

## City of Chattanooga Mayor Andy Berke

July 30, 2018

**VIA CERTIFIED MAIL** 

Ms. Sara Janovitz Environmental Engineer Clean Water Enforcement Branch US EPA-Region 4 61 Forsyth Street, SW Atlanta, GA 30303

### Re: United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245 Quarterly Report No. 20 – April 2018 to June 2018

Dear Ms. Janovitz:

On behalf of the City of Chattanooga, Tennessee ("City"), and in accordance with the consent decree entered by the United States District Court for the Eastern District of Tennessee (Southern Division), on April 24, 2013, in the case styled the United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245 ("Consent Decree"), we are submitting to both the Environmental Protection Agency ("EPA") and the Tennessee Department of Environment and Conservation ("TDEC") the twentieth quarterly report required pursuant to paragraph 38 of the Consent Decree. This report is also being submitted in accordance with the letter from Denise Diaz, dated September 16, 2013, establishing the dates for reporting under the Consent Decree.

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. Ms. Sara Janovitz July 30, 2018 Page Two

Please let me know if you have any questions regarding our submittal.

Sincerely,

Jeffrey A. Rose, P.E. Interim Director, Waste Resources Division

Enclosure

cc: Karl Fingerhood, Esq., US DOJ Chief, Environmental Enforcement Section, US DOJ Chief, Clean Water Enforcement Branch, US EPA Region 4 Bill Bush, Esq., US EPA Sohnia Hong, Office of the Attorney General Enforcement Coordinator, Water Pollution Control, TDEC Shelby Ward, TN Clean Water Network Adam Sowatzka, Esq., King & Spalding Mike Marino, P.E., Jacobs Engineering

# **Quarterly Report No. 20**



# April 1, 2018 – June 30, 2018

Prepared for

## United States Environmental Protection Agency and Tennessee Department of Environment and Conservation

City of Chattanooga Waste Resources Division Consent Decree Program Case No. 1:12-cv-00245

Prepared by

## **City of Chattanooga**

Waste Resources Division

Submitted by



Jacobs Engineering Group Inc. Consent Decree Program Manager

Chattanooga, Tennessee

July 30, 2018

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# **Acronyms and Abbreviations**

| Ave    | Avenue   |
|--------|--|
| CD     | Consent Decree                                       |
| CFR    | Code of Federal Regulations                          |
| CSO    | Combined Sewer Overflow                              |
| CSS    | Combined Sewer System                                |
| Dr     | Drive  |
| EPA    | Environmental Protection Agency                      |
| Gal    | Gallons  |
| Hrs    | Hours  |
| Hwy    | Highway  |
| Ln     | Lane   |
| MBWWTP | Moccasin Bend Waste Water Treatment Plant            |
| MG     | Million Gallons                                      |
| MH     | Manhole  |
| N/A    | Not Applicable                                       |
| No.    | Number   |
| NPDES  | National Pollutant Discharge Elimination System      |
| PS     | Pump Station   |
| Rd     | Road   |
| SSO    | Sanitary Sewer Overflow                              |
| St     | Street   |
| TDEC   | Tennessee Department of Environment and Conservation |
| Trl    | Trail  |
| UNK    | Unknown  |
| WCTS   | Wastewater Collection and Transmission System        |
| WWTP   | Wastewater Treatment Plant                           |
|        |  |

## **1.0 Introduction**

### 1.1 Purpose

The City of Chattanooga entered into a consent decree with the United States and the State of Tennessee in the case styled *United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245* ("CD"), which became effective on April 24, 2013. Pursuant to Section IX, paragraph 38 of the CD, Chattanooga is required to submit reports on a quarterly basis to the Environmental Protection Agency ("EPA") and Tennessee Department of Environment and Conservation ("TDEC"). Chattanooga has prepared Quarterly Report No.20 to satisfy the reporting requirements of the CD. This report is also being submitted in accordance with the letter from Denise Diaz, dated September 16, 2013, establishing the dates for reporting under the CD.

