partners, has not stopped working; additional projects and system improvements underway are expected to further reduce CSO discharges. As shown in the Annual Report, due to these efforts, the results keep getting better. As of the end of 2022, two additional outfalls are predicted to meet their LTCP goals, and plans are in place to enable another eight outfalls to achieve their LTCP goals by 2024. The well-documented success of the Authority's LTCP in significantly reducing untreated CSO discharges in a Typical Year eclipses the small number of challenging CSO outfalls where investigations and evaluations continue.

The Authority appreciates the assistance of its CSO community partners, the watershed advocacy groups, and the regulatory agencies to finding solutions based on hydraulics, engineering, and science that are economically feasible and commensurate with the water quality improvements that may be achieved.

Respectfully submitted,

MASSACHUSETTS WATER RESOURCES AUTHORITY

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CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of this document, which was filed via the Court's ECF system, will be sent electronically by the ECF system to the registered participants as identified on the Notice of Electronic Filing (NEF) and electronic copies will be sent to those indicated as non-registered participants (excluding Christopher Little of Pierce Atwood, who has retired from the practice of law, Lawrence Liebesman and Joseph McGovern, who no longer work at the U.S. Department of Justice, and Edward J. DeAngelo, who no longer works at the Attorney General's Office) on April 28, 2023.

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Dated: April 28, 2023