



Via Email and US Mail

August 31, 2018

Ms. Geisa Thielen  
Wastewater Engineer- Water Quality Bureau /SE District  
Wisconsin Department of Natural Resources  
2300 N. Dr. Martin Luther King Jr Dr.  
Milwaukee, WI 53212

**Subject:** August 27-29, 2018 Combined Sewer Overflow Event Five-Day Notification Letter  
WPDES Permit No. WI-0036820-03-1

Dear Ms. Thielen:

The following information describes the combined sewer overflow and combined sewer wet weather flow treatment process that occurred August 27-29, 2018. This information complies with the terms and conditions listed in section 10.2.6 and 10.2.8 of MMSD's (District) WPDES permit.

#### **Reason for Overflow**

The combined sewer overflows occurred as a result of heavy rains that began on August 26<sup>th</sup>. By 11:50 PM, 3.48 inches of rain was recorded at District rain gauge WS1224 located at 6985 N. River Road in the Village of River Hills. Due to this precipitation, the decision was made to close the combined sewer gates at 12:27 AM on August 27<sup>th</sup>. The remaining capacity in the Inline Storage System (ISS) was reserved to prevent separate sewer overflows and basement backups because there was the potential for an additional 1.5 inches of rain between midnight and 4:00 AM. Total precipitation recorded at WS1224 for the duration of this event was 5.46 inches and significant precipitation was measured throughout the service area. Please see the attached precipitation map.

The Depth Duration Frequency Curves are attached and were generated for District rain gauge WS1224, using National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 8, Version 2. This reference shows that this rainfall event was representative of a 10-25 year storm. In addition, ground saturation was high. As of August 27<sup>th</sup>, NOAA measured precipitation 4.25 inches above average in the Milwaukee area.

#### **Estimated Duration of Combined Sewer Discharge**

The discharges began after the combined sewer gates began to close on August 27, 2018 at 12:27 AM. All discharges were concluded by 8:45 PM on August 29<sup>th</sup>, 2018 for a total duration of 68.25 hours. The CSO Monitoring Report which is a table of CSO discharge points, with estimated discharge times and estimated volumes, is attached.

**Estimated Volume of Discharge**

The current estimate of the overflow volume is 295.7 MG. This amount includes one combined sewer overflow not tributary to the Inline Storage System (ISS). The District will continue its analysis of the overflow volumes and will report any significant volume revisions in the District's quarterly submitted WDNR Wastewater Monitoring Short Report.

**Combined Sewer Wet Weather Flow Treatment Process**

To minimize the volume of combined sewer overflows the combined sewer wet weather flow treatment process was utilized during the time periods summarized in the table below.

START	STOP	VOLUME (MG)	DURATION (HOURS)
8/27/18 0:05	8/27/18 9:20	18.2	9.25
8/28/18 14:20	8/28/18 18:20	10.2	4.00
8/28/18 21:25	8/29/18 6:35	27.1	9.17
<b>Totals</b>		55.5	22.42

The use of the Combined Sewer Wet Weather Flow Treatment process complied with Section 2.2.3 of the District's WPDES permit.

**Steps Taken to Prevent another Discharge**

The District and Veolia Water Milwaukee will continue to operate the conveyance system, ISS, Northwest Side Relief Sewer (NWSRS), and the water reclamation facilities in a manner to prevent separate sewer overflows and to maximize the capture of combined sewer flow volumes. The District is also funding a 10 year, \$58 million-dollar Private Property Inflow and Infiltration Reduction Program throughout our service area to further reduce the risk of basement backups and separate sewer overflows.

The following supporting documents are attached:

- CSO Monitoring Report Summary
- Precipitation Map at District Rain Gauges for August 26-29, 2018
- Depth Duration Frequency Curve

If you have any questions concerning this report, please contact me at (414) 277-6384.

Sincerely,



Sharon K. Mertens  
Director, Water Quality Protection  
Milwaukee Metropolitan Sewerage District

- c: S. Anthony, MMSD  
T. Nowicki, MMSD  
S. Royer, Veolia Water Milwaukee



# Milwaukee Metropolitan Sewerage District

## CSO Monitoring Report Summary

Reporting Period Start Date: 8/27/18

Reporting Period End Date: 8/29/18

Collector System	Waterbody	Total Estimated Volume (MG)	Total Estimated Duration (Hours)
CT2 WPDES 113 North Hawley Road & West State Street	Menomonee	5.5	9
CT3/4 WPDES 114 North 44th Street & West Wells Street	Menomonee	61.4	19
CT5/6 WPDES 115 North 25th Street at the Menomonee River	Menomonee	9.9	1
CT7 WPDES 116 South 16th Street & West Canal Street	Menomonee	3.5	2
CT8 WPDES 117 South 3rd Street & West Seeboth Street	Menomonee	0.0	0
KK1 WPDES 118 South 6th Street & West Cleveland Avenue	Kinnickinnic	6.9	5
KK2 WPDES 119 South 1st Street & South Chase Avenue	Kinnickinnic	0.0	0
KK3 WPDES 120 South 4th Street & West Becher Street	Kinnickinnic	1.1	1
KK4 WPDES 121 South 1st Street & West Lincoln Avenue	Kinnickinnic	0.0	0
LMN WPDES 122 East Bay Street & East Ward Street	Lake Michigan	0.0	0
LMS WPDES 123 South Lincoln Memorial Drive & East Russell Avenue	Lake Michigan	0.0	0
NS4 WPDES 104 North Cambridge Avenue & East Providence Avenue	Milwaukee	5.7	10
NS5 WPDES 105 East Burleigh Street at the Milwaukee River	Milwaukee	1.5	3
NS6 WPDES 106 East Park Place at the Milwaukee River	Milwaukee	8.1	7
NS7 WPDES 107 North Commerce Street & North Booth Street	Milwaukee	154.6	52
NS8 WPDES 108 North Commerce Street & East Pleasant Street	Milwaukee	16.1	8
NS9 WPDES 109 North Old World 3rd Street & West McKinley Avenue	Milwaukee	6.2	3
NS10 WPDES 110 North Water Street & East St. Paul Avenue	Milwaukee	0.2	1
NS11 WPDES 111 North Humboldt Avenue & East Capitol Drive	Milwaukee	4.0	9
NS12 WPDES 112 North 31st Street & West Capitol Drive	Lincoln Creek	0.0	0

