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December 20, 2013

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
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Jeff Cummins, Acting Director
Division of Enforcement
Department of Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

Chief, Water Programs Enforcement Branch
Water Management Program
US EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

Subject: Nightingale Pump Station Replacement and Off-line Storage
Minor Project Modification - Revised
IOAP Project No. L_SO_MF_018_S_03_A_A
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is providing notification of a proposed revision to the previously submitted minor project modification to the Nightingale Pump Station Replacement project (IOAP Project No. L_SO_MF_018_S_03_A_A). This modification is part of the continuing adaptive management review of the approved 2009 IOAP that will be documented in the proposed 2012 IOAP Modification previously submitted in May 2013. MSD is currently revising the IOAP Modification in response to regulatory reviewer comments. This proposed revision will be part of the updated version to be submitted in January 2014.

2009 IOAP Project Description

The Nightingale Pump Station Replacement project entailed the upgrade of the Nightingale Pump Station from 27 million gallons per day (MGD) to 60 MGD with a final completion date of December 31, 2016.

Originally Proposed Project Modification

The originally proposed project modification involved the replacement of the Nightingale Pump Station with a new 33 MGD facility and the construction of a 2.7 million gallons (MG) off-line storage basin. The sizing of the new pump station and off-line storage was intended to mitigate existing wet weather



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issues to a zero overflow per year level of control and an accelerated completion date of December 31, 2015.

Revised Proposed Project Modification

MSD has continued to refine project sizing based on an expanded flow monitoring network and a recalibrated model. Subsequent to the May 2013 submittal MSD determined that achieving the target overflow reduction level of zero overflows per year in a typical year required a larger storage basin. The revised storage basin size is 7.7 MGD rather than the 2.7 MGD previously submitted. In addition MSD is considering a “gravity in – pump out” control strategy that would require the basin to be considerably deeper than previously proposed.

In the opinion of our design consultant, HDR Engineering Inc., these project changes make the accelerated schedule of December 31, 2015 virtually impossible to achieve. The revised footprint and depth of the larger basin, combined with recently identified soil conditions will result in the need for an extensive system for excavation support. In addition to the time required to install the excavation support, access to the excavation bottom will be more difficult, and the resulting inefficiencies will add to the construction duration. The larger basin footprint also makes construction staging on the 5.8 acre site very difficult, requiring off-site storage of materials and the inherent inefficiencies of shuttling materials in and out on a daily basis. As a result of these scope changes that were identified subsequent to the previous request for project modification we propose that the schedule revert back to December 31, 2016, as contained in the approved September 2009 IOAP.

The impact on the timing of CSO reductions has been assessed, and is shown on the two attached figures. The first figure shows the impact of the original modification package as compared to the approved 2009 IOAP. The second figure shows the impact of moving the Nightingale project back to its original completion date of December 31, 2016. The curves are virtually indistinguishable, as the only impact of moving the schedule date back to 2016 is moving 10.55 MG of AAOV reduction from 2015 to 2016.

Technical Justification

The basis of the original project modification was the re-calibrated, combined sewer model. The Calvary Creekside Storage Basin downstream of the Nightingale Pump Station was proposed to be eliminated. In addition, capacity constraints downstream of the Nightingale force main prohibit upgrades to the station in excess of 33 MGD. The 33 MGD station upgrade and 2.7 MG of off-line storage were thought to provide the optimal combination of pumping and storage to mitigate CSO 018 to the appropriate level of control.

MSD has continued to expand its flow monitoring system, and to refine the hydraulic model as additional flow monitoring information is received in the vicinity of upcoming projects. As additional flow monitoring information was received for the area tributary to the Nightingale Pump Station, the updated hydraulic model indicated the need for additional storage to achieve the target level of control of zero

overflows per year in the typical year. The change in basin volume from 2.7 MG to 7.7 MG is the result of that analysis.

For your reference, copies of the originally proposed modification fact sheet and map from the 2012 IOAP Modification are enclosed in Attachment A. A revised project fact sheet and map reflecting these proposed revisions to the project modification have been provided in Attachment B.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have questions or need additional information, please contact Ms. Angela Akridge, Project WIN Program Manager, or myself at (502) 540-6000.