### 1.2 Requirements

As detailed in Section IX, paragraph 38 of the CD, Chattanooga is required to report the date, time, location, source, estimated duration and volume, and receiving water of the following events:

- 1. Sanitary sewer overflow ("SSO") events occurring during the reporting period;
- 2. Combined sewer overflow ("CSO") outfall discharges occurring during the reporting period; and
- 3. Bypasses at the Moccasin Bend Wastewater Treatment Plant ("MBWWTP") occurring during the reporting period.

This information is provided in tabular form in Sections 2.0 - 4.0 of this report.

## 2.0 SSO Events

For the reporting period of April 1, 2018 through June 30, 2018, Chattanooga experienced the SSOs listed in Table 2-1. An SSO event is defined in paragraph 8.(nn) of the CD as "any discharge of wastewater to waters of the United States or State from Chattanooga's Sewer System through a point source not permitted in any National Pollutant Discharge Elimination System ("NPDES") permit, as well as any overflow, spill, or release of wastewater to public or private property from the Sewer System that may not have reached waters of the United States or the State, including all building backups."

#### Table 2-1 Quarterly SSO Report

| SSO<br>ID       | Start Date | Start<br>Time | Location                          | Source          | MH ID#   | Estimated<br>Duration (hrs) | Estimated<br>Volume (gal) | SSO Destination            | Cause                                   |
|-----------------|------------|---------------|-----------------------------------|-----------------|----------|-----------------------------|---------------------------|----------------------------|---|
| 1               | 04-Apr-18  | 2:00 PM       | 1108 Hendricks St                 | Main Line       | N/A      | UNK <sup>2</sup>            | 62,000                    | Citico Creek               | Wet Weather                             |
| 2               | 11-Apr-18  | 1:30 PM       | 601 Fisher Ave                    | Service<br>Line | N/A      | 2.83                        | 84                        | Land*                      | Blockage -<br>Roots                     |
| 3               | 15-Apr-18  | 10:45 AM      | 122 Rowland Gap Rd<br>(West Bank) | Main Line       | S135O217 | 20.25                       | 6,381,000                 | Tennessee River            | Wet Weather                             |
| 4               | 15-Apr-18  | 11:44 AM      | 914 Sterling Ave                  | Manhole         | S136H107 | 20.83                       | 187,500                   | Tennessee River            | Wet Weather                             |
| 5               | 15-Apr-18  | 11:59 AM      | 1033 Lupton Dr                    | Manhole         | S118K006 | 28.85                       | 389,475                   | Tennessee River            | Wet Weather                             |
| 6 <sup>1</sup>  | 15-Apr-18  | 12:00 PM      | E 23rd St & S<br>Hawthorne St     | Manhole         | S156G052 | 17.00                       | 40,200                    | Dobbs Branch               | Wet Weather                             |
| 7               | 15-Apr-18  | 12:15 PM      | 1900 E 25th St Place              | Manhole         | S156J051 | 16.75                       | 5,025                     | Storm Drain                | Wet Weather                             |
| 8               | 15-Apr-18  | 12:18 PM      | 1100 Lupton Dr                    | Manhole         | S118L002 | 20.70                       | 124,200                   | Land*                      | Wet Weather                             |
| 91              | 15-Apr-18  | 12:30 PM      | 2001 S Kelly St                   | Manhole         | S156G030 | 16.50                       | 74,250                    | Dobbs Branch               | Wet Weather                             |
| 10              | 15-Apr-18  | 5:45 PM       | 929 Riverside Dr<br>(Citico PS)   | Manhole         | S136P605 | 2.75                        | 4,125                     | Tennessee River            | Wet Weather                             |
| 11              | 16-Apr-18  | 2:45 PM       | 1001 Airport Rd                   | Manhole         | S157E016 | UNK <sup>2</sup>            | 8,500                     | South Chickamauga<br>Creek | Wet Weather                             |
| 12              | 22-Apr-18  | 5:40 PM       | 122 Rowland Gap Rd<br>(West Bank) | Main Line       | S135O217 | 75.25                       | 61,261,000                | Tennessee River            | Wet Weather                             |
| 13              | 23-Apr-18  | 1:00 AM       | End of MLK BLVD<br>(East Bank)    | Manhole         | S135O547 | 33.25                       | 2,778,000                 | Tennessee River            | Wet Weather                             |
| 14 <sup>1</sup> | 23-Apr-18  | 2:32 AM       | 1610 Elm St (DuPont<br>PS)        | Pump<br>Station | S118E057 | 12.55                       | 26,290                    | Tennessee River            | Pump Station<br>- Mechanical<br>Failure |
| 15 <sup>1</sup> | 23-Apr-18  | 6:30 AM       | 601 Lupton Dr                     | Manhole         | S118G055 | 28.28                       | 396,810                   | Storm Drain                | Wet Weather                             |