**Total Estimated CSO Discharge For Dropshaft Basins** **284.7**

**Combined Sewer Overflow Volumes from CSO Outfalls Not Tributary to the ISS Dropshafts**

CSO-262 North 59th Street & West Trenton Place	Menomonee	11.0	6
CT8A16 Water Street & National Avenue*		NA	NA

**Total Estimated Non-Tributary Discharge** **11.0**

**TOTAL ESTIMATED CSO DISCHARGE: 295.7 MG**  
*For 8/27/18 Through 8/29/18* **5 Minute Calculation**

\* A discharge from a manhole at this location was reported to MMSD on 8/27/18. We are investigating the cause, but we are not able to estimate volume at this time. We do not know duration, but we estimate it to be on order of minutes.

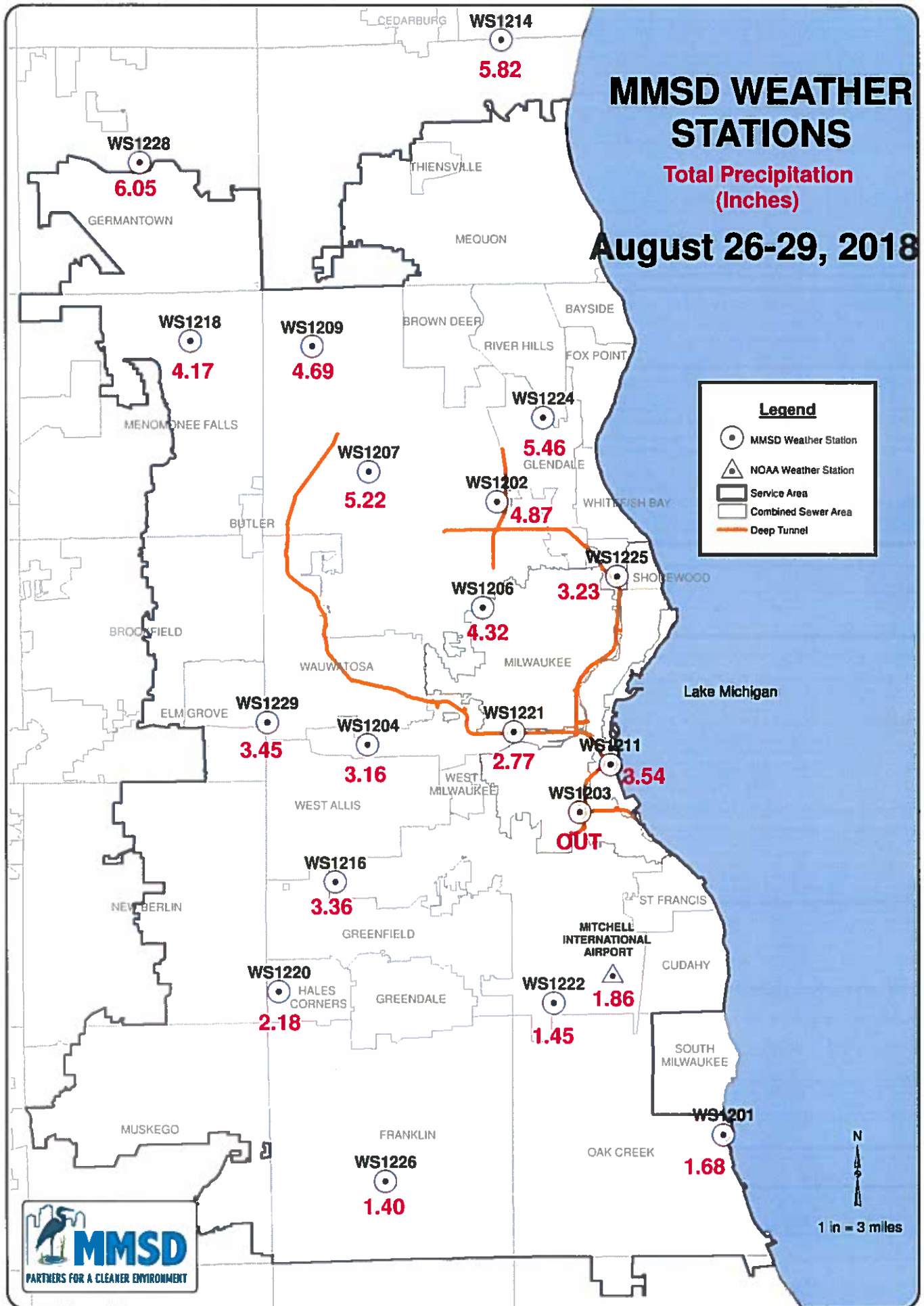
# MMSD WEATHER STATIONS

Total Precipitation  
(Inches)

August 26-29, 2018

**Legend**

- MMSD Weather Station
- △ NOAA Weather Station
- ▭ Service Area
- ▭ Combined Sewer Area
- Deep Tunnel



**Depth Duration Frequency Curve**  
**Based on NOAA Atlas 14, Vol. 8, Ver. 2**  
**With Rainfall Data from Gauge WS1224 Reported to MMSD**  
**August 26-29, 2018**