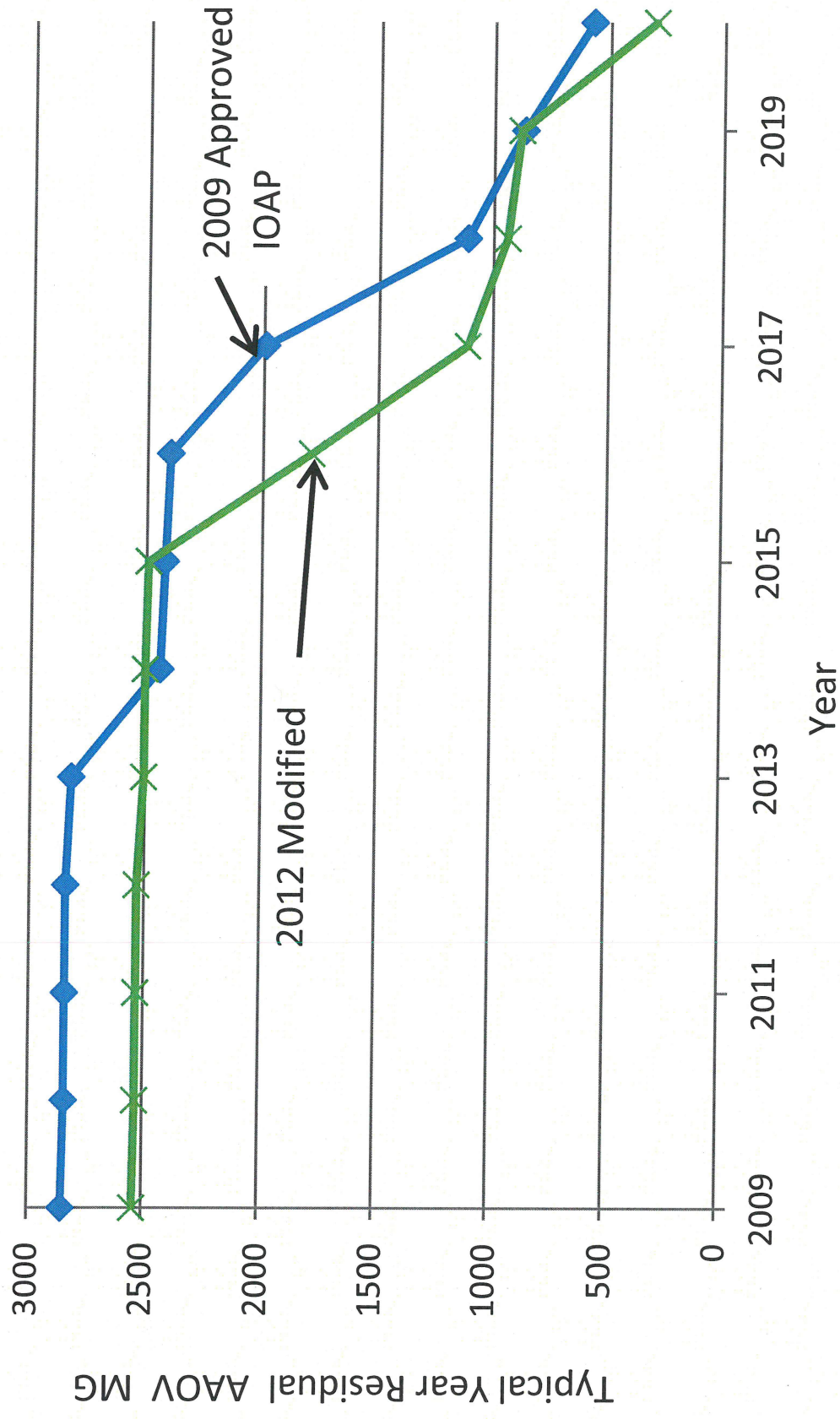
Sincerely,

W. Brian Bingham
Regulatory Services Director

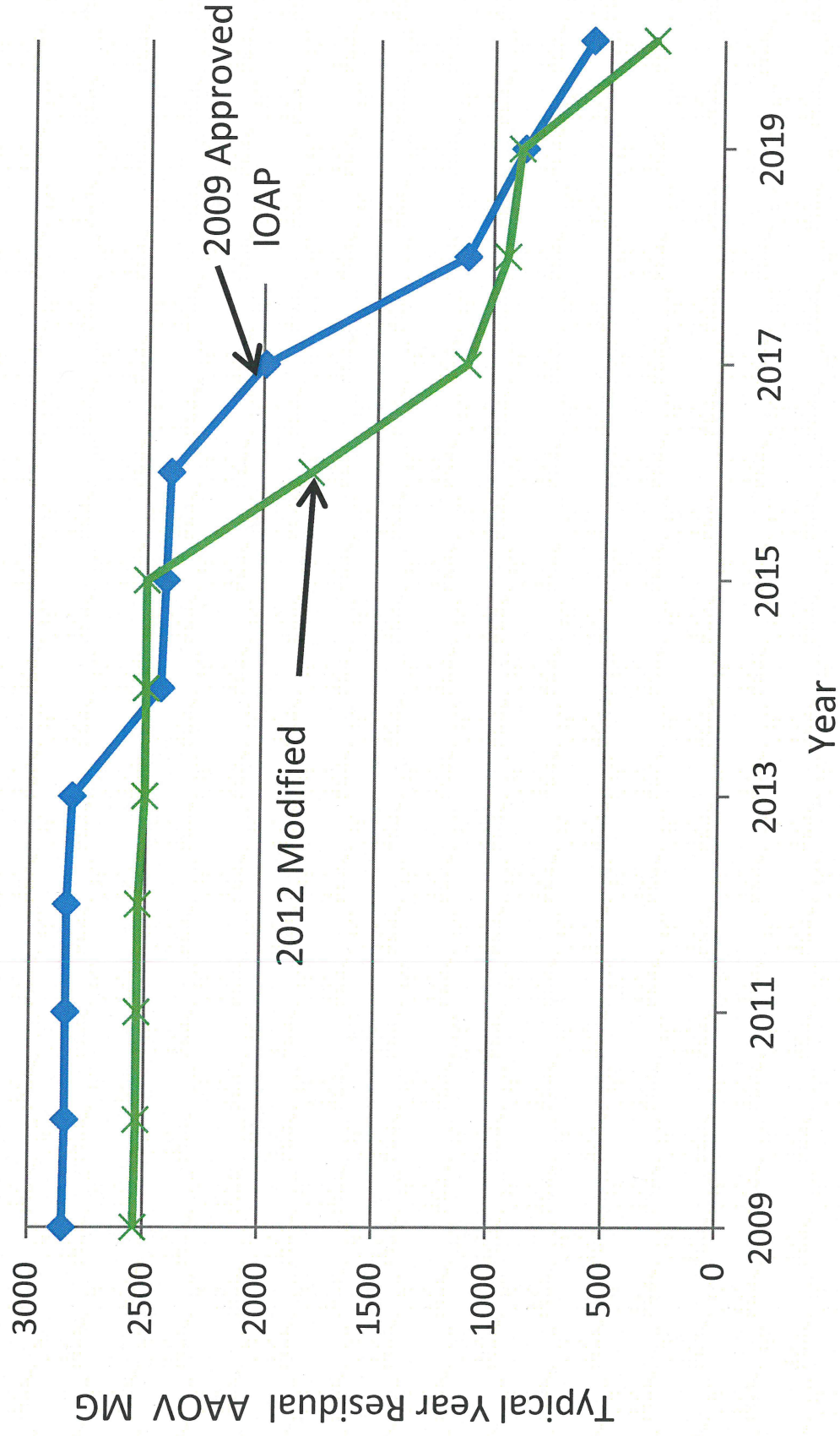
cc: G. Heitzman P. Purifoy

Attachments

CSO Annual Average Overflow Volume (AAOV) Reduction NG@2015



CSO Annual Average Overflow Volume (AAOV) Reduction NG @ 2016



Angela Akridge

From: Angela Akridge
Sent: Friday, December 20, 2013 10:30 AM
To: Sayre, Dennis; Seitz, Courtney (EEC)
Cc: Brian Bingham; Justin Gray; Steve Emly; Gary Swanson; Greg Powell; John Loechle
Subject: Nightingale Project Schedule modification
Attachments: Nightingale project mod revision 12_20_13.pdf

Dennis and Courtney,

This email is a followup to our conference call on Wed Dec 18, 2013. At the meeting MSD was given direction to do the following in regards to making the noted schedule change from 2015 completion to 2016 completion:

1. Make the update to the project description on table 4.2.7 and in Vol 2, Chapt 4, pg 18
2. Not send a formal modification letter but rather make the change in the IOAP resubmittal on Jan 17, 2014

MSD will also insert the draft letter attached along with a copy of this email into our IOAP Modification Package where we have a letter describing the changes of each project that needed modification for documentation.

Merry Christmas and the Happiest of New Years!
Angela

Angela Akridge, PE
Project WIN Program Manager
angela.akridge@louisvillemsd.org

Visit the Project WIN website to learn about Louisville's sewer overflow situation, how MSD is addressing these overflows, and specifically how you can help! Do you "**know where it goes?**"
<http://msdprojectwin.org/>

From: Angela Akridge
Sent: Wednesday, December 18, 2013 9:26 AM
To: Sayre, Dennis; Seitz, Courtney (EEC)
Cc: Brian Bingham; Justin Gray; Steve Emly; Gary Swanson
Subject: RE: EPA/KDEP/Louisville Call - Wed Dec 18, 1pm

Dennis and Courtney - please see that attached letter. we're in design on the Nightengale PS project and have run into the need to make some design changes that have an affect on the schedule. As you will see in the letter, Nightengale was originally scheduled for completion in 2016, we proposed to move it to 2015 with the modification, but now with what we've identified its not feasible. We'd like to talk through the letter today on the call.

Justin - please set up a GOTO meeting.

Thanks.