| SSO<br>ID       | Start Date | Start<br>Time | Location  | Source          | MH ID#   | Estimated<br>Duration (hrs) | Estimated<br>Volume (gal) | SSO Destination            | Cause       |
|-----------------|------------|---------------|---|-----------------|----------|-----------------------------|---------------------------|----------------------------|-------------|
| 16              | 23-Apr-18  | 6:35 AM       | 929 Riverside Dr<br>(Citico PS)                             | Pump<br>Station | S136P605 | 8.98                        | 134,750                   | Tennessee River            | Wet Weather |
| 17              | 23-Apr-18  | 7:00 AM       | 1033 Lupton Dr  | Manhole         | S118K036 | 74.08                       | 1,111,250                 | Tennessee River            | Wet Weather |
| 18 <sup>1</sup> | 23-Apr-18  | 7:15 AM       | Terrace Ave & Young<br>Ave                                  | Manhole         | S136A130 | 78.55                       | 898,350                   | Storm Drain                | Wet Weather |
| 19 <sup>1</sup> | 23-Apr-18  | 9:00 AM       | 1820 E 23rd St  | Manhole         | S156G049 | 29.00                       | 93,900                    | Dobbs Branch               | Wet Weather |
| 20              | 23-Apr-18  | 9:00 AM       | 1511 Riverview Rd<br>(Chattanooga Golf and<br>Country Club) | Manhole         | S136B014 | 48.50                       | 116,400                   | Tennessee River            | Wet Weather |
| 21 <sup>1</sup> | 23-Apr-18  | 9:00 AM       | 3910 Juandale Trl   | Manhole         | S137N040 | 74.33                       | 783,000                   | South Chickamauga<br>Creek | Wet Weather |
| 22 <sup>1</sup> | 23-Apr-18  | 9:05 AM       | 2914 Hamill Rd  | Manhole         | S110F014 | 53.42                       | 182,095                   | North Chickamauga<br>Creek | Wet Weather |
| 23              | 23-Apr-18  | 9:22 AM       | 1022 Shallowford Rd   | Manhole         | S147G104 | 28.63                       | 42,950                    | South Chickamauga<br>Creek | Wet Weather |
| 24              | 23-Apr-18  | 9:30 AM       | 1096 Lupton Dr<br>(Rivermont Park)                          | Manhole         | S118N009 | 47.00                       | 28,200                    | Tennessee River            | Wet Weather |
| 25              | 23-Apr-18  | 10:00 AM      | 1900 E 25th St Place  | Manhole         | S156J051 | 28.00                       | 8,400                     | Storm Drain                | Wet Weather |
| 26¹             | 23-Apr-18  | 10:00 AM      | 2001 S Kelley St  | Manhole         | S156G030 | 28.00                       | 29,700                    | Dobbs Branch               | Wet Weather |
| 27 <sup>1</sup> | 23-Apr-18  | 10:04 AM      | 3857 Birmingham Dr  | Manhole         | S118D128 | 46.43                       | 143,650                   | Tennessee River            | Wet Weather |
| 28              | 23-Apr-18  | 10:30 AM      | 0 Aim Way   | Manhole         | S157H046 | 28.00                       | 84,000                    | Storm Drain                | Wet Weather |
| 29 <sup>1</sup> | 23-Apr-18  | 11:00 AM      | 406 Brown Rd  | Manhole         | S158I059 | 71.00                       | 319,500                   | South Chickamauga<br>Creek | Wet Weather |
| 30              | 23-Apr-18  | 7:20 PM       | 1610 Elm St (DuPont<br>PS)                                  | Manhole         | S118E055 | 20.33                       | 6,100                     | Tennessee River            | Wet Weather |

