

**Boston Water and  
Sewer Commission**



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**VIA ELECTRONIC MAIL**

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RE: Boston Water and Sewer Commission Public Comments on  
Draft NPDES Permit No. MA0103284 for the Massachusetts Water Resources  
Authority Deer Island Treatment Plant

Dear Ms. Barden and Ms. Golden:

The Boston Water and Sewer Commission (“BWSC” or “Commission”) appreciates the opportunity to submit its public comments on the draft National Pollutant Discharge Elimination System (“NPDES”) Permit No. MA01030284 (“Draft Permit”) for the Massachusetts Water Resources Authority (“MWRA”) Deer Island Treatment Plant (“DITP”) that was issued for public comment on March 31, 2023, by the U.S. Environmental Protection Agency (“EPA” or “Region 1” or “Region”). The Commission also submits these comments for and in response to the 2023 Draft Massachusetts Permit to Discharge Pollutants to Surface Waters for the MWRA DITP (“Mass. Permit”) that was issued for public comment by the Massachusetts Department of Environmental Protection (“MassDEP”) on March 31, 2023. For the purposes of this letter, all of the Commission’s public comments herein are directed to both the Draft Permit issued by EPA Region 1 and the Mass. Permit unless otherwise specified.

The Commission is listed as a CSO-responsible Permittee and Co-Permittee in the Draft Permit and Fact Sheet, and this Draft Permit would supersede the Commission’s existing NPDES Permit No. MA0101192, issued on March 28, 2003, and modified on April 10, 2007. The Commission appreciates EPA and MassDEP granting extensions to the public comment period until November 28, 2023. The Commission submits these comments individually; however, it supports the comments submitted by both the MWRA and the MWRA Advisory Board.



The Commission has substantial concerns regarding the legal and technical basis for issuance of the joint permit and the terms, conditions and obligations imposed by the Draft Permit and Mass. Permit. Insofar as the Mass. Permit incorporates by reference provisions of the Draft Permit, the Commission’s public comments address both the Draft Permit and the Mass. Permit. The Commission’s public comments address the Draft Permit on both legal and technical terms. The Commission engaged the services of Hazen and Sawyer to provide technical analysis and review of the Draft Permit, those comments are incorporated below.

**1) The Integration of Co-Permittees into the Draft Permit is Without Basis and Exceeds EPA’s Authority.**

Attachment A to the Draft Permit identifies the Commission as a CSO-responsible Co-Permittee, responsible for Part I.B (Combined Sewer Overflows), Part I.C (Unauthorized Discharges), Part I.D (Notice of Elimination), Part I.E (Operation and Maintenance), Part I.F (Alternate Power Source) and Part I.J (Reporting Requirements). Attachment B to the Draft Permit identifies the Commission as a Co-Permittee for the “operation and maintenance of the sewer systems” with respect to Part II Standard Conditions, Part I.C (Unauthorized Discharges), Part I.E (Operation and Maintenance), Part I.F (Alternate Power Source) and Part I.J (Reporting Requirements).

Prior to issuance of the Draft Permit, the Commission maintained a separate NPDES Permit No. MA0101192, which is now consolidated with the Draft Permit. The Commission objects to its inclusion as a Co-Permittee in the Draft Permit, and objects to the consolidation of the Commission’s existing NPDES Permit No. MA0101192 (as modified on April 10, 2007) into the Draft Permit as a CSO-responsible Co-Permittee. The Commission did not submit a permit application to be included in the consolidated Draft Permit, nor waive its right to do so. EPA’s justification for including the Commission as a Co-Permittee is not supported by its own policy.

EPA regulations require applicants to “submit a complete application” in accordance with 40 CFR §§ 122.21 and 124.40.<sup>1</sup> EPA then “shall not issue a permit before receiving a complete application for a permit.”<sup>2</sup> The Commission has not submitted an application or requested inclusion with the MWRA Draft Permit, yet EPA has included the Commission as a CSO Co-Permittee and Co-Permittee. In doing so, EPA has exceeded its authority.

To support its actions, EPA cites Appendix D to the Fact Sheet (the “Permitting Approach”), which describes the general policy of EPA Region 1 “to include and regulate the

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<sup>1</sup> 40 CFR § 122.21(a)(1).

<sup>2</sup> 40 CFR § 122.21(e)(1).





owners/operators of the municipal satellite collection systems through a co-permitting structure” and specifies that Region 1’s decision in any specific case will depend on the “specific facts when permits are issued.” The Permitting Approach states that regionally integrated publicly owned treatment works (“POTW”) often have ownership and operation structures that are divided among multiple parties, which results in situations where “the owner/operator of the treatment plan many times lacks the means to implement comprehensive, system-wide operation and maintenance (“O&M”) procedures.”

Appendix D to the Fact Sheet presents Region’s arguments for inclusion of the Commission and forty-two (42) other Co-Permittees as “satellite sewer collection systems,” despite no direct discharge to the waters of the United States from the separate sanitary systems other than through the MWRA. The Region, while attaching no Co-Permittee specific system performance or analysis of infiltration and inflow (“I/I”), simply asserts that it must include the Co-Permittees to be consistent with its 2001 Interim I/I Policy designed to ensure sufficient control of infiltration and inflow to prevent violations of permittees effluent limitations or overflows.<sup>3</sup> The legal analysis and Permitting Approach ignore the definition of “Discharge or Discharge of Pollutants” found in 314 CMR 12.02 which includes, “discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person which do not lead to a POTW...”<sup>4</sup> The Region’s legal analysis also ignores the definition of a “Discharge of Pollutant” found in 40 C.F.R. 122.2 which specifically excludes discharges through pipes, sewers or other conveyances owned by a State, municipality or other person which lead to a treatment works.<sup>5</sup> The Commission’s separate sanitary system and combined sanitary sewer system (unless during conditions of a CSO activation) convey flows to the DITP owned and operated by the MWRA; they do not discharge to surface waters.

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<sup>3</sup> See Fact Sheet, Appendix D at 8.

<sup>4</sup> The full definition of “Discharge or Discharge of Pollutants” found in 314 CMR 12.02 reads: “any addition of any pollutant or combination of pollutants to waters of the Commonwealth from any source, including but not limited to, discharges from surface runoff which is collected or channeled by man, discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person which do not lead to a POTW, and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include any addition of pollutants by any indirect discharger.”

<sup>5</sup> The full definition of “Discharge of a pollutant” found in 40 CFR 122.2 reads: “(a) Any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or (b) Any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person **which do not lead** to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any “indirect discharger.” (emphasis added)



The Region also erroneously treats systems owned and operated by separate municipalities as a single POTW which is contrary to its own regulations. The Region, through the NPDES permit, must treat each municipal system as its own, distinct system. The regulations define a POTW to be “a treatment works ... which is owned by a State or municipality...” is expressed only in the singular.<sup>6</sup> 40 C.F.R. § 403.3(q) (emphasis added). Similarly, the definition uses only the singular to refer to “the municipality ... which has jurisdiction over Indirect Discharges to and discharges from such a treatment works.”<sup>7</sup> The Region lacks the jurisdiction to issue the Draft Permit and apply the Permitting Approach to the MWRA DITP, Commission, and 42 other member communities through a plain reading of its own regulations.

The Region also describes, “While relying on this cooperative approach, however, EPA Region 1 also asserted that it had the authority to require that POTW collection systems be included as NPDES permittees and that it would do so if it proved necessary.”<sup>8</sup> Here, the Region attaches site-specific analysis in Exhibit B to the Permitting Approach (Analysis of Extraneous Flow Trends for Representative Systems) for the South Essex Sewer District (“SESD”) and Charles River Pollution Control District (“CRPCD”) as “representative systems” for the MWRA. Exhibit B was provided in defense of the Region’s decision to seek “satellite sewer collection system” status for the four systems connecting to the CRPCD system in light of criticism by the Environmental Appeals Board (“EAB”) in *In re Upper Blackstone Water Pollution Abatement District*,<sup>9</sup> that its decision was not justified.

Neither the Draft Permit nor the Fact Sheet present any site- or system-specific analysis, data, or proof that inclusion of the Commission and other Co-Permittees is “proved necessary.” The Region states that the Permitting Approach is necessary due to the representative systems exhibiting evidence of I/I causing exceedances in the system, which the EAB found sufficient in *In re Charles River Pollution District*.<sup>10</sup> However, the Region infers that these two smaller systems, consisting of six (6) communities (SESD) and four (4) communities (CRPCD) are representative of the MWRA’s system with forty-three (43) member communities.<sup>11</sup> The Region provides no analysis of the effectiveness of existing Massachusetts regulations upon the member communities to reduce I/I from their respective systems or data supporting actual reductions by the Commission and these communities

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<sup>6</sup> See 40 C.F.R. §403.3(q).

<sup>7</sup> See *Id.*

<sup>8</sup> See Fact Sheet, Appendix D, at 8.

<sup>9</sup> 14 E.A.D. 577 (EAB 2010).

<sup>10</sup> 16 E.A.D. 623 (EAB 2015)

<sup>11</sup> Fact Sheet, Appendix D, Exhibit B cites data from the South Essex Sewer District, which includes the communities of Beverly, Danvers, Marblehead, Middlebury, Peabody, and Salem, Massachusetts, and the Charles River Pollution Control District, which includes the communities of Bellingham, Franklin, Medway, and Millis. No data is provided from communities that are included as CSO Co-Permittees or Co-Permittees under the Draft Permit.





In the present case with the Draft Permit, the POTW is regionally integrated and the overall system is divided among multiple parties, however there is no lack of comprehensive system-wide O&M procedures. The DITP is owned and operated by the MWRA. While the MWRA is a distinct, separate entity, it provides sewer services to member communities including the Commission and forty-two (42) other communities<sup>12</sup>, collectively serving 3.1 million people in the Commonwealth of Massachusetts. The MWRA has robust O&M procedures in place, which includes the regulation of wastewater discharge from member communities into the MWRA system through the issuance of permits. For example, the Commission is currently operating under the 2023 MWRA Municipal Discharge Permit, which regulates all discharges, septage disposal sites and direct connections to the MWRA's sewerage system. This comprehensive permit, effective for calendar year 2023, includes CSO management and reporting requirements and sampling and reporting requirements. The Commission, like other member communities, must apply for the Municipal Discharge Permit to the MWRA annually and the Commission expects to receive an updated permit for calendar year 2024.

The Municipal Discharge Permit requires the elimination of excessive I/I.<sup>13</sup> The Commission enforces the MassDEP requirements for I/I reduction plans requiring 4-to-1 reductions for all new developments and redevelopments with sewer connections exceeding 15,000 gallons per day of sewage. The inclusion of the Commission as a Co-Permittee for I/I is redundant to the MWRA Municipal Discharge Permit, Massachusetts regulations and policy of the Commission, and has not "proved necessary."

The Permitting Approach is also inapplicable in the present case because the central problem it is addressing does not exist in the Boston area. The MWRA, and the Commission as a member community, actively implement O&M procedures to address important issues such as I/I. In fact, the MWRA has been commended on its "impressive" progress reducing the volume of CSO discharges into Boston Harbor and its tributary rivers and addressing underperforming outfalls, most recently by the U.S. District Court of the District of Massachusetts.<sup>14</sup> In the May 11, 2023 Schedule Seven Compliance Order Number 252, Judge Stearns highlighted that the MWRA has reduced CSO discharges to levels below what is required by its CSO Long-Term Control Plan,

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<sup>12</sup> The MWRA also provides water distribution or supply only to a number of communities.

<sup>13</sup> Condition 10 of the 2023 MWRA Municipal Discharge Permit states: "The Commission, in cooperation with the MWRA, shall eliminate excessive infiltration and inflow (I/I) that is tributary to the MWRA sewer system. The determination of I/I that is considered "excessive" shall be in accordance with the standards contained in: Massachusetts Department of Environmental Protection – Guidelines Massachusetts Department of Environmental Protection – Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Surveys, revised May 2017, or as may be revised by MassDEP."

