

# Combined Sewer Overflow Long-Term Control Plan Update Report

Metropolitan St. Louis  
Sewer District

Supplement No. 3  
June 2018





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## Introduction and Purpose

The Metropolitan St. Louis Sewer District (MSD) prepared an update to its Combined Sewer Overflow Long-Term Control Plan (LTCP), dated February 2011, that described the development and selection of MSD's plan for controlling combined sewer overflows to area waterways. The LTCP was approved by the Missouri Department of Natural Resources (MDNR) on June 1, 2011. The CSO Control Measures defined in the LTCP—including descriptions, design criteria, performance criteria, and critical milestone dates—were subsequently incorporated into a Consent Decree between the United States EPA, the Missouri Coalition for the Environment Foundation, and MSD. The Consent Decree was entered in U.S. District Court on April 27, 2012.

Two Supplements to the LTCP have been issued, and associated modifications to the Consent Decree filed, since the initial approval of the LTCP and entry of the Consent Decree:

- Supplement No. 1 to LTCP. The CSO Treatment Unit associated with the Lower & Middle River Des Peres CSO Storage Tunnel was relocated from its original position at Outfall 063 to a new location at the downstream end of the storage tunnel. A non-material Consent Decree modification incorporating this change was filed on July 5, 2013. Supplement No. 1 to the LTCP, addressing the treatment unit relocation, was issued in September 2013, and approved by MDNR on December 2, 2013.
- Supplement No. 2 to LTCP. The CSO Control Measures for the two CSO Outfalls to Maline Creek were changed to a local storage facility. A Consent Decree modification incorporating this change was filed on October 10, 2013. Supplement No. 2 to the LTCP, addressing the local storage facility, was issued in September 2013, and approved by MDNR on December 2, 2013.
- The originally-planned in-line storage of 25 million gallons of CSO in the Lower & Middle River Des Peres (LMRDP) collection system was substituted with a similar volume of storage in a larger LMRDP CSO storage tunnel. A non-material Consent Decree modification incorporating this change was filed on April 7, 2015. A written request to incorporate this change into the LTCP was issued on June 1, 2015, and approved by MDNR on July 6, 2015.
- Finally, a written “clarification of CSO control measures associated with tunnels” was issued by EPA on March 9, 2015. A written request to incorporate this clarification into the LTCP was issued on June 1, 2015, and approved by MDNR on July 6, 2015.

The parties to the Consent Decree have now agreed to another modification wherein certain CSO Control Measures listed in the Consent Decree and defined in the LTCP will have their associated critical milestone dates, listed in the Consent Decree, delayed. In addition, a new CSO Control Measure will be implemented, and the final date for achievement of full operation for all CSO Control Measures called for in the Consent Decree will be extended.

The parties to the Consent Decree have agreed that these additional modifications are necessary because the *Federal Plan Requirements for Sewage Sludge Incineration Units Constructed on or Before October 14, 2010*, set forth at 40 C.F.R. Part 62, Subpart LLL (“SSI Rule”), issued by EPA

in 2016, require MSD to replace its existing multiple hearth incinerators at the Lemay and Bissell Point treatment plants during the timeframe of MSD's fiscal years 2021 to 2026. This is the same timeframe when the cost of the originally-scheduled project work on the CSO Control Measures and other remedial measures under the Consent Decree was projected to peak.

Replacing these incineration units during the timeframe of 2021 to 2026 creates a high financial burden on MSD's ratepayers. Consequently, the parties to the Consent Decree have agreed to amend the Consent Decree, as described above, to reduce the level of burden, particularly on the ratepayers in the City of St. Louis.

### **Supplement No. 3**

This Supplement No. 3 to the LTCP incorporates the above-described schedule modifications and the additional CSO Control Measure to the Consent Decree. This Supplement addresses each of the minimum elements of the LTCP, as defined in the CSO Control Policy (59 FR 18688):

- Characterization, Monitoring and Modeling of the Combined Sewer System
- Public Participation
- Consideration of Sensitive Areas
- Evaluation of Alternatives
- Cost/Performance Considerations
- Operational Plan
- Maximizing Treatment at the Existing POTW Treatment Plant
- Implementation Schedule
- Post-Construction Monitoring Program

#### **Characterization, Monitoring and Modeling of the Combined Sewer System**

Additional characterization, monitoring and modeling of the combined sewer system was not necessary or performed to support the proposed LTCP changes.

#### **Public Participation**

The parties to the Consent Decree agree that the proposed critical milestone date changes and the addition of a new CSO Control Measure constitute a material change to the Consent Decree and therefore require a public comment period. The United States published notice of these proposed changes in the Federal Register on March 5, 2018 (83 Fed. Reg. 9338), and invited the public to submit comments on the proposed changes to the Consent Decree. The public comment period closed on April 4, 2018, and no comments were received.