### Table 2-1

Quarterly SSO Report

| SSO<br>ID       | Start Date | Start<br>Time | Location                             | Source          | MH ID#   | Estimated<br>Duration (hrs) | Estimated<br>Volume (gal) | SSO Destination            | Cause                                   |
|-----------------|------------|---------------|--------------------------------------|-----------------|----------|-----------------------------|---------------------------|----------------------------|---|
| 31              | 23-Apr-18  | 8:40 PM       | 929 Riverside Dr<br>(Citico PS)      | Manhole         | S136P605 | 14.67                       | 88,000                    | Tennessee River            | Wet Weather                             |
| 32              | 23-Apr-18  | 11:57 PM      | 4500 Gann Store Rd<br>(Big Ridge #2) | Manhole         | S111P016 | 0.35                        | 1,050                     | Tennessee River            | Wet Weather                             |
| 33              | 24-Apr-18  | 8:30 AM       | 3816 Fagan St (Pump<br>Station)      | Manhole         | S167D046 | 21.75                       | 19,575                    | Chattanooga Creek          | Wet Weather                             |
| 34 <sup>1</sup> | 24-Apr-18  | 9:30 AM       | 6695 Hickory Brook Dr                | Manhole         | S138M082 | 4.17                        | 8,450                     | Storm Drain                | Wet Weather                             |
| 35              | 24-Apr-18  | 9:36 AM       | 5466 Longview Dr                     | Manhole         | S100K027 | 29.10                       | 61,110                    | North Chickamauga<br>Creek | Wet Weather                             |
| 36              | 24-Apr-18  | 10:00 AM      | Wilcox Blvd &<br>Shallowford Rd      | Manhole         | S147F015 | 3.83                        | 8,050                     | South Chickamauga<br>Creek | Wet Weather                             |
| 37              | 24-Apr-18  | 10:24 AM      | 5300 Old Mission Rd                  | Manhole         | S157K056 | 50.10                       | 148,500                   | South Chickamauga<br>Creek | Wet Weather                             |
| 38              | 24-Apr-18  | 10:45 AM      | 4610 Kemp Dr                         | Manhole         | S157C065 | 23.25                       | 48,825                    | Storm Drain                | Wet Weather                             |
| 39              | 27-Apr-18  | 4:28 PM       | 122 Rowland Gap Rd<br>(West Bank)    | West<br>Bank    | S135O217 | 0.13                        | 18,500                    | Tennessee River            | Power Failure<br>from Power<br>Source   |
| 40              | 22-May-18  | 9:30 PM       | 430 E 2nd St                         | Manhole         | S135M243 | 1.00                        | 63                        | Storm Drain                | Blockage -<br>Gravel                    |
| 41              | 30-May-18  | 12:50 AM      | 122 Rowland Gap Rd<br>(West Bank)    | Main Line       | S135O217 | 4.58                        | 1,054,000                 | Tennessee River            | Wet Weather                             |
| 42              | 14-Jun-18  | 2:25 PM       | 3837 Mark Twain Cr                   | Manhole         | S137N052 | 2.08                        | 1,500                     | Land*                      | Blockage -<br>Trash/Debris              |
| 43              | 18-Jun-18  | 10:50 AM      | 1321 Highcrest Dr                    | Service<br>Line | N/A      | 0.00                        | 3                         | Structure*                 | Construction/<br>Maintenance<br>Related |
| 44              | 22-Jun-18  | 9:05 AM       | 1506 Workman Rd                      | Main Line       | N/A      | 2.08                        | 250                       | Storm Drain                | Break                                   |