<sup>14</sup> Case 1:85-cv-00489-RGS, Document 1908, 05/11/23.



and has made “significant progress” to address technical and engineering issues in underperforming outfalls.<sup>15</sup> Additionally, Judge Stearns “laud[ed] the commendable efforts that the MWRA has made over the past year...to meet with, inform, and elicit the views of stakeholders, community leaders, and environmental associations.”<sup>16</sup>

The Commission has made substantial progress in reducing infiltration and inflow (I&I) over the past several years, in part due to the requirements contained in existing Massachusetts regulations<sup>17</sup> and the Commission’s current MWRA Municipal Discharge Permit. The Commission’s 2023 MWRA Annual I/I Questionnaire is attached hereto as Appendix A, which includes a listing of each sewer system rehabilitation project conducted by the Commission in the MWRA’s Northern System (since 1987) and Southern System (since 1988)<sup>18</sup>. The three-year average wastewater flow from the Commission to the MWRA for 1994 to 1996 was 107.21 million gallons per day (MGD)<sup>19</sup>, of which 54.59 MGD was I/I or 51 percent of the flow. The three-year average wastewater flow from the Commission to the MWRA for 2019 to 2022 was 84.14 MGD, of which 27.16 MGD was I/I or 32.3 percent of the flow. This represents a 50.2 percent reduction in the I/I flow from the Commission to the MWRA.

The Commission and MWRA continue to implement I/I reduction projects. In May 2017, the Commission completed a Citywide Inflow and Infiltration Analysis. That project recommended twelve (12) Sewer System Evaluation Survey (“SSES”) projects for the Commission to implement. The Commission completed five SSES’s, a contract for one SSES is being finalized, and RFP’s were requested for a SSES that has combined two of the recommended areas. In addition to the MWRA’s LTCP, the Commission has been separating 270 combined sewer acres in Roxbury tributary to Nubian Square. This separation project began in 2016, and the Commission expects to complete the project in 2025. A project to separate 235 acres of combined sewers in South Boston began in July 2021 utilizing five construction contracts with all separation work expected to be completed by November 2027. The Commission will also be separating 230 acres in East Boston under five contracts. Construction is expected to begin in 2024 and the entire project will be completed by 2031, resulting in a completely separate sewer system serving East Boston.

Part 10 of the Commission’s MWRA Municipal Discharge Permit requires the Commission to “eliminate excessive infiltration and inflow (I/I) that is tributary to the MWRA sewer system.” EPA has not provided evidence that the Commission’s work is insufficient or inadequate in addressing and reducing I/I. The MWRA does not “lack the means to implement

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<sup>15</sup> Case 1:85-cv-00489-RGS, Document 1908, 05/11/23, page 2.

<sup>16</sup> Case 1:85-cv-00489-RGS, Document 1908, 05/11/23, page 5.

<sup>17</sup> See 314 CMR 12.04(2).

<sup>18</sup> See BWSC MWRA Annual I/I Questionnaire 2023, including Attachment B (Northern System) and Attachment A (Southern System).

<sup>19</sup> Included at the end of Appendix A.





comprehensive, system-wide operation and maintenance (“O&M”) procedures,” the opposite is true. The Permitting Approach is inapplicable to the MWRA and by extension the Commission, and thus it is inappropriate to include the Commission as a Co-Permittee and CSO-responsible Co-Permittee.

The Draft Permit Fact Sheet, as evidence of excessive I/I, mentions the 4,000 sanitary sewer overflows (“SSOs”) that occurred in the MWRA system during a 14-year period, with the Commission accounting for roughly 50% of those reports as evidence of excess I/I.<sup>20</sup> Importantly however, EPA fails to mention that since 2012, the Commission has instituted mandatory SSO notification within twenty-four (24) hours for SSOs from the sanitary sewer system in connection to the operation and maintenance of its sewer system and the separate stormwater system governed by a Consent Decree executed with EPA in September 2012 and its separate NPDES Permit issued in 1999.<sup>21</sup> The SSOs reported under the Consent Decree for this period largely include blockages in the separate sanitary sewer (fats, oils, grease, debris), broken pipes, or even private building backups exceeding 50 gallons (not caused by the Commission’s system), all of which may be unrelated to I/I and capacity issues in the separate sanitary sewer system. The Region uses the volume of SSO reports during the 14-year period as a straw man argument justifying the Permitting Approach as evidence of excess I/I. Given that the reported SSOs during that period include SSOs resulting from a variety of causes other than I/I, EPA’s reliance upon this in the Fact Sheet is misplaced.

Finally, the concern expressed by Region 1 with I/I to justify the Permitting Approach for the Co-Permittees is in opposition to the Draft Permit’s reduction in the Rolling Average Effluent Flow. Draft Permit Part I.A.1 limits the flow for the DITP from 436 MGD to 361 MGD, a reduction of 75 MGD. There is no facility-specific information or other evidence specific to the MWRA, Commission or other Co-Permittees presented in Appendix D or the Fact Sheet that proves the Permitting Approach as necessary or justified.

## **2) The Draft Permit’s General Narrative Prohibition is Contrary to the Clean Water Act and EPA Regulations.**

Part I.B.2(a) of the Draft Permit includes the generic narrative prohibition that the MWRA and Co-Permittees may not “cause or contribute to” violations of water quality standards. Such language is inconsistent with the Clean Water Act, EPA regulations, and federal case law. As such, the Commission objects to its inclusion.

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<sup>20</sup> Draft Permit Fact Sheet at 99.

<sup>21</sup> Boston Water and Sewer Commission, Municipal Separate Storm Sewer System NPDES Permit No. MAS010001, September 29, 1999.



EPA’s regulations require that NPDES permits must specifically control all pollutants or pollutant parameters (either conventional, non-conventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”<sup>22</sup> EPA is obligated to determine if a discharge causes or has the reasonable potential to cause or contribute to an excursion above any water quality standard (“WQS”).<sup>23</sup> EPA must consider the following factors to determine if a pollutant or discharge has a reasonable potential to cause or contribute to a violation of WQS:

- 1) “existing controls on point and nonpoint sources of pollution;”
- 2) “the variability of the pollutant or pollutant parameter in the effluent;”
- 3) “the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity);” and
- 4) “where appropriate, the dilution of the effluent by the receiving water.”<sup>24</sup>

Federal case law requires clear standards from EPA, and specifically prohibits this general narrative language. In *International Paper Co. V. Ouelette*, the Supreme Court confirmed that Congress intended for there to be “clear and identifiable” standards for water discharges, rather than “vague” and “indeterminate” standards, such as state nuisance standards.<sup>25</sup> If EPA determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to a violation of WQS, the permit must contain water quality based effluent limitations – specific pollutant limitations or management practices – that control that pollutant.<sup>26</sup> In *NRDC*, the Second Circuit determined that EPA’s use of language in a Vessel General Permit that imposed a general duty to meet applicable WQS (similar to the generic language in the Draft Permit) failed to provide the permittee with “guidance as to what is expected or to allow any permitting authority to determine whether [a permittee] is violating water quality standards”.<sup>27</sup> This lack of guidance led to the court concluding the general prohibit failed to ensure compliance with the CWA.<sup>28</sup> Here the Commission, MWRA and other communities lack the guidance or set enforceable limits needed to ensure compliance with the CWA and protection of WQS.

The Mass. Permit similarly fails to comply with its regulations requiring site and discharger specific permit requirements to provide specific limits to assure attainment and maintenance to

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<sup>22</sup> 40 CFR § 122.44(d)(1)(i).

<sup>23</sup> See 40 CFR § 122.44(d)(1)(ii).

<sup>24</sup> *Id.*

<sup>25</sup> 479 U.S. 481, 496 (1987).

<sup>26</sup> See *Id.*; see also, *Natural Res. Def. Council, Inc. v. EPA*, 808 F.3d 556 (2d. Cir. 2015).

<sup>27</sup> See *Natural Res. Def. Council, Inc. v. EPA*, 808 F.3d at 578.

<sup>28</sup> See *Id.* at 580.





protect WQS.<sup>29</sup> The inclusion of the generic prohibitions does not comply with the requirements of 314 CMR 3.11(3) by avoiding the reasonable potential analysis and discharger specific limitations designed to provide the permittees with enforceable limits to protect water quality.

For the reasons cited above, the Region and MassDEP should remove the generic, overly broad language from Part I.B.2(a) of the Draft Permit.

**3) The Draft Permit’s General Narrative Prohibition is an Impermissible Delegation of its Authority Under the Clean Water Act and Subjects the Commission to Unnecessary *Post-Hoc* Enforcement.**

The CWA provides a “permit shield” that deems NPDES Permittees to be in compliance with the CWA so long as they comply with the specific terms of their permits.<sup>30</sup> This permit shield is eliminated by using generic prohibitions, because any discharge of a pollutant that adds or contributes to an existing water in excess of water quality standards results in a violation of this broad, generic permit term.

These generic prohibitions avoid the necessary step of evaluating whether a particular pollutant has a reasonable potential to cause or contribute to a WQS violation. Instead, EPA (or its delegated authority) can assert that the discharge of a pollutant, or any act or omission to cause or fail to prevent that discharge by a permitted agency, is a violation of the CWA simply because the receiving water is in violation of WQS. This results in no clear guidance or notice as to how the Commission or other permittees must take action to protect water quality and ensure compliance with the CWA.

Clear limitations provide NPDES permittees such as the MWRA, Commission and member communities with ascertainable standards to which they may design their systems and control their discharges. By including general narrative prohibitions, EPA delegates its rulemaking authority to third parties, by leaving the door open for post-hoc enforcement. The Commission has first-hand experience with such third-party suits, which seek to impose obligations upon NPDES permittees beyond those placed by EPA after its extensive rulemaking process. Such suits reopen matters that should have been settled in EPA NPDES permit proceedings, and the costs of defending these suits are ultimately borne by the ratepayers.

In 2010, the Conservation Law Foundation filed a citizen suit alleging, among other things, that discharges from the Commission’s MS4 Permit violated “the prohibition against causing or

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<sup>29</sup> See 314 CMR 3.11(3).

<sup>30</sup> See 33 U.S.C. §1342(k); see also, *EPA v. California*, 426 U.S. 200 (1976).



contributing to the violation of water quality standards” in its NPDES permit.<sup>31</sup> As a result of this suit, the Commission entered into a Consent Decree which effectively modified its existing NPDES permit issued in September 1999. By way of a citizen action suit, the Conservation Law Foundation and EPA were able to circumvent the traditional permit issuance process.

The Consent Decree included a number of short-term and long-term operational, management, and maintenance programs, such as an expanded sanitary sewer overflow notification requirement not found in the original permit, as well as the requirement to develop and implement a Best Management Practice Recommendations Report. The estimate to implement the 30-year plan for green infrastructure, low-impact development and best management practices, as approved on October 16, 2016 was Six Hundred Fifty-Two Million Dollars (\$652,000,000) for full life-cycle costs. As a result, the Commission’s 2023-2025 Capital Improvement Plan includes \$8,485,000 in maintenance obligations for the Consent Decree and \$44,569,807 for stormwater, green infrastructure, and Low Impact Development (LID) projects. In response to these existing regulatory compliance obligations, the Commission is proposing to fund these obligations through the implementation of a new stormwater charge imposed on its ratepayers. This 30-year cost of the BMP Implementation Report, the resulting stormwater charges, and the other ongoing management, maintenance, and upgrade costs since 2012 are the true costs of *post-hoc* enforcement of the CWA.

Therefore, EPA and MassDEP should strike the broad “cause or contribute” language from Part I.B.2(a) to limit the liability of the Commission, as well as the MWRA, CSO Responsible Co-Permittees and Co-Permittees under the Draft Permit from unnecessary *post hoc* enforcement of this impermissible language.