#### **Consideration of Sensitive Areas**

The proposed critical milestone date changes and the addition of a new CSO Control Measure to the Consent Decree do not result in CSO discharges to any receiving waters other than those previously described and characterized in the February 2011 LTCP. MSD is not aware of any changes in the determination of sensitive areas by MDNR—in coordination with appropriate State and Federal agencies—that affect waterways receiving MSD's CSO discharges. Therefore, MSD's evaluation of Sensitive Areas as presented in the February 2011 LTCP, and approved by MDNR, remains unchanged as a result of the proposed schedule and Control Measure changes.

### **Evaluation of Alternatives**

The proposed critical milestone date changes to the Consent Decree did not require the evaluation of alternatives that differ from those already approved by MDNR in the February 2011 LTCP and Supplement Nos. 1 and 2. The alternatives evaluated and selected for inclusion in the approved February 2011 LTCP and supplements, together with their design criteria and performance criteria as defined in the Consent Decree, remain unchanged.

The addition of a new CSO Control Measure—Green Infrastructure in the Lemay Service Area—is not intended as an alternative to any of the previously approved CSO Control Measures. Instead, this new CSO Control Measure is intended to supplement the previously-approved CSO Control Measures by further reducing untreated CSO volumes to the River Des Peres by at least 8 million gallons per year. This will be accomplished by the application of green infrastructure to a designed drainage area of at least 80 acres, at a minimum expenditure of \$20 million. The proposed costs and benefits of the green infrastructure are based on the results of MSD's *Green Infrastructure Pilot Program* completed in December 2015.

### **Cost/Performance Considerations**

The proposed critical milestone date changes to the Consent Decree are not expected to impact project costs or system performance from those estimated in the approved LTCP and supplements. The cost/performance analyses presented in Section 8 and Appendices I and J of the LTCP, and in the supplements, therefore remain unaltered. No cost-performance analyses were performed for the proposed \$20 million additional green infrastructure investment beyond those included in MSD's *CSO Volume Reduction Green Infrastructure Program: Pilot Final Report and Full Implementation Plan*, dated December 31, 2015.

### **Operational Plan**

Operation of the previously approved CSO Control Measures is not expected to change as a result of the proposed critical milestone date changes and additional green infrastructure CSO Control Measure to the Consent Decree. As noted in the approved LTCP and supplements, specific O&M manuals will be developed for the various CSO Control Measures as those projects are designed and constructed.

### **Maximizing Treatment at the Existing POTW Treatment Plant**

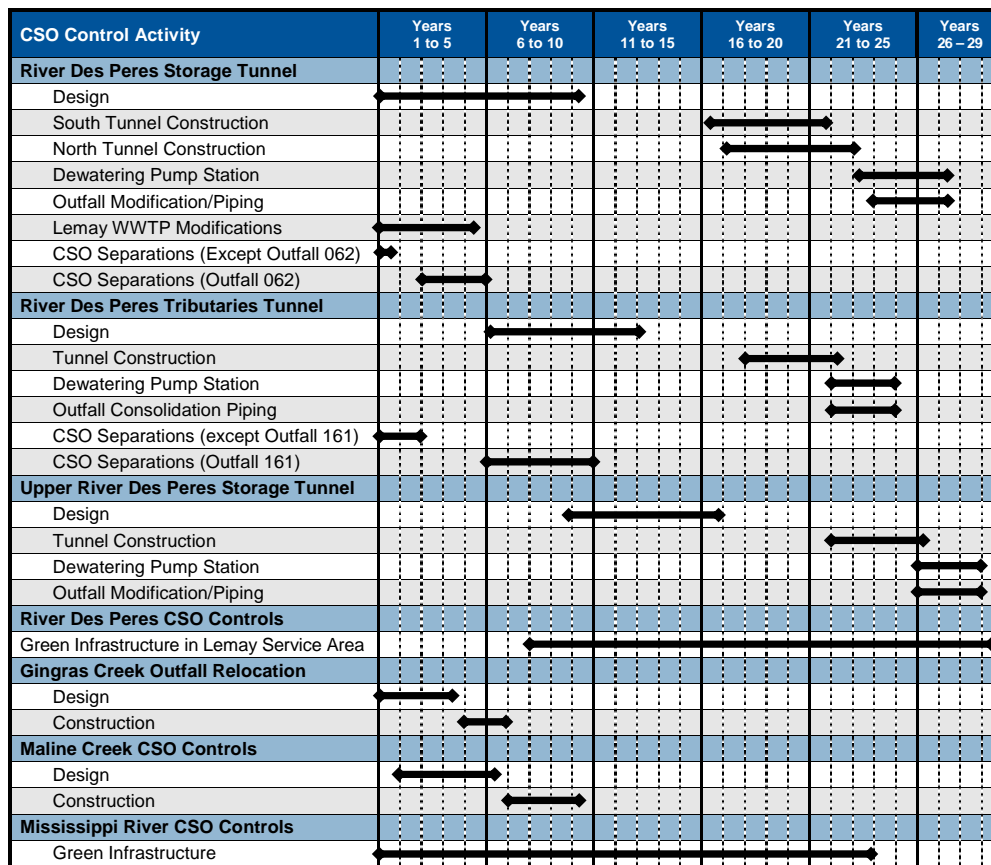
The operating strategy for both the Bissell Point and Lemay Service Areas remains unchanged as a result of the proposed critical milestone date changes and additional green infrastructure CSO Control Measure to the Consent Decree. Both strategies include maximizing treatment of wet weather flows at the treatment plants.