| Quart           | erly SSO Rep |               |                                   |         | T        | Γ                           | Г                         |                 | ſ           |
|-----------------|--------------|---------------|-----------------------------------|---------|----------|-----------------------------|---------------------------|-----------------|-------------|
| SSO<br>ID       | Start Date   | Start<br>Time | Location                          | Source  | MH ID#   | Estimated<br>Duration (hrs) | Estimated<br>Volume (gal) | SSO Destination | Cause       |
| 45 <sup>1</sup> | 28-Jun-18    | 1:21 PM       | 1820 E 23rd St                    | Manhole | S156G049 | 15.65                       | 1,450                     | Dobbs Branch    | Wet Weather |
| 46 <sup>1</sup> | 28-Jun-18    | 1:40 PM       | 2001 S Kelley St                  | Manhole | S156G030 | 15.33                       | 1,350                     | Dobbs Branch    | Wet Weather |
| 47              | 28-Jun-18    | 1:43 PM       | 122 Rowland Gap Rd<br>(West Bank) | Manhole | S135O217 | 9.95                        | 2,900,000                 | Tennessee River | Wet Weather |
| 48              | 28-Jun-18    | 2:24 PM       | 1033 Lupton Dr                    | Manhole | S118K006 | 18.37                       | 2,500                     | Tennessee River | Wet Weather |
| 49              | 28-Jun-18    | 2:42 PM       | 914 Sterling Ave                  | Manhole | S136H107 | 17.93                       | 1,000                     | Tennessee River | Wet Weather |
| 50 <sup>1</sup> | 28-Jun-18    | 2:50 PM       | 1900 E 25th Street<br>Place       | Manhole | S156J057 | 14.17                       | 225                       | Storm Drain     | Wet Weather |

Table 2-1 ---

<sup>1</sup>Common Cause, within 500 yards of separate event <sup>2</sup>This information was not available at time of reporting. \* Did not reach waters of the United States.

The CD sets forth the same definition for bypass as the EPA's regulations at 40 C.F.R. § 122.41(m), which defines a bypass as the intentional diversion of waste streams from any portion of a treatment facility. The City's current NPDES permit defines a bypass as the intentional diversion of wastewater away from any portion of a treatment facility other than through peak excess flow treatment facilities or permitted outfalls in accordance with both the long-term control plan and the nine minimum technology-based effluent controls for combined sewer systems. The City reports bypasses and wet weather discharges separately on the monthly Discharge Monitoring Reports, as a discharge from the City's permitted wet weather discharge is not a bypass under the City's current NPDES permit. Based on the foregoing, the WWTP experienced no bypasses during the reporting period of April 1, 2018 through June 30, 2018.

For the reporting period of April 1, 2018 through June 30, 2018 Chattanooga experienced CSO discharges from CSO outfall treatment facilities as listed in Table 4-1. Paragraph 8.(h) of the CD defines a CSO as "any discharge from the CSS from any outfall currently identified, or identified in the future, as a permitted combined sewer overflow outfall in any Chattanooga NPDES permit from which CSOs are discharged to waters of the United States or the State." The CSS is defined as the portion of Chattanooga's wastewater collection and transmission system ("WCTS") designed to convey municipal sewage (domestic, commercial and industrial wastewaters) and storm water runoff through a single-pipe system to Chattanooga's WWTP or CSO outfalls. Chattanooga operates eight (8) permitted CSO outfall treatment facilities, eight (8) of which discharged during the reporting period.