**4) Use of the Exhibit B to the Second Stipulation as Attachment I for the Authorized Typical Year Discharge Activation and Volumes for Treatment and Abatement of CSOs is Inappropriate.**

The Commission objects to the Draft Permit’s incorporation of Exhibit B of the Second Stipulation (“Exhibit B”) from the Boston Harbor Litigation<sup>32</sup> as Attachment I as technology-based effluent limitations (“TBELs”) for the Draft Permit as inappropriate, inconsistent with the CSO Control Policy and EPA Guidance. The use of Exhibit B would place the MWRA, Commission and other CSO-Responsible Co-Permittees at risk of enforcement action or a civil suit upon

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<sup>31</sup> Complaint, *Conservation Law Foundation, Inc. and United States of America v. Boston Water and Sewer Commission, et al.*, Civil Action No. 10-cv-10250-RGS, Document 9 (September 28, 2012)(D. Mass. 2012).

<sup>32</sup> US District Court of Massachusetts, 2006, Second Stipulation of the United States of America and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflows Control, [www.mwra.com/cso/2006/0306.memo.pdf](http://www.mwra.com/cso/2006/0306.memo.pdf), Fact Sheet at 106, FN 285.





issuance of the Draft Permit. Exhibit B is from a 2006 Court order that does not reflect or account for extensive LTCP work completed to date by the MWRA, Commission, as well as other CSO Responsible Co-Permittees. Given that Exhibit B was issued more than 15 years ago, does not account for the work completed to date and was not intended as an inflexible limit, utilizing Exhibit B as TBELs would be inconsistent with EPA's own guidance and regulations that require TBELs to incorporate all reasonably available and relevant data.<sup>33</sup> Given the ongoing, active litigation before the Court, ongoing compliance work, and compliance schedules, EPA's use of Exhibit B as de factor TBELs would frustrate the purpose of Exhibit B as a compliance goal rather than a limit in a NPDES permit. Therefore, it is inappropriate for EPA to incorporate Exhibit B in Attachment I in the Draft Permit and the Commission requests that it be removed.

In further support its position, the Commission supports and incorporates comments, objections, and alternates proposed by the MWRA in its public comments<sup>34</sup> regarding the inclusion of Exhibit B in Attachment I of the Draft Permit.

#### **5) The Major Storm and Flood Events Planning Provisions are Overly Burdensome and Not Currently Feasible.**

The Major Storm and Flood Event Planning provisions of the Draft Permit place overly burdensome requirements on the Commission, the MWRA, CSO Responsible Co-Permittees and Co-Permittees. The Major Storm and Flood Event Planning Provisions and Sewer System O&M Plan also impose timelines for implementation that are not feasible given the Commission's current staffing and resources, as well as the public bidding requirements should the Commission need to engage appropriately qualified professional consultants to ensure compliance with these proposed obligations.

Permit Part I.E.2(e)(1) requires the Commission to, within six (6) months of the Draft Permit's effective date, develop a Sewer System O&M Plan in accordance with Draft Permit Part I.E.2(e)(3), and submit a "schedule for the development and implementation of" said Sewer System O&M plan. The Sewer System O&M Plan must then be fully implemented within two (2) years of the Permit's effective date. See Draft Permit Part I.E.2(e)(3). As part of the Sewer System O&M Plan, the Commission is also required under Draft Permit Part I.E.2(e)(2) to develop and implement a Sewer System Flood Events Plan within one (1) year of the Draft Permit's effective

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<sup>33</sup> NPDES Permit Writers' Manual, Exhibit A-2 Glossary.

<sup>34</sup> The Commission supports the MWRA's comments on alternative approaches to modify Exhibit B to reflect the technology based limits actually achieved for the 19 CSO Outfalls with exceptions in Table 1 and on Pages 30 and 31 of the Authorities comments, specifically to reflect the Q4 2022 model prediction plus nominal increases for MWR203 and BOS017 due to ongoing and planned work under the Harbor Litigation case in both Somerville and Boston that may result in temporary increases in volumes. The Commission expects planned work to offset a portion, if not all, of the increases at BOS017 once the upstream work is completed.



date. These planning and reporting provisions would place additional burdens on the Commission's resources, and are not supported by sufficient data to justify their imposition.

The Commission is already obligated to operate its sewer system in accordance with Massachusetts regulations<sup>35</sup>, and EPA has not provided evidence that such regulations are not adequately providing for proper operations and maintenance of the Commission's sewer systems.

The Region relies again on the broad authority to regulate the impacts of climate adaptation under the guise of "operation and maintenance" requirements of the CWA, specifically CWA § 101(a), 40 C.F.R. §§ 122.41(d), (e), (n). These provisions are designed to ensure compliance with operational functions to avoid upsets and encourage preventative measures to prevent unlawful *discharges* to navigable waters or the environment. These provisions are not designed to justify long-term planning and implementation well beyond the stated term of the Draft Permit and do not directly regulate discharges. This is especially true given the proposed 80-to-100-year outlook required by these provisions when the term of the NPDES permits is limited to a five-year term.<sup>36</sup> These provisions impose unreasonable timeframes for compliance, unclear guidance on what data the Commission and communities must rely upon and re-evaluate their practices, ongoing reporting requirements, and what steps are required to implement the planned long-term mitigation measures.

The Commission believes the imposition of these new Major Storm and Flood Events Plan and Sewer System O&M plan for climate adaptation is not justified nor authorized by the CWA, and the provisions should be removed from the Draft Permit. The Commission also believes that its position that these provisions are impractical, poorly defined, overly burdensome and impose unrealistic timeframes for compliance is justified the Region's recent decision to extend timelines and substantially revise the similar provisions in response to comments to the Northampton Wastewater Treatment Plan, NPDES Permit No. MA0101818 issued on September 28, 2023.<sup>37</sup> The draft NPDES Permit No. MA0101818 also included the novel Major Storms and Flood Events Plan (since renamed the Adaptation Plan)..<sup>38</sup>

Finally, the Commission believes Region 1 failed to provide a cost-benefit analysis to study impacts of imposition of the Major Storm Events Planning and related Sewer System O&M provisions upon the MWRA, Commission and member communities. The Commission should be afforded the opportunity to evaluate the costs to implement these requirements and better inform its rate-payers of the consequences of these obligations. The Commission does support taking

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<sup>35</sup> 314 CMR 12.00.

<sup>36</sup> 33 U.S.C. §§ 1342(a)(3), (b)(1)(B); 40 C.F.R. § 122.46(a); *see also* 314 CMR 3.11(8).

<sup>37</sup> <https://www3.epa.gov/region1/npdes/permits/2023/finalma0101818permit.pdf>

<sup>38</sup> See Response to Northampton Comments, 14.





action to prepare for the impacts of climate adaptation; however, the Draft Permit is not the appropriate forum for these mandates.

**6) The Liability and Obligations of Co-Permittees and CSO Responsible Co-Permittees are Not Clearly Defined in the Draft Permit.**

Even if EPA and MassDEP could lawfully structure the Draft Permit for the DITP to include the Commission and 42 other member communities, neither the Draft Permit nor the Mass. Permit define the obligations of the co-permittee parties with sufficient clarity to ensure that they are not held liable for conduct or events over which they have no control. The Region also provides no explanation or justification for declaring the Commission and three other CSO Responsible Co-permittees as severally liable only for their own activities and municipally owned sewer systems in the Draft Permit preamble, Part I.B, Part I.C, Part I.D, Part I.E, Part I.F., Part I.F and all of Part II. The Region provides no guidance or definition of how the Commission and three (3) other CSO communities will be liable for a failure of the collective Nine Minimum Controls, to which each community works in concert with the MWRA.

The Draft Permit should provide clear guidance as to the obligations of each CSO Responsible Co-Permittee with respect to these obligations to which the MWRA has the same requirements. The issue of liability also raises concerns by the Commission because this permit will likely still be in effect after the conclusion or completion of the LTCP when the MWRA may step back from certain obligations for combined sewer overflows that it currently maintains.

The Region must revise the Draft Permit, Part I.B, and Part I.E.2 to provide the Commission, member communities and MWRA with absolute clarity that the Co-Permittees are not responsible for MWRA's noncompliance and vice versa. A better approach would be to remove the purported Permitting Approach; to consolidate all the outstanding permits into the Draft Permit reaches beyond the Region's permitting authority. The Mass. Permit similarly fails to include any justification to this consolidation and approach. The Draft Permit language in Part I.C, Part I.D, and Part I.E must also be clarified further to remove any ambiguity regarding the several liability of MWRA, the CSO-responsible Co-permittees, and the Co-permittees.

It is critical that EPA and MassDEP clearly delineate these responsibilities to avoid disrupting the longstanding relationship between MWRA and its member communities, and that the Draft Permit avoid unnecessary liability and risks among the communities themselves for potential non-compliance. It is also important that EPA and MassDEP revise the Draft Permit to avoid establishing the MWRA as a regional enforcement agency to which both EPA and MassDEP appear to delegate their statutory obligations.

**7) The Timeframe for Analyzing and Updating Local Limits in Part I.G.7.(b) are Not Feasible.**



The Draft Permit Part I.G.7(b)(2) requires the MWRA to submit a technical written evaluation to EPA analyzing the need to revise local limits within ninety (90) days of the effective date of the Draft Permit. Should that evaluation determine local limits need to be revised, then the MWRA must update the local limits within 120 days of notification by EPA. The MWRA, through its Municipal Discharge Permit, also regulates the industrial discharges to its system (consistent with the provisions in Part I.G.5) from the Commission and forty-two (42) other member communities. To require the MWRA to analyze the local limits for its system, the Commission's system and systems of forty-two (42) other member communities within ninety (90) days is not feasible. Furthermore, by virtue of the Municipal Discharge Permit and legal authority and delegated enforcement in Part I.G.5, this requirement will be passed through to the member communities including the Commission.

The Commission requests that Region 1 provide a minimum of 180 days for the MWRA to analyze the local limits and allow time for the MWRA to coordinate with the Commission and other member communities to provide an effective and complete evaluation of local limits.

**8) EPA Should Provide an Exemption to the Requirements of Part I.G.8(e) Given the Pending Listing of Certain PFAS Analytes as Hazardous Substances.**

On September 6, 2022, EPA published rulemaking to list Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as hazardous substances under both Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA).<sup>39</sup> EPA intends to issue a final rule designating these two (and likely more) PFAS analytes as hazardous materials by February 2024, which will be within the effective term of the Draft Permit once final. The Commission believes EPA should provide an exemption to the requirements of Part I.G.8(e) with respect to the notification of all Industrial Discharges of “any discharge into the POTW of a substance, which, if otherwise disposed of, would be a hazardous waste under 40 CFR Part 261” given the pending listing of certain PFAS analytes under CERCLA and RCRA.

The Draft Permit at Part I.G.4 has the MWRA (and by virtue of the Municipal Discharge Permits, the Commission and member communities) conducting annual sampling of ten industries and “any other known or expected sources of PFAS.” This broad sampling program, which must be done within one (1) year of the effective date of the permit, will likely include potential sources of PFOA and PFOS. The Commission recognizes that discrete industrial dischargers and sources of these two analytes may be identified through sampling and notified; however, all sources of

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<sup>39</sup> See 87 FR 54415, September 6, 2022, Docket No. EPA-HQ-OLEM-2019-0341; FRL-7204-02-OLEM, the final rule is anticipated by February 2024.





upstream contributions of these analytes may be difficult if not impossible to determine for the MWRA, Commission and member communities.

Therefore, the Commission requests that EPA grant an exemption from Part I.G.8(e) for any PFAS analytes listed under either CERCLA or RCRA, to the extent those sources are not discretely identified through the industrial effluent sampling performed by the Significant Industrial Users (SIUs). Given the broad sources of PFAS analytes in the waste stream, acknowledged by the broad sampling provisions in Part I.G.4, these provisions have the potential to be overly broad and unduly burdensome on the MWRA, Commission and all member communities receiving industrial discharges.

