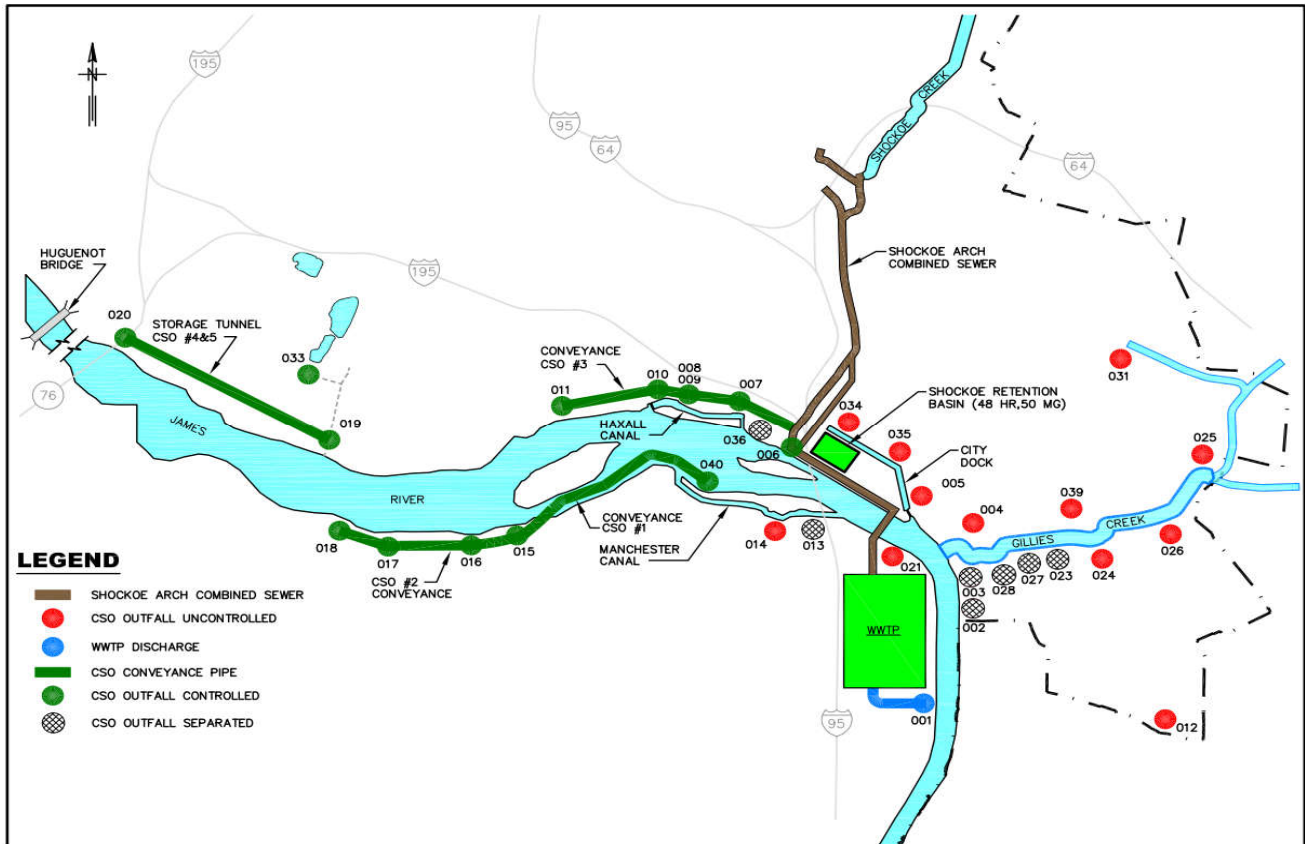