### Table 4-1 Quarterly CSO Outfall Discharge Report

|                    | April 1, 2018 – June 30, 2018 |                          |                |             |                 |            |  |  |  |  |
|--------------------|-------------------------------|--------------------------|----------------|-------------|-----------------|------------|--|--|--|--|
| Start Date         | Start Time                    | Location/Nearest Stream  | Duration (hrs) | Volume (MG) | Receiving Water | Cause      |  |  |  |  |
| 7-Apr-18           | 3:51 AM                       | ML King CSO (007)        | 0.15           | 0.000589    | Tennessee River | Rain Event |  |  |  |  |
| 7-Apr-18           | 12:54 AM                      | Carter St. CSO (009)     | 0.25           | 0.000721    | Tennessee River | Rain Event |  |  |  |  |
| 14-Apr thru 15-Apr | 8:08 PM                       | ML King CSO (007)        | 17.10          | 1.760575    | Tennessee River | Rain Event |  |  |  |  |
| 14-Apr thru 15-Apr | 8:12 PM                       | Carter St. CSO (009)     | 12.80          | 3.948347    | Tennessee River | Rain Event |  |  |  |  |
| 15-Apr thru 17-Apr | 12:07 AM                      | Central Ave. CSO (002)   | 56.40          | 11.788266   | Tennessee River | Rain Event |  |  |  |  |
| 15-Apr-18          | 10:37 AM                      | Citico CSO (004)         | 12.00          | 1.874132    | Tennessee River | Rain Event |  |  |  |  |
| 22-Apr thru 23-Apr | 4:05 PM                       | Central Ave. CSO (002)   | 17.10          | 20.470052   | Tennessee River | Rain Event |  |  |  |  |
| 22-Apr thru 25-Apr | 11:37 PM                      | Citico CSO (004)         | 52.26          | 21.139367   | Tennessee River | Rain Event |  |  |  |  |
| 22-Apr thru 25-Apr | 2:51 PM                       | ML King CSO (007)        | 43.28          | 6.447705    | Tennessee River | Rain Event |  |  |  |  |
| 22-Apr thru 25-Apr | 2:58 PM                       | Carter St. CSO (009)     | 65.52          | 27.196822   | Tennessee River | Rain Event |  |  |  |  |
| 23-Apr thru 25-Apr | 1:57 AM                       | William's St. CSO (003)  | 69.07          | 74.779599   | Tennessee River | Rain Event |  |  |  |  |
| 23-Apr thru 24-Apr | 12:37 AM                      | Tremont CSO (005)        | 24.35          | 4.678161    | Tennessee River | Rain Event |  |  |  |  |
| 23-Apr-18          | 12:16 AM                      | Ross's Landing CSO (006) | 23.73          | 13.192141   | Tennessee River | Rain Event |  |  |  |  |
| 26-Apr thru 28-Apr | 3:15 AM                       | Central Ave. CSO (002)   | 65.70          | 5.070338    | Tennessee River | Rain Event |  |  |  |  |
| 30-Apr-18          | 9:12 AM                       | Central Ave. CSO (002)   | 3.90           | 0.026226    | Tennessee River | Rain Event |  |  |  |  |
| 10-May thru 11-May | 6:22 PM                       | Central Ave. CSO (002)   | 21.96          | 1.190928    | Tennessee River | Rain Event |  |  |  |  |
| 10-May-18          | 4:38 PM                       | ML King CSO (007)        | 1.30           | 0.407553    | Tennessee River | Rain Event |  |  |  |  |
| 10-May-18          | 4:44 PM                       | Carter St. CSO (009)     | 2.05           | 1.484623    | Tennessee River | Rain Event |  |  |  |  |
| 16-May-18          | 5:11 PM                       | ML King CSO (007)        | 2.33           | 0.067303    | Tennessee River | Rain Event |  |  |  |  |
| 28-May thru 30-May | 3:09 PM                       | Central Ave. CSO (002)   | 49.08          | 11.669304   | Tennessee River | Rain Event |  |  |  |  |