**9) The Reduction of the Rolling Annual Average Effluent Flow Limit is Improper and Unjustified.**

The Commission objects to the inclusion of the Rolling Annual Average Effluent Flow limit of 361 MGD, set forth in Draft Permit Part I.A.1 and Fact Sheet Section 2.3, because EPA cannot regulate flow as a pollutant, the imposition of the limit is not justified by the Reasonable Potential Analysis, and EPA has not established that I/I and continued proper operation and maintenance of the DITP by MWRA justifies the imposition of the reduced limit.

In the Draft Permit, EPA proposes to replace the dry day rolling annual average effluent flow limitation of 436 MGD with a rolling average effluent flow limitation of 361 MGD. In the Fact Sheet at Section 2.3, EPA sets out the rationale for the general inclusion of an effluent limitation on flow and replacing the previous flow limitation including:

1. Discharge from the MWRA facility is a pollutant.
2. A limitation on flow is necessary to assure that the results of the reasonable potential analysis “remain sound” throughout the term of the permit.
3. An effluent flow limit set at the design capacity will require MWRA to properly operate and maintain the DITP by operating the wastewater treatment system within the facility’s design flow. An effluent flow limit is also necessary to minimize or prevent infiltration and inflow (I/I), which could result in unauthorized discharge or otherwise compromise proper operation and maintenance of the facility.

**(a) EPA’s Analysis of Flow as a Pollutant is Not Authorized by the Clean Water Act and is Unreasonable.**

In Part 2.3 of the Fact Sheet, EPA contends that “sewage treatment plant discharge” is a pollutant based on the definition of pollutants in 33 U.S.C. § 1362(6) citing the mention of the terms, “municipal”, “waste” and “sewage” discharged into waters. The full definition reads as follows:



*The term “pollutant” means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and **industrial, municipal, and agricultural waste** discharged into water. This term does not mean (A) “sewage from vessels or a discharge incidental to the normal operation of a vessel of the Armed Forces” within the meaning of section 1322 of this title; or (B) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if such State determines that such injection or disposal will not result in the degradation of ground or surface water resources.*

The terms POTW and POTW Treatment plant are defined at 40 CFR § 403 as follows:

*(q) The term Publicly Owned Treatment Works or POTW means a treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.*

*(r) The term POTW Treatment Plant means that portion of the POTW which is designed to provide treatment (including recycling and reclamation) of municipal sewage and industrial waste.*

The facilities covered by Draft Permit meet the definition of a POTW, and the DITP specifically meets the definition of a POTW Treatment Plant. The DITP is designed to treat municipal wastewater to remove pollutants contained in the municipal sewage and industrial waste. The reclaimed water discharged from DITP does not meet the definition of a pollutant set out in 33 U.S.C. § 1362(6), therefore it is not subject to regulation as a pollutant.

**b) EPA Does Not Have a Regulatory Basis for the Imposition of the Effluent Flow Limitation Based Upon the Justification of Ensuring Proper Operation and Maintenance.**

The DITP has an average design flow of 361 MGD with a peak treatment capacity of 1.3 billion gallons per day. In the Fact Sheet, EPA cites the standard permit condition (Part II.B.1) to properly operate and maintain the treatment facility and uses this requirement as a basis for operating within the design flow.<sup>40</sup> EPA also intends for the effluent flow limitation to “mitigate” any I/I related violations of the permit that could harm human health and the environment.

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<sup>40</sup> Fact Sheet, Section 3.1 at 20.





The DITP has demonstrated consistent proper operation and maintenance through compliance with effluent limitations on BOD, TSS, fecal coliform and total residual chlorine. The 2018-2022 DMR summary shows that DITP was in full compliance with these effluent limitations.

In addition to compliance with the effluent limitations for the above referenced parameters, the DITP had no violations of the percent removal requirements for CBOD/NH<sub>3</sub>-N and TSS. In fact, the median percent removal from 2018-2022 for both CBOD/NH<sub>3</sub>-N and TSS was approximately 95%. The DITP's performance does not indicate that I/I has any impact on plant performance. That said, each of MWRA's member communities are subject to the requirements of 360 CMR 10.00 which includes provisions that specifically address I/I including a requirement that any new sanitary sewer be designed to minimize infiltration and inflow.

EPA does not have a regulatory basis for the effluent flow limitation proposed in the Draft Permit since discharge of flow is not a pollutant under the Clean Water Act and it is not necessary to safeguard water quality standards and it is not necessary to ensure proper operation and maintenance. The EPA proposes to implement an effluent limitation with significant cost impacts to be shouldered by MWRA's member communities without any measurable water quality benefit in the receiving waters.

EPA should remove the reduced effluent flow limit or at a minimum replace the proposed limit with the current 436 MGD because there is no regulatory basis and the imposition of the flow limitation under the guise of proper operation and maintenance is also not supported. The Commission also reincorporates its arguments set forth in Comment 1 above, demonstrating the efforts to reduce I/I by member communities. Finally, EPA lack authority to regulate flow as a pollutant and/or use flow as a surrogate for pollutants<sup>41</sup>. For these reasons, inclusion of the reduced rolling annual average flow limit is both unreasonable and not based on law or facts.

#### **10) That Commission Shall Continue to Utilize Current Methods for Measurement of Some or All CSOs**

The Draft Permit in Parts I.B.6 lists "continuous" sampling of flow within the monitoring requirements section of the table in Part I.B.6. The Commission reiterates that the current approach utilized by the Commission (including the MWRA and CSO Co-Permittees) for measurement of discharges from the Commission's 28 CSOs listed in Appendix A, is consistent with and authorized by Part I.B.3(g).

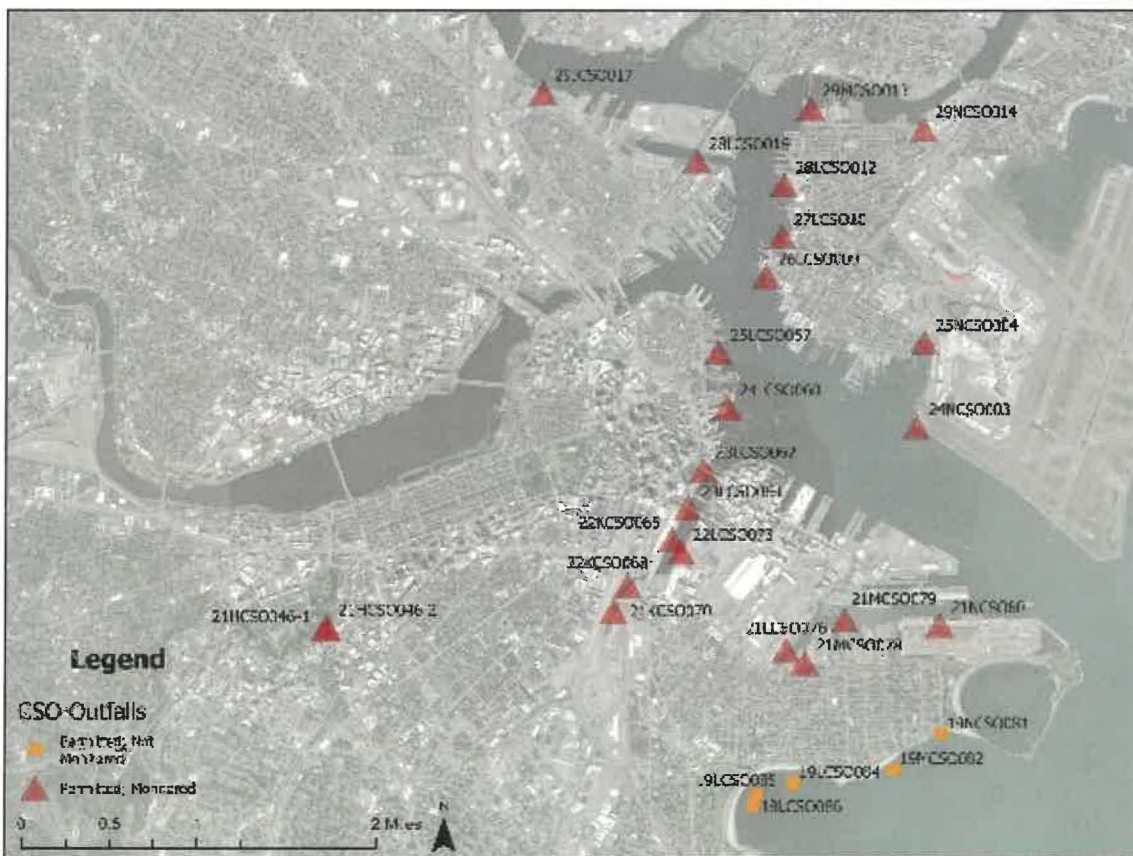
Figure 1 depicts Commission outfalls listed within Appendix A of the Draft Permit. In the figure, CSOs which are included in Appendix A but are not currently monitored are shown as orange squares. The outfalls shown are all part of the North Dorchester Bay Storage Tunnel, a completed CSO control project that has essentially eliminated CSO activations for all the aforementioned outfalls except during catastrophic storms with a return period of greater than or

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<sup>41</sup> See *Virginia Department of Transportation et al v. United States Environmental Protection Agency et al.*, case number 1:12-cv-00775.



equal to twenty-five (25) years. While not currently monitored by the Commission, the MWRA and Commission can estimate the CSO flows for these outfalls in the unlikely event of activation during catastrophic storms. During storms with return periods of greater than or equal to five (5) years, the North Dorchester Bay outfalls will activate, but will discharge only stormwater. Since 2011, no CSO activations have occurred at these outfalls (BOS081, BOS082, BOS084, BOS085, and BOS086), even during hurricanes, northeasters, and tropical storms.



**Figure 1 - BWSC Outfalls in Appendix A**

In 2022, the MassDEP granted MWRA’s request to exempt these outfalls in North Dorchester Bay (BOS081, BOS082, BOS084, BOS085, and BOS086) from their requirement to post signage notifying the public about the location of CSOs, pursuant to 314 CMR 16.05(3), as these CSOs are, for all reasonable intents and purposes, eliminated. MWRA, as the sole operator of the South Boston CSO Storage Tunnel, agreed to provide public CSO activation notifications





in the unlikely event that the tunnel's capacity is overwhelmed and the tunnel overflows. Therefore, the Commission should be exempted from the requirement to post signage, install continuous flow monitors, and notify regulators, the public, and other stakeholders about CSO activations at these five North Dorchester Bay outfalls.

In light of the effectiveness of the CSO storage tunnel and 25-year level of control, the continuous monitoring requirement should not apply to the North Dorchester Bay Outfalls (BOS081, BOS082, BOS084, BOS085, and BOS086). The Commission requests that it be permitted to utilize estimated flow methods and models, in coordination with the MWRA to predict activations at those CSOs consistent with Part I.B.3(g).

**11) Additional Issues that Region 1 Needs to Revise in the Draft Permit:**

- A. Draft Permit Cover Page, Part I.B.2 and Part I.B.3, specifically reference Attachment I that includes five (5) Commission CSO outfalls that are closed and should be removed from the permit. Specifically, the Commission requests that CSO outfalls BOS005, BOS006, BOS007, BOS072, and BOS008 be removed and no longer be subject to regulation under the Draft Permit.
- B. Part I.G.10 should be removed as redundant to the language and requirements set forth in Part I.G.4 of the Draft Permit.

The Commission appreciates the opportunity to comment on the Draft Permit. Please feel free to contact the Commission's Chief Engineer, John P. Sullivan, Jr., or General Counsel Robert LaMarca, if you have any questions or would like to discuss the resolution of any of the issues raised above. Thank you again for your time and attention to this important matter.

Sincerely,

Henry F. Vitale, CPA,  
Executive Director, BWSC

Cc: John P. Sullivan, P.E., Chief Engineer, BWSC  
Robert M. LaMarca, Esq., General Counsel, BWSC  
Charlie S. Jewell, Director of Planning & Sustainability  
Sherilyn Burnett Young, Esq., Rath, Young and Pignatelli, P.C.