### **Implementation Schedule**

The February 2011 LTCP included a 23-year implementation period for the CSO controls comprising the LTCP. This period included time to design the projects associated with the controls, secure necessary rights-of-way, coordinate with other service area improvement projects, coordinate manpower and material resource demands, construct the projects, evaluate their effectiveness, and manage the financial burden on ratepayers.

Due to the necessity of replacing the incinerators at the Lemay and Bissell Point treatment plants earlier than anticipated, it is necessary to delay the implementation of several CSO Control Measures according to the schedule presented below in Figure 1.

**Figure 1. LTCP Program Implementation Schedule**



As noted above, the need to replace the existing multiple hearth incinerators at the Lemay and Bissell Point treatment plants during fiscal years 2021 to 2026—the same timeframe when the cost of the originally-scheduled project work on the CSO Control Measures and other remedial measures under the Consent Decree was projected to peak—creates a high financial burden on MSD’s ratepayers. In addition, median household income (MHI) has not grown at the 3% rate projected in the 2011 LTCP. This creates an even higher financial burden on ratepayers than originally projected.

These factors are illustrated in Figures 2 and 3. Figure 2 depicts the typical residential bill as a percentage of median household income as projected in the February 2011 LTCP. Financial burden, at that time, was projected to peak about the year 2028 at 2.0 percent of MHI for residents of the City of St. Louis.

Replacing the multiple hearth incinerators during 2021 to 2026, while maintaining the original CSO control implementation schedule, is expected to increase the residential indicator in the City of St. Louis above 2.8% by fiscal year 2030. The indicator would peak near 2.0% for the entire

District (combined City and County), a rate considered as representing a “high burden” by EPA guidance.

Figure 3 depicts the typical residential bill as a percentage of MHI with the extended implementation schedule for the CSO Control Measures. With the extended schedule, the residential indicator in the City of St. Louis is reduced, but still peaks above 2.5% from 2028 to 2032. The indicator peaks at 1.8% for the entire District (combined City and County) in 2031. Even with the extended schedule, the residents of the City of St. Louis are under “high burden” for decades. In large part, this is due to the lower rate of MHI growth than originally anticipated in the February 2011 LTCP. The projections in Figure 2 were based on actual and projected MHI growth rates of 3% in both the City and County. The projections in Figure 3 are based on actual and projected MHI growth rates of 1.6% in the City of St. Louis and 1.2% in St. Louis County.

Figure 2. February 2011 LTCP Residential Indicator

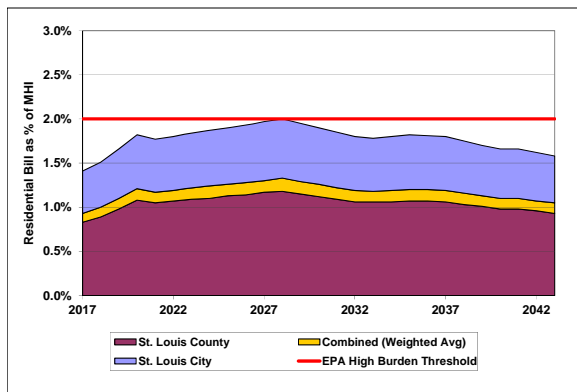
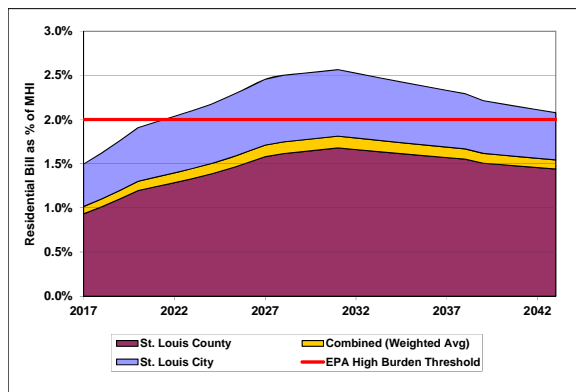


Figure 3. Revised LTCP Residential Indicator



### Post-Construction Monitoring Program

The substance of the post-construction compliance monitoring program, as defined in the February 2011 LTCP and further developed in the *CSO Post-Construction Monitoring Program* plan, dated April 27, 2013 and approved by the EPA on June 20, 2013 under the Consent Decree, does not change as a result of the proposed modifications to the Consent Decree described herein. Multiple references in the *CSO Post-Construction Monitoring Program* plan to Consent Decree critical milestone dates are, by reference to the SECOND MATERIAL AMENDMENT TO CONSENT DECREE filed June 22, 2018, modified to match the dates contained therein. The detailed monitoring plans required one year in advance of achieving full operation at each CSO treatment facility and storage device will contain the revised dates as appropriate.