### Table 4-1 Quarterly CSO Outfall Discharge Report

| April 1, 2018 – June 30, 2018 |            |                          |                |             |                 |            |  |  |
|-------------------------------|------------|--------------------------|----------------|-------------|-----------------|------------|--|--|
| Start Date                    | Start Time | Location/Nearest Stream  | Duration (hrs) | Volume (MG) | Receiving Water | Cause      |  |  |
| 28-May thru 29-May            | 1:10 PM    | ML King CSO (007)        | 10.78          | 1.211933    | Tennessee River | Rain Event |  |  |
| 28-May-18                     | 2:27 PM    | Carter St. CSO (009)     | 2.65           | 1.647304    | Tennessee River | Rain Event |  |  |
| 29-May thru 30-May            | 8:39 PM    | William's St. CSO (003)  | 23.28          | 1.090000    | Tennessee River | Rain Event |  |  |
| 29-May-18                     | 9:06 PM    | Tremont CSO (005)        | 0.68           | 0.346723    | Tennessee River | Rain Event |  |  |
| 29-May-18                     | 11:05 PM   | Ross's Landing CSO (006) | 0.88           | 2.073311    | Tennessee River | Rain Event |  |  |
| 29-May thru 31-May            | 10:55 PM   | ML King CSO (007)        | 14.40          | 1.194822    | Tennessee River | Rain Event |  |  |
| 29-May thru 30-May            | 11:23 PM   | 19th St. CSO (008)       | 1.62           | 1.123442    | Tennessee River | Rain Event |  |  |
| 29-May thru 30-May            | 9:05 PM    | Carter St. CSO (009)     | 6.17           | 6.532135    | Tennessee River | Rain Event |  |  |
| 1-June thru 4-June            | 1:36 AM    | Central Ave. CSO (002)   | 22.83          | 0.018019    | Tennessee River | Rain Event |  |  |
| 11-Jun-18                     | 3:00 PM    | Carter St. CSO (009)     | 1.70           | 1.312210    | Tennessee River | Rain Event |  |  |
| 13-June thru 15-June          | 1:44 AM    | Central Ave. CSO (002)   | 37.83          | 1.438313    | Tennessee River | Rain Event |  |  |
| 13-June thru 14-June          | 1:30 AM    | ML King CSO (007)        | 6.52           | 0.215912    | Tennessee River | Rain Event |  |  |
| 16-Jun-18                     | 8:59 AM    | Central Ave. CSO (002)   | 2.17           | 0.000698    | Tennessee River | Rain Event |  |  |
| 17-June thru 18-June          | 9:28 AM    | Central Ave. CSO (002)   | 15.33          | 0.754592    | Tennessee River | Rain Event |  |  |
| 17-Jun-18                     | 4:14 PM    | 19th St. CSO (008)       | 0.67           | 0.059649    | Tennessee River | Rain Event |  |  |
| 18-Jun-18                     | 10:13 AM   | ML King CSO (007)        | 0.17           | 0.000368    | Tennessee River | Rain Event |  |  |
| 19-Jun-18                     | 9:25 AM    | Central Ave. CSO (002)   | 0.08           | 0.000183    | Tennessee River | Rain Event |  |  |
| 23-Jun-18                     | 2:19 PM    | 19th St. CSO (008)       | 0.12           | 0.012313    | Tennessee River | Rain Event |  |  |
| 24-Jun-18                     | 1:58 AM    | ML King CSO (007)        | 1.50           | 0.001676    | Tennessee River | Rain Event |  |  |
| 25-June thru 30-June          | 4:40 PM    | Central Ave. CSO (002)   | 118.72         | 27.887981   | Tennessee River | Rain Event |  |  |

### Table 4-1 Quarterly CSO Outfall Discharge Report

| April 1, 2018 – June 30, 2018 |            |                          |                |             |                 |            |  |  |  |
|-------------------------------|------------|--------------------------|----------------|-------------|-----------------|------------|--|--|--|
| Start Date                    | Start Time | Location/Nearest Stream  | Duration (hrs) | Volume (MG) | Receiving Water | Cause      |  |  |  |
| 25-Jun-18                     | 3:45 PM    | 19th St. CSO (008)       | 0.12           | 0.125470    | Tennessee River | Rain Event |  |  |  |
| 26-June thru 30-June          | 4:34 AM    | ML King CSO (007)        | 25.15          | 2.668414    | Tennessee River | Rain Event |  |  |  |
| 27-Jun-18                     | 10:02 PM   | Citico CSO (004)         | 0.35           | 0.005274    | Tennessee River | Rain Event |  |  |  |
| 27-Jun-18                     | 8:25 PM    | 19th St. CSO (008)       | 1.57           | 0.414144    | Tennessee River | Rain Event |  |  |  |
| 27-Jun-18                     | 9:43 PM    | Carter St. CSO (009)     | 1.77           | 1.078167    | Tennessee River | Rain Event |  |  |  |
| 28-Jun-18                     | 1:43 PM    | Citico CSO (004)         | 3.65           | 1.292630    | Tennessee River | Rain Event |  |  |  |
| 28-Jun-18                     | 11:46 AM   | Tremont CSO (005)        | 0.80           | 1.016346    | Tennessee River | Rain Event |  |  |  |
| 28-Jun-18                     | 12:11 PM   | Ross's Landing CSO (006) | 1.17           | 2.673294    | Tennessee River | Rain Event |  |  |  |
| 28-Jun-18                     | 11:58 AM   | 19th St. CSO (008)       | 1.72           | 0.752910    | Tennessee River | Rain Event |  |  |  |