Michelle Barden, U.S. EPA - Region 1  
Claire Golden, Surface Water Discharge Program, MassDEP  
November 28, 2023  
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James Steinkrauss, Esq., Rath, Young and Pignatelli, P.C.  
Lauren Kilmister, Esq., Rath, Young and Pignatelli, P.C.  
Saya Ann Hickey, P.E., ENV SP, Hazen and Sawyer



**BOSTON WATER AND SEWER COMMISSION  
NORTHERN SYSTEM**

**MWRA ANNUAL I/I QUESTIONNAIRE**

(To be submitted to MWRA Community Support Program by July 28, 2023)  
Community Support Contact: Jon Szarek, P.E.  
(617) 788-4358 or jon.szarek@mwra.com

**NAME:** Adam Horst July 6, 2023  
Name of Person Updating Questionnaire and Date

**1. Contact Person for I/I Issues:**

John Sullivan, Chief Engineer  
Boston Water and Sewer Commission  
980 Harrison Avenue  
Boston, MA 02119 (617) 989-7444

Charlie Jewell, Director of Planning  
Boston Water and Sewer Commission  
980 Harrison Avenue  
Boston, MA 02119 (617) 989-7431

**2. General Information on Sewer System:**

- Miles of separate sanitary sewers:	(Northern)	328
- Miles of combined sewers:	(Northern)	256
- Total miles of sewers (Total System):		854
- Inch miles of sewer (Total System):		14,876
- Number of service connections:	(Northern)	63,912
- Number of connections to MWRA System:	(Northern)	187
- Population used for MWRA sewer charge:	(Northern)	554,031
- Sewered population used for MWRA sewer charge:	(Northern)	552,645
- Number of community operated pump/lift stations: (4 sanitary, 4 storm and 1 combined)	(Northern)	9*
- DEP Administrative Order Number:		None

\* Total Population: 675,647 (2020 US Census)  
BWSC Estimated Sewered Population: 673,957 (FY23 Customer Service Update)  
2022 MWRA Municipal Permit Application: 263 Connections (190 Public / 73 Special)

3.

Boston Infiltration/Inflow Estimates	MWRA	MWRA	MWRA	Three Year
	CY19	CY20	CY22	Average
Total Wastewater Flow (MGD)	96.43	77.60	78.39	84.14
Sanitary Flow (MGD)	58.50	54.91	57.54	56.98
Ave. Annual Infiltration (MGD)	23.58	11.93	12.71	16.07
Ave. Annual Inflow (MGD)	14.36	10.76	8.13	11.08
Ave. Annual I/I (MGD)	37.94	22.69	20.84	27.16
Ave. Annual Infiltration (GPD/IDM)	1,681	850	854	1,129
Ave. Annual Inflow (GPD/IDM)	1,024	767	547	779
Ave. Annual I/I (GPD/IDM)	2,705	1,618	1,401	1,908
Peak Month Infiltration (MGD)	38.29	28.70	20.85	29.28
Peak Month Infiltration (GPD/IDM)	2,730	2,046	1,402	2,059
Peak Month Inflow (MGD)	22.97	20.38	18.45	20.60
Peak Month Inflow (GPD/IDM)	1,638	1,453	1,240	1,444
Peak Month I/I (MGD)	61.26	49.08	39.30	49.88
Peak Month I/I (GPD/IDM)	4,368	3,500	2,642	3,503
Annual Precipitation @ Logan (Inches)	50.38	36.33	52.33	46.35

For more information on flow component estimates visit <http://www.mwra.state.ma.us/harbor/pdf/infinf.pdf>

4. List of previously completed or ongoing I/I or SSES reports:

<u>Report</u>	<u>Date</u>	<u>Consultant</u>
A) SSES for Sewers Tributary to the East Side Interceptor and Boston Main Interceptor	January 1982	CDM
B) I/I Analysis - Boston Wastewater Facilities Plan	July 1985	M&E
C) SSES - Phases I, II, & III	February 1989	M&E
D) SSES - Allston/Brighton	July 1997	M&E
E) Ward Street Headworks SSES	June 2000	Weston & Sampson
F) Inflow Survey for Large Impervious Areas / Large Flat Roof Buildings	May 2005	Dufresne-Henry
G) Longwood Medical Area I/I Study	July 2009	Dewberry-Goodkind
H) West Roxbury Low Level Sewer I/I Analysis	October 2009	BETA Group
I) City-Wide I/I Analysis	May 2017	CDM Smith
J) Dorchester SSES	January 2019	Tighe & Bond
K) Allston Brighton SSES	July 2021	Weston & Sampson
L) Jamaica Plain SSES	ongoing	Wright-Pierce



**5. Update on sewer rehabilitation projects and significant sewer maintenance activities over the last year. Please estimate the peak or average annual infiltration and/or inflow removal (MGD) attributed to each project listed, the source of the estimate, and the date of completion (actual or estimated).**

8/22: See Attachment B

8/23: See Attachment B

**6. Update on modifications and/or extensions of the collection system (other than those listed under Item 5, above) over the last year:**

8/22: See Attachment B

8/22: See Attachment B

**7. Update on your House-to-House Inspection and Private Inflow Source Removal over the last year:**

8/22: Since the Downspout Disconnection Program began in 1994, approximately 38,000 building surveys have been conducted, approximately 10,520 dye tests have been performed and approximately 26,329 downspouts have been disconnected City-wide.

8/23: Since the Downspout Disconnection Program began in 1994, approximately 38,000 building surveys have been conducted, approximately 10,520 dye tests have been performed and approximately 26,381 downspouts have been disconnected City-wide.

**8. Please provide specifics, if any, of the community's Developer Flow Reduction Program (2 for 1 type or sewer connection fee), Sewer Bank or Enterprise Fund.**

8/22: The Commission does not have a Developer Flow Reduction program of its own, however it does recognize DEP's guidelines for 4:1 I/I removal.

8/23: The Commission does not have a Developer Flow Reduction program of its own, however it does recognize DEP's guidelines for 4:1 I/I removal.

**9. Total MWRA I/I Local Financial Assistance (Grant/Loan) Program Update (Total System):**

Community Allocation Under Phases 1 - 14:	\$ 246,921,200
Total Community Distribution:	\$ 122,344,709
Total Funds Remaining:	\$ 124,576,491

In May 2023, funds were distributed for the Jamaica Plain Sewer System Evaluation Survey (BWSC Contract No. 21-206-001 / MWRA Project No. WRA-P14-05-1-1412).

In June 2022, funds were distributed for the Upper Roxbury Area Sewer Separation - Phase III Project (BWSC Contract No. 17-309-001 / MWRA Project No. WRA-P11-05-3-1189).

In April 2021, funds were distributed for the East Boston Sewer Separation - Phase III Project (BWSC Contract No. 19-309-002 / MWRA Project No. WRA-P11-05-3-1180).

In April 2021, funds were distributed for the South Boston Sewer Separation - Phase I Project (BWSC Contract No. 20-309-012 / MWRA Project No. WRA-P11-05-3-1171).

In August 2019, funds were distributed for East Boston Sewer Separation - Phase II Project (BWSC Contract No. 17-309-005 / MWRA Project No. WRA-P11-05-3-1121).

In August 2018, funds were distributed for the East Boston Sewer Separation - Phase I Project (BWSC Contract No. 16-309-005 / MWRA Project No. WRA-P9-05-3-988).



## ATTACHMENT B

### BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

1. **BWSC PROJECT 94-309-008**, East Boston Separation including construction of a separate sewer and drain system in Waldemar Avenue in East Boston.

Estimated Peak Inflow Reduction is 16.2 MGD.

Construction was completed in 1996.

2. **BWSC PROJECT 92-309-024 (91-61 SD)**, Construction of separate system at Monument Street in Charlestown.

Estimated Peak Inflow Reduction is 0.5 MGD.

Construction was completed in 1992.

3. **BWSC PROJECT 92-309-006 (Neponset No. 1)**, Construction of drainage system at Mercier Street and Codman Street in Dorchester.

Estimated Peak Inflow Reduction is 1.3 MGD.

Construction was completed in 1993.

4. **BWSC PROJECT 90-61 SD (Neponset No. 2)**, Construction of drainage system at Dorchester Avenue, Clearwater Drive, Lenoxdale Street and Granite Avenue in Dorchester.

Estimated Peak Inflow Reduction is 4.5 MGD.

Construction was completed in 1992.

5. **BWSC PROJECT 90-64 SD**, Construction of storm drain system in Washington Street, Jamaica Plain from the Arborway to Columbus Avenue in West Roxbury.

Estimated Peak Inflow Reduction is 10.0 MGD.

Construction was completed in 1992.

ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

6. **BWSC 91-77 SD**, Replacement of 6 existing tidegates.

Estimated Peak Inflow Reduction is N/A.  
Construction was completed in 1992.

New tidegates were installed at the following locations:

TG-1 Marginal Street at Ruth Street, East Boston  
TG-2 Marginal Street at Cottage Street, East Boston  
TG-3 Summer Street at New Street, East Boston  
TG-4 Border Street at Decatur Street, East Boston  
TG-5 Border Street at Eutaw Street, East Boston  
TG-6&7 Eastern Avenue at Commercial Street, City Proper

7. **BWSC PROJECT 90-67 SD**, Replacement of 7 existing tidegates in the City Proper, Charlestown, South Boston, Roxbury and Dorchester.

Construction was completed in 1992.

8. **BWSC PROJECT 90-66 SD**, Replacement of 9 existing tidegates in East Boston, South Boston and North End.

Construction was completed in 1990.

9. **BWSC PROJECT 90-51 SD**, Rehabilitation of existing building sewers in Brimmer Street.

Estimated Peak Inflow Reduction is 0.2 MGD.  
Project was canceled.

10. **BWSC PROJECT 93-309-014**, Rehabilitation of existing sewer and drain in St. James Avenue by microtunneling in the City Proper.

Estimated Peak Inflow Reduction is 0.1 MGD.  
Construction was completed in January 1997.



ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

11. **BWSC PROJECT 87-18 SD**, Sewer Separation Project on Edgewater Drive in Hyde Park.

Estimated Peak Inflow Reduction is 2.6 MGD (North Portion).  
Construction was completed in May 1989.

12. **BWSC PROJECT SD-3**, Sewer Separation Project on East Berkeley Street in the South End.

Estimated Peak Inflow Reduction is 9.3 MGD.  
Construction was completed in 1988.

13. **BWSC PROJECT SD-7**, Sewer Separation Project on East Brookline Street, East Newton Street and Paul Sullivan Way in the South End.

Estimated Peak Inflow Reduction is 2.5 MGD.  
Construction was completed in September 1989.

14. **BWSC PROJECT SD-8**, Sewer Separation Project on Albany Street, East Dedham Street, Plympton Street and Wareham Street in the South End.

Estimated Peak Inflow Reduction is 4.9 MGD.  
Construction was completed in September 1989.

15. **BWSC PROJECT SD-9**, Sewer Separation Project on Washington Street, Perry Street, Savoy Street, Rollins Street and Waltham Street in the South End.

Estimated Peak Inflow Reduction is 5.5 MGD.  
Construction was completed in September 1989.

16. **BWSC PROJECT SD-10**, Sewer Separation Project on Washington Street, East Newton Street, and St. Georges Street in the South End of Boston.

Estimated Peak Inflow Reduction is 6.8 MGD.  
Construction was completed in September 1989.

ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

17. **BWSC PROJECT SD-11**, Sewer Separation Project in Worcester Square on E. Springfield Street in the South End.

Estimated Peak Inflow Reduction is 3.0 MGD.  
Construction was completed December 1990.

18. **BWSC PROJECT SD-16**, Sewer Separation Project on North Hampton Street in the South End.

Estimated Peak Inflow Reduction is 3.3 MGD.  
Construction was completed in October 1992.

19. **BWSC PROJECT SD-17**, Sewer Separation Project on Harrison Avenue in the South End.

Estimated Peak Inflow Reduction is 4.1 MGD.  
Construction was completed in 1992.

20. **BWSC PROJECT MDPH #1X-95-1**, Sewer Separation Project on Huntington Avenue in Roxbury.

Estimated Peak Inflow Reduction is 17.7 MGD.  
Construction was completed in 1989.

21. **BWSC PROJECT 81-7 SD**, Sewer Separation Project on Stockton and Rockwell Streets in Dorchester.

Estimated Peak Inflow Reduction is 3.1 MGD.  
Construction was completed in 1987.

22. **BWSC PROJECT 83-38 SD**, Sewer Separation Project on Hilltop and Ventura Streets in Dorchester.

Estimated Peak Inflow Reduction is 1.7 MGD.  
Construction was completed in 1986.

ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

23. **BWSC 92-309-018 (92-81 SD)**, Replacement of 6 existing tidegates in South Boston.
- Construction was completed in 1994.
- New tidegates were installed at the following locations:
- TG-082-1 Farragut Road at E. Sixth Street
  - TG-082-1 Day Boulevard at "N" Street
  - TG-086-2 Old Colony Blvd. at Logan Way
  - TG-086-3 Old Colony Blvd. at Logan Way
  - TG-086-5 Old Colony Blvd. at Gavin Way
  - TG-086-6 Old Colony Blvd. at Gavin Way
24. **BWSC PROJECT 93-309-007**, Reconstruction of East Boston Low Level Sewer.
- Estimated Peak I/I Reduction is 3.3 MGD.  
Construction was completed in 1993.
25. **BWSC PROJECT 92-309-004 (92-55 SD)**, Reconstruction of sanitary sewers on Commonwealth Avenue in Brighton.
- Estimated Peak I/I Reduction is 0.02 MGD.  
Construction was completed in 1993.
26. **BWSC PROJECT "MAINTENANCE"**, Replacement of defective manhole covers along with sanitary sewer line repairs.
- Estimated Peak I/I Reduction is 0.02 MGD.  
Construction completed in December 1996.
27. **BWSC PROJECT 90-77 SD**, Rehabilitation of South Boston Interceptor.
- Estimated Peak I/I Reduction is 4.2 MGD.  
Construction was completed in 1993.



ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

28. **BWSC PROJECT 93-309-013**, Replacement of six (6) existing tidegates in Roxbury and South Boston.

Construction was completed in 1995.

New tidegates were installed at the following locations:

TG-064-1 Summer Street at Dorchester Avenue.  
TG-070-6-2 Massachusetts Avenue at Melnea Cass Blvd.  
TG-070-8-2 Dorchester Avenue at "D" Street.  
TG-076-1-1 Pappas Road.  
TG-078-1 East First Street at "I" Street.  
TG-079-2 East First Street at Summer Street.

29. **BWSC PROJECT 94-309-006**, Replacement of three (3) existing tidegates in South Boston.

Construction was completed in 1995.

New tidegates were installed at the following locations:

TG-073-3 Mt. Washington Avenue @ "A" Street  
TG-076-3-1 "D" Street between W. First Street and Claflin Street  
TG-076-3-2 "D" Street Between W. First Street and Claflin Street

30. **BWSC PROJECT 93-309-008**, Reconstruction of Boston Main Interceptor in Roxbury/Dorchester.

Estimated Peak I/I Reduction is 0.1 MGD.

Construction was completed in 1995.

ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

31. **BWSC PROJECT 95-309-007**, Replacement of eight (8) existing tidegates in East Boston / Roxbury.

Construction was completed in 1997.

New tidegates were installed in the following locations:

TG-003-1	Maverick and Cottage Streets.
TG-161(003)	Orleans and Porter Streets.
TG-003-16 (2 gates)	Bremen and Porter Streets.
TG-231-(046)	Shawmut Avenue and Ruggles Street.
TG-046-47	Huntington Avenue and Parker Street.
TG-046-58	Huntington Avenue and Forsyth Street.
TG-046-100	Lamartine Street and Paul Gore Street.

32. **BWSC PROJECT 95-309-008**, Sewer Separation Project on Washington Street, Nantasket Street, Arlington Street, Bennett Street, North Beacon Street, Vineland Street and Parson Street, Brighton (Brighton Separation No. 1).

Estimated Peak Inflow reduction is 14.0 MGD.

Construction was completed in 1996.

33. **BWSC PROJECT 95-309-009**, Sewer Separation Project on Allston Street, Brainard Street, Cambridge Street, Emery Street, Penniman Street, Ridgmont Street, Saunders Street and Wilton Street, Brighton (Brighton Separation No. 2).

Estimated Peak Inflow Reduction is 12.3 MGD.

Construction was completed in 1996.

34. **BWSC PROJECT 95-309-010**, Sewer Separation Project on "D" Street, South Boston.

Estimated Peak Inflow Reduction is 1.6 MGD.

Construction was completed in 1996.

35. **BWSC PROJECT 95-309-014**, Sewer Separation Project on Union Street, Boston Proper.

Estimated Peak Inflow Reduction is 0.7 MGD.

Construction was completed in 1996.

ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

36. **BWSC PROJECT 95-309-001**, Sewer Separation Project on Terrace Street, Roxbury.  
Estimated Peak Inflow Reduction is 6.8 MGD.  
Construction was completed in 1996.
37. **BWSC PROJECT 95-308-002**, Sewer Separation Project on Minot Street, Dorchester.  
Estimated Peak Inflow Reduction is 1.4 MGD.  
Construction was completed in 1996.
38. **BWSC PROJECT 95-309-015**, Sewer Separation Project in Port Norfolk, Dorchester.  
Estimated Peak Inflow Reduction is 7.0 MGD.  
Construction was completed in 1996.
39. **BWSC PROJECT 96-309-001**, Separation Project in Archdale Road and Delford Street, Roslindale.  
Estimated Peak Inflow Reduction is 0.2 MGD.  
Construction was completed in 1996.
40. **BWSC PROJECT 97-309-015**, Combined with BWSC Project 97-309-016.
41. **BWSC PROJECT 97-309-016**, (Neponset Area Separation), Sewer Separation Project in South Dorchester tributary to the Neponset River.  
Estimated Peak Inflow Reduction is 17.5 MGD.  
Construction was completed in July 1999.
42. **BWSC PROJECT 96-308-004**, Installation of Storm Drain in Holbrook Avenue in Dorchester.  
Estimated Peak Inflow Reduction is 0.1 MGD.  
Construction was completed in April 1999.
43. **BWSC PROJECT 95-309-004**, Installation of Sewer and Drain in Roxbury.  
Estimated Peak Inflow Reduction is 0.3 MGD.  
Construction was completed in 1997.



BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

44. **BWSC PROJECT 97-309-011**, Sewer Separation Project in Brighton.  
Estimated Peak Inflow Reduction is 18.0 MGD.  
Construction was completed in June 2001.
45. **BWSC PROJECT 97-309-004**, Relining of sanitary sewer on Northern Avenue, South Boston.  
Estimated Peak I/I Reduction is 18.1 MGD.  
Construction was completed in December 1998.
46. **BWSC PROJECT 98-309-004**, Relining of sanitary sewer on Central Wharf.  
Estimated Peak Inflow Reduction: N/A.  
Construction was completed in January 1999.
47. **BWSC PROJECT 97-308-001**, Sewer Separation on Bennington Street in East Boston and Stanhope Street in Boston.  
Estimated Peak Inflow Reduction is N/A.  
Construction was completed in August 1999.
48. **BWSC PROJECT 98-309-013**, Relining of Sanitary Sewers in Charlestown Navy Yard.  
Estimated Peak I/I Reduction is 1.4 MGD.  
Construction was completed in June 2002.
49. **STONY BROOK SEPARATION PROJECT**, Separation of all combined sewers in the Stony Brook Conduit tributary area.  
Estimated Peak Inflow Reduction is 137.0 MGD.  
Construction was completed in September 2006.
50. **BWSC PROJECT 99-309-008**, Tidegate Replacement in the Charlestown Navy Yard.  
Estimated Peak Inflow Reduction was not calculated.  
Project Construction was completed in February 2000.

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

51. **BWSC PROJECT 99-309-010, East Boston Sewer Separation.**

Estimated Peak Inflow Reduction is 11.2 MGD.  
Construction was completed in October 2000.

52. **BWSC PROJECT 99-309-021, Downspout Disconnection in Neponset and East Boston.**

Estimated Peak Inflow Reduction was not calculated.  
Construction was completed in July 2002.

53. **DORCHESTER SEWER SEPARATION BOS090.**

Estimated Peak Inflow Reduction is 219.2 MGD.  
Construction was completed in December 2006.

54. **DORCHESTER SEWER SEPARATION BOS 088 / 089.**

Estimated Peak Inflow Reduction is 174.2 MGD.  
Construction was completed in May 2006.

55. **BWSC PROJECT 00-309-009, Brighton Sewer Separation IV.**

Estimated Peak Inflow Reduction is 25.0 MGD.  
Construction was completed in August 2006.

56. **MERRIMAC STREET SEWER RECONSTRUCTION.**

Estimated Peak I/I Reduction is 24.0 MGD.  
Construction was completed in July 2003.

57. **WASHINGTON STREET DRAINAGE PHASE IV.**

Estimated Peak I/I Reduction is 0.5 MGD.  
Construction was completed in July 2002.

58. **BWSC PROJECT 01-309-005, Talbot Avenue Area I/I Removal.**

Estimated Peak I/I Reduction is 6.7 MGD.  
Construction was completed in December 2003.

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

59. **BWSC PROJECT KILMARNOCK STREET DRAIN.**

Estimated Peak I/I Reduction is 0.6 MGD.  
Construction was completed in April 2005.

60. **BWSC PROJECT 02-309-013, Commercial Street I/I Removal (North End).**

Estimated Peak I/I Reduction is 0.2 MGD.  
Construction was completed in September 2005.

61. **BWSC PROJECT 03-309-007, Shawmut Avenue Drain (Roxbury)**

Estimated Peak I/I Reduction is 82.0 MGD.  
Construction was completed in January 2005.

62. **D STREET AND WEST SECOND STREET SEWER AND DRAIN.**

Estimated Peak I/I Reduction is 9.0 MGD.  
Construction was completed in July 2004.

63. **BWSC PROJECT 01-309-015, Tidegate Restoration.**

Estimated Peak I/I Reduction was not calculated.  
Construction was completed in June 2004.

64. **BWSC PROJECT 01-309-010, Large Commercial Properties in Neponset.**

Estimated Peak I/I Reduction was not calculated.  
Construction was completed in December 2005.

65. **BWSC PROJECT 01-309-009, 02-309-008, 03-309-009, South End Sewer.**

Estimated Peak I/I Reduction was not calculated.  
Construction was completed in December 2006.

66. **BWSC PROJECT 03-309-013, Causeway Street Separation.**

Estimated Peak I/I Reduction is 38.3 cfs.  
Construction was completed in January 2005.



ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

67. **BWSC PROJECT 02-308-009**, Sewer Separation, Marginal Street (East Boston).  
Estimated Peak I/I Reduction is 10.8 MGD.  
Construction was completed in September 2007.
68. **BWSC PROJECT 03-309-006**, St. Botolph Street Area Sewer Rehabilitation (Copley Square).  
Estimated Peak I/I Reduction is 3.4 MGD.  
Construction was completed in May 2007.
69. **BWSC MULTIPLE CONTRACTS** - East Boston.  
Estimated Peak I/I Reduction is 8.0 MGD.  
Construction was completed in April 2006.
70. **BWSC PROJECT 04-309-009**, Chester Park Area (South End).  
Estimated Peak I/I Reduction is 0.06 MGD.  
Construction was completed in July 2008.
71. **BWSC PROJECT 05-309-010**, West Side Interceptor Lining (Beacon/Charles Sts).  
Estimated Peak I/I Reduction is 0.3 MGD.  
Construction was completed in November 2007.
72. **BWSC PROJECT 05-309-002**, Back Street Sewer Separation.  
Estimated Peak I/I Reduction is 0.03 MGD.  
Construction was completed in July 2008.
73. **BWSC PROJECT 06-309-005**, Albany Street/Melnea Cass Blvd. Area (Roxbury).  
Estimated Peak I/I Reduction is 5.0 MGD.  
Construction was completed in September 2010.
74. **BWSC PROJECT 07-308-010**, Border Street and Condor Street in East Boston.  
Estimated Peak I/I Reduction is 52.0 MGD.  
Construction was completed in September 2010.

ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

75. **BWSC PROJECT 05-309-005**, Harrison Avenue Separation (South End).  
Estimated Peak I/I Reduction is 4.7 MGD.  
Construction was completed in September 2010.
76. **BWSC PROJECT 07-309-002**, Catch Basin Reconnection (Dorchester/Mattapan/West Roxbury).  
Estimated Peak I/I Reduction is 0.8 MGD.  
Construction was completed in February 2009.
77. **BWSC PROJECT 08-309-006**, Marginal Street Rehabilitation (East Boston).  
Estimated Peak I/I Reduction is 10.8 MGD.  
Construction was completed in April 2010.
78. **BWSC PROJECT 08-309-002**, Lining Sewers (Back Bay/Beacon Hill/Dorchester/South End).  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in September 2010.
79. **BWSC PROJECT 08-309-001**, Relay and Lining Sewers (Back Bay/East Boston/Kenmore/South End).  
Estimated Peak I/I Reduction is 1.0 MGD.  
Construction was completed in December 2013.
80. **BWSC PROJECT 09-309-001**, Relay and Reline Pipes (Back Bay/Dorchester/Hyde Park/Mattapan).  
Estimated Peak I/I Reduction is 0.4 MGD.  
Construction was completed in April 2015.
81. **BWSC PROJECT 10-309-001**, Relay and Reline Pipes (New Market Area - Lower Roxbury).  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in August 2012.
82. **BWSC PROJECT 11-309-001**, Relay and Reline Pipes (various locations).  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in August 2013.

ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

83. **BWSC PROJECT 10-309-013**, New Market Square Area Separation (Lower Roxbury).  
Estimated Peak I/I Reduction is 5.9 MGD.  
Construction was completed in April 2012.
84. **BWSC PROJECT 10-309-012**, Public Garden Lining.  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in April 2011.
85. **BWSC PROJECT 12-309-004**, New Market Square Separation (Mass Ave - Roxbury).  
Estimated Peak I/I Reduction is 29.7 MGD.  
Construction was completed in April 2015.
86. **BWSC PROJECT 12-309-008**, New Market Square Separation Area (Mass Ave - Dorchester).  
Estimated Peak I/I Reduction is 15.3 MGD.  
Construction was completed in September 2013.
87. **BWSC PROJECT 11-309-009**, Dudley Square Sewer Separation (Roxbury).  
Estimated Peak I/I Reduction is 58.0 MGD.  
Construction was completed in December 2014.
88. **BWSC PROJECT 11-309-008**, Audubon Circle / Saint Mary's Street Area Separation.  
Estimated Peak I/I Reduction is 13.0 MGD.  
Construction was completed in June 2013.
89. **BWSC PROJECT 12-309-001**, Replacement of Sewer and Drain Pipes (various locations).  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in September 2014.
90. **BWSC PROJECT 12-309-009**, A Street Sewer Separation - South Boston @ Gillette Headquarters.  
Estimated Peak I/I Reduction is 14.4 MGD.  
Construction was completed in December 2014.



## ATTACHMENT B

### BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

91. **BWSC PROJECT 10-309-004**, East Boston Separation.  
Estimated Peak I/I Reduction is 9.0 MGD.  
Construction was completed in July 2012.
92. **BWSC PROJECT 13-309-006**, Hampden Street Separation.  
Estimated Peak I/I Reduction is 35.9 MGD.  
Construction was completed in June 2016.
93. **BWSC PROJECT 15-309-005**, West Side Interceptor Lining (Charles Street).  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in August 2016.
94. **BWSC PROJECT 15-309-011**, Upper Roxbury Area Sewer Separation - Phase I.  
Estimated Peak I/I Reduction is 15.7 MGD.  
Construction was completed in October 2018.
95. **BWSC PROJECT 16-309-005**, East Boston Sewer Separation - Phase I. (MWRA 988)  
Estimated Peak I/I Reduction is 19.0 MGD.  
Construction was completed December 2021.
96. **BWSC PROJECT 16-309-011**, Upper Roxbury Area Sewer Separation - Phase II. (MWRA 969)  
Estimated Peak I/I Reduction is 23.0 MGD.  
Construction was completed in June 2020.
97. **BWSC PROJECT 17-309-013**, Fairfield Street Sewer Rehabilitation. (MWRA 968)  
Estimated Peak I/I Reduction is 0.03 MGD.  
Construction was completed in February 2018.
98. **BWSC PROJECT 17-309-005**, East Boston Sewer Separation - Phase II. (MWRA 1121)  
Estimated Peak I/I Reduction is 3.0 MGD.  
Construction was completed in September 2021.
99. **BWSC PROJECT 20-309-012**, South Boston Sewer Separation - Phase I. (MWRA 1171)  
Estimated Peak I/I Reduction is 3.0 MGD.  
Construction is scheduled for completion in April 2024.

ATTACHMENT B

BWSC SEWER SYSTEM REHABILITATION PROJECTS - NORTH SYSTEM

100. **BWSC PROJECT 19-309-002**, East Boston Sewer Separation - Phase III. (MWRA 1180)  
Estimated Peak I/I Reduction is 16.4 MGD.  
Construction is scheduled for completion in August 2024.
101. **BWSC PROJECT 17-309-011**, Upper Roxbury Area Sewer Separation - Phase III. (MWRA 1189)  
Estimated Peak I/I Reduction is 23.0 MGD.  
Construction is scheduled for completion in May 2024.
102. **BWSC PROJECT 19-309-003**, Replacement and Rehabilitation of Sewers in Dorchester  
Estimated Peak I/I Reduction is 0.44 MGD  
Construction was completed in May 2021.
102. **BWSC PROJECT 17-309-014**, Sewer and Drain Pipe Replacement and Rehabilitation City-Wide  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in May 2021.

**BOSTON WATER AND SEWER COMMISSION  
SOUTHERN SYSTEM**

**MWRA ANNUAL I/I QUESTIONNAIRE**

(To be submitted to MWRA Community Support Program by July 28, 2023)  
Community Support Contact: Jon Szarek, P.E.  
(617) 788-4358 or jon.szarek@mwra.com

**NAME:** Adam Horst July 6, 2023  
Name of Person Updating Questionnaire and Date

**1. Contact Person for I/I Issues:**

John Sullivan, Chief Engineer  
Boston Water and Sewer Commission  
980 Harrison Avenue  
Boston, MA 02119 (617) 989-7444

Charlie Jewell, Director of Planning  
Boston Water and Sewer Commission  
980 Harrison Avenue  
Boston, MA 02119 (617) 989-7431

**2. General Information on Sewer System:**

- |  |            |         |
|--|------------|---------|
| - Miles of separate sanitary sewers:               | (Southern) | 270     |
| - Miles of combined sewers:                        | (Southern) | 0       |
| - Total miles of sewers (Total System):            |            | 854     |
| - Inch miles of sewers (Total System):             |            | 14,876  |
| <br>   |            |         |
| - Number of service connections:                   | (Southern) | 20,902  |
| - Number of connections to MWRA System:            | (Southern) | 48      |
| <br>   |            |         |
| - Population used for MWRA sewer charge:           | (Southern) | 121,616 |
| - Sewered population used for MWRA sewer charge:   | (Southern) | 121,312 |
| <br>   |            |         |
| - Number of community operated pump/lift stations: | (Southern) | 0       |
| <br>   |            |         |
| - DEP Administrative Order Number:                 |            | None    |

\* Total Population: 675,647 (2020 US Census)  
BWSC Estimated Sewered Population: 673,957 (FY23 Customer Service Update)  
2022 MWRA Municipal Permit Application: 263 Connections (190 Public / 73 Special)



3.

Boston Infiltration/Inflow Estimates	MWRA	MWRA	MWRA	Three Year
	CY18	CY19	CY20	Average
Total Wastewater Flow (MGD)	98.64	96.43	77.60	90.89
Sanitary Flow (MGD)	58.50	58.50	54.91	57.30
Ave. Annual Infiltration (MGD)	23.52	23.58	11.93	19.68
Ave. Annual Inflow (MGD)	16.62	14.36	10.76	13.91
Ave. Annual I/I (MGD)	40.14	37.94	22.69	33.59
Ave. Annual Infiltration (GPD/IDM)	1,677	1,681	850	1,403
Ave. Annual Inflow (GPD/IDM)	1,185	1,024	767	992
Ave. Annual I/I (GPD/IDM)	2,862	2,705	1,618	2,395
Peak Month Infiltration (MGD)	40.88	38.29	28.70	35.96
Peak Month Infiltration (GPD/IDM)	2,915	2,730	2,046	2,564
Peak Month Inflow (MGD)	52.92	22.97	20.38	32.09
Peak Month Inflow (GPD/IDM)	3,774	1,638	1,453	2,288
Peak Month I/I (MGD)	93.80	61.26	49.08	68.05
Peak Month I/I (GPD/IDM)	6,689	4,368	3,500	4,852
Annual Precipitation @ Logan (Inches)	53.32	50.38	36.33	46.68

For more information on flow component estimates visit <http://www.mwra.state.ma.us/harbor/pdf/infinf.pdf>

4. List of previously completed or ongoing I/I or SSES reports:

<u>Report</u>	<u>Date</u>	<u>Consultant</u>
A) SSES for Sewers Tributary to the East Side Interceptor and Boston Main Interceptor	January 1982	CDM
B) I/I Analysis - Boston Wastewater Facilities Plan	July 1985	M&E
C) SSES - Phases I, II, & III	February 1989	M&E
D) SSES in 15 Trib. Areas; Flow Isolation Gauging, Smoke Testing & Public Sector Dye Water Flooding	February 1991	RJN Env. Assoc.
F) SSES in 15 Trib. Areas- Dye Tracing w/TV Inspection	October 1991	RJN Env. Assoc.
G) Private Sector Inflow Survey	July 1994	RJN Group
H) Roslindale Interceptor Inflow Survey	November 1999	Dufresne-Henry
I) Talbot Avenue High Level SSES	April 2000	Dufresne-Henry
J) Upper Neponset Valley Sewer Inflow Survey	November 2005	Malcolm Pirnie
K) Dorchester High Level Sewer I/I Survey	September 2006	Weston & Sampson
L) Granite Avenue Area (NVS) I/I Study	September 2007	Stantec Consulting
M) Lower Dorchester Brook Sewer Study	October 2007	Tetra Tech Rizzo
N) City-Wide I/I Analysis	May 2017	CDM Smith
O) Dorchester SSES	January 2019	Tighe & Bond
P) Roslindale SSES	May 2020	CDM Smith
Q) Mattapan SSES	February 2022	CDM Smith

**5. Update on sewer rehabilitation projects and significant sewer maintenance activities over the last year. Please estimate the peak or average annual infiltration and/or inflow removal (MGD) attributed to each project listed, the source of the estimate, and the date of completion (actual or estimated).**

8/22: See Attachment A

8/23: See Attachment A

**6. Update on modifications and/or extensions of the collection system (other than those listed under Item 5, above) over the last year:**

8/22: See Attachment A

8/23: See Attachment A

**7. Update on your House-to-House Inspection and Private Inflow Source Removal over the last year:**

8/22: Since the Downspout Disconnection Program began in 1994, approximately 38,000 building surveys have been conducted, approximately 10,520 dye tests have been performed and approximately 26,329 downspouts have been disconnected City-wide.

8/23: Since the Downspout Disconnection Program began in 1994, approximately 38,000 building surveys have been conducted, approximately 10,520 dye tests have been performed and approximately 26,381 downspouts have been disconnected City-wide.

**8. Please provide specifics, if any, of the community's Developer Flow Reduction Program (2 for 1 type or sewer connection fee), Sewer Bank or Enterprise Fund.**

8/22: The Commission does not have a Developer Flow Reduction program of its own, however it does recognize DEP's guidelines for 4:1 I/I removal.

8/23: The Commission does not have a Developer Flow Reduction program of its own, however it does recognize DEP's guidelines for 4:1 I/I removal.

## ATTACHMENT A

### BWSC SEWER SYSTEM REHABILITATION PROJECTS - SOUTH SYSTEM

1. **BWSC PROJECT 90-82 SD**, Separation of twenty-one (21) catch basins in the South System along with sanitary manhole rehabilitation.

Estimated Peak Inflow Reduction is 4.2 MGD.  
Construction was completed in 1992.

2. **BWSC PROJECT 90-81 SD**, Separation of thirty-one (31) catch basins in the South System along with sanitary manhole rehabilitation.

Estimated Peak Inflow Reduction is 2.9 MGD.  
Construction was completed in 1991.

3. **BWSC PROJECT 90-80 SD**, Separation of fifteen (15) catch basins in the South System.

Estimated Peak Inflow Reduction is 0.2 MGD.  
Construction was completed in 1990.

4. **BWSC PROJECT 90-69 SD**, Sewer Separation Project on Beech Street in Roslindale.

Estimated Peak Inflow Reduction is 1.7 MGD.  
Construction was completed in November 1990.

5. **BWSC PROJECT 89-50 SD**, Roslindale Square Sewer Separation Project on South Street, Popular Street, Taffhill Road and Washington Street.

Estimated Peak Inflow Reduction is 0.6 MGD.  
Construction was completed in 1990.

6. **BWSC PROJECT 88-26 SD**, Separation of twenty-six (26) catch basins in the South System.

Estimated Peak Inflow Reduction is 0.2 MGD.  
Construction was completed in September 1989.

7. **BWSC PROJECT 88-26A SD**, Separation of fifteen (15) catch basins in the South System.

Estimate Peak Inflow Reduction is 0.2 MGD.  
Construction was completed in September 1989.

8. **BWSC PROJECT 87-25 SD**, Sewer Separation Project on River Street (Cleary Square) in Hyde Park.

Estimated Peak Inflow Reduction is 0.7 MGD.  
Construction was completed in 1988.

A - 1  
ATTACHMENT A

BWSC SEWER SYSTEM REHABILITATION PROJECTS - SOUTH SYSTEM

9. **BWSC PROJECT 87-19 SD**, Partial Sewer Separation Project on Metropolitan Avenue in Hyde Park.  
  
Estimated Peak Inflow Reduction is 0.7 MGD.  
Construction was completed in May 1989.
10. **BWSC PROJECT 87-18 SD**, Sewer Separation Project on Edgewater Drive in Hyde Park.  
  
Estimated Peak Inflow Reduction is 4.2 MGD (South Portion).  
Construction was completed in May 1989.
11. **BWSC PROJECT 87-17 SD**, Sewer Separation Project on Sunnyside Street in Hyde Park.  
  
Estimated Peak Inflow Reduction is 4.9 MGD.  
Construction was completed in 1988.
12. **BWSC PROJECT 87-15 SD**, I/I Rehabilitation Project on Providence Street in Hyde Park.  
  
Estimated Peak I/I Reduction is 5.2 MGD.  
Construction was completed in June 1989.
13. **BWSC PROJECT "MAINTENANCE"**, Replacement of defective manhole covers along with sanitary sewer line repairs.  
  
Estimated Peak I/I Reduction is 0.02 MGD.  
Replacement work completed in December 1996.
14. **BWSC PROJECT 91-84 SD**, Sewer Separation Project on Factory Street Dana Avenue and Brush Hill in Hyde Park.  
  
Estimated Peak Inflow Reduction is 2.0 MGD.  
Construction was completed in 1992.
15. **BWSC PROJECT 93-309-018 (91-76 SD)**, Separation of ten (10) catch basins in the South System along with 840 sanitary manhole rehabilitations.  
  
Estimated Peak I/I Reduction is 3.6 MGD.  
Construction was completed in 1994.



ATTACHMENT A

BWSC SEWER SYSTEM REHABILITATION PROJECTS - SOUTH SYSTEM

16. **BWSC PROJECT 89-81 SD**, I/I Rehabilitation of sanitary sewers on Danny Road, Morton and Seldon Streets, Normandy Street, Osceola Street and Talbot Avenue High Level Sewer in Dorchester.

Estimated Peak I/I Reduction is 0.5 MGD.  
Construction was completed in 1989.

17. **BWSC PROJECT 92-309-011 (92-56 SD)**, I/I Rehabilitation of sanitary sewers on Vogel Street and Seanar Road, West Roxbury.

Estimated Peak I/I Reduction is 2.0 MGD.  
Construction was completed in 1993.

18. **BWSC PROJECT 92-309-017 (92-80 SD)**, Separation of fifteen (15) catch basins in addition to sanitary sewer system rehabilitation in Dorchester/Roslindale.

Estimated Peak I/I Reduction is 1.7 MGD.  
Construction was completed in 1995.

19. **BWSC PROJECT 93-309-012**, Sanitary sewer rehabilitation/separation in West Roxbury/Hyde Park.

Estimated Peak Inflow Reduction is 1.7 MGD.  
Project Construction was completed in 1995.

20. **BWSC PROJECT 94-309-016**, Install new drain to separate flow from sanitary system near Walter Street and Coniston Road in West Roxbury.

Estimated Peak Inflow Reduction is 7.5 MGD.  
Construction was completed in 1995.

21. **BWSC PROJECT 94-309-009**, Sanitary sewer rehabilitation/separation.

Estimated Peak I/I Reduction is 2.0 MGD.  
Construction was completed in 1995.

22. **DOWNSPOUT DISCONNECTION PROGRAM**, Since the Downspout Disconnection Program began in 1994, approximately 38,000 building surveys have been conducted, approximately 10,520 dye tests have been performed and approximately 26,381 downspouts have been disconnected City-wide.

Estimated Peak Inflow Reduction is 10.0 MGD.  
Construction was completed in July 2000.

ATTACHMENT A

BWSC SEWER SYSTEM REHABILITATION PROJECTS - SOUTH SYSTEM

23. **BWSC PROJECT 95-309-006**, Sanitary sewer system rehabilitation in West Roxbury.  
  
Estimated Peak I/I Reduction is 8.0 MGD.  
Project Construction was completed in 1997.
24. **BWSC PROJECT 95-309-018**, Sanitary joint sealing in West Roxbury.  
  
Estimated Peak I/I Reduction is 0.2 MGD.  
Project Construction was completed in 1996.
25. **BWSC PROJECT 96-309-006**, Sewer System Rehabilitation (No. 1) in Hyde Park.  
  
Estimated Peak I/I Reduction is 5.0 MGD.  
Project Construction was completed in 1997.
26. **BWSC PROJECT 96-309-018**, Sewer System Rehabilitation (No. 2) in Hyde Park.  
  
Estimated Peak I/I Reduction is 5.0 MGD.  
Project Construction was completed in August 1998.
27. **BWSC PROJECT 95-309-009**, Sewer Separation Project on Como Road and Readville Road, Hyde Park.  
  
Estimated Peak Inflow Reduction is 0.6 MGD.  
Project Construction was completed in 1996.
28. **BWSC PROJECT 98-309-008**, Sewer Separation on Winslow Street and Child Street, Hyde Park.  
  
Estimated Peak Inflow Reduction is 1.8 MGD.  
Project Construction was completed in April 2002.
29. **BWSC PROJECT 99-309-017**, Sewer Separation Project on Centre Street, West Roxbury and Lower East Street, Dedham.  
  
Estimated Peak Inflow Reduction 11.0 MGD.  
Project Construction was completed in December 2001.

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ATTACHMENT A

BWSC SEWER SYSTEM REHABILITATION PROJECTS - SOUTH SYSTEM

30. **BWSC PROJECT 99-309-020**, Roslindale Interceptor Downspout Disconnection Program.  
Estimated Peak Inflow Reduction is 0.5 MGD.  
Construction was completed in December 2001.
31. **BWSC PROJECT 00-309-011**, Roslindale & West Roxbury I/I Removal Program.  
Estimated Peak I/I Reduction is 2.9 MGD  
Construction was completed in January 2002.
32. **BWSC PROJECT 04-309-001**, Talbot Avenue High Level Sewer Area: Sewer/Drain Replacement with Manhole Rehabilitation.  
Estimated Peak I/I Reduction is 3.8 MGD  
Construction was completed in October 2007.
33. **BWSC PROJECT 08-309-001**, Relay and Reline Pipes (various locations along Granite Avenue).  
Estimated Peak I/I Reduction is 1.0 MGD  
Construction was completed in July 2011.
34. **BWSC PROJECT 09-309-001**, Relay and Reline Pipes (various locations along Granite Avenue).  
Estimated Peak I/I Reduction is 0.4 MGD  
Construction was completed in 2011.
35. **BWSC PROJECT 10-309-001**, Relay and Reline Pipes (various locations).  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in September 2012.
36. **BWSC PROJECT 11-309-001**, Relay and Reline Pipes (various locations).  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in August 2013.
37. **BWSC PROJECT 12-309-001**, Replacement of Sewer and Drain Pipes (various locations).  
Estimated Peak I/I Reduction was not calculated.  
Construction was completed in September 2014.

ATTACHMENT A

BWSC SEWER SYSTEM REHABILITATION PROJECTS - SOUTH SYSTEM

38. **BWSC PROJECT 12-309-012**, Removal of Stormwater Inflow Sources in Dorchester/Neponset.

Estimated Peak I/I Reduction was not calculated.  
Construction was completed in September 2014.





Infiltration/Inflow Estimates: (Total System)	Town	MWRA	MWRA	MWRA	Three
	I/I study <u>1985</u>	<u>CY94</u>	<u>CY95</u>	<u>CY96</u>	Year <u>AVG</u>
Total Wastewater Flow (MGD)		110.82	97.97	112.84	107.21
Ave. Annual Infiltration (MGD)		41.17	35.27	37.54	37.99
Ave. Annual Infiltration (GPD/IDM)		2,936	2,515	2,677	2,709
Ave. Annual Inflow (MGD)		16.61	10.19	22.98	16.59
Ave. Annual I/I (MGD)		57.78	45.46	60.52	54.59
Peak Month Infiltration (MGD)		54.88	47.55	49.72	50.72
Peak Month Infiltration (GPD/IDM)		3,913	3,391	3,545	3,616
Design Storm Peak Inflow Rate (MGD)					

4. List of previously completed or ongoing I/I or SSES reports:

<u>Report Type</u>	<u>Date</u>	<u>Consultant</u>
A) SSES for Sewers Tributary to the East Side Interceptor and Boston Main Interceptor	Jan. 1982	CDM
B) I/I Analysis-Boston Wastewater Facilities Plan	Jul. 1985	M & E
C) SSES-Phases I, II, & III	Feb. 1989	M & E
D) SSES in Allston/Brighton	Started in Nov. 1995	M & E

5. Update on sewer rehabilitation projects and significant sewer maintenance activities over the last six months. Please estimate the peak or average annual infiltration and/or inflow removal (MGD) attributed to each project listed, the source of the estimate, and the date of completion (actual or estimated):

1996: SEE ATTACHMENT B

1997:

6. Update on modifications and/or extensions of the collection system (other than those listed under item 5, above) over the past six months:

1996: SEE ATTACHMENT B

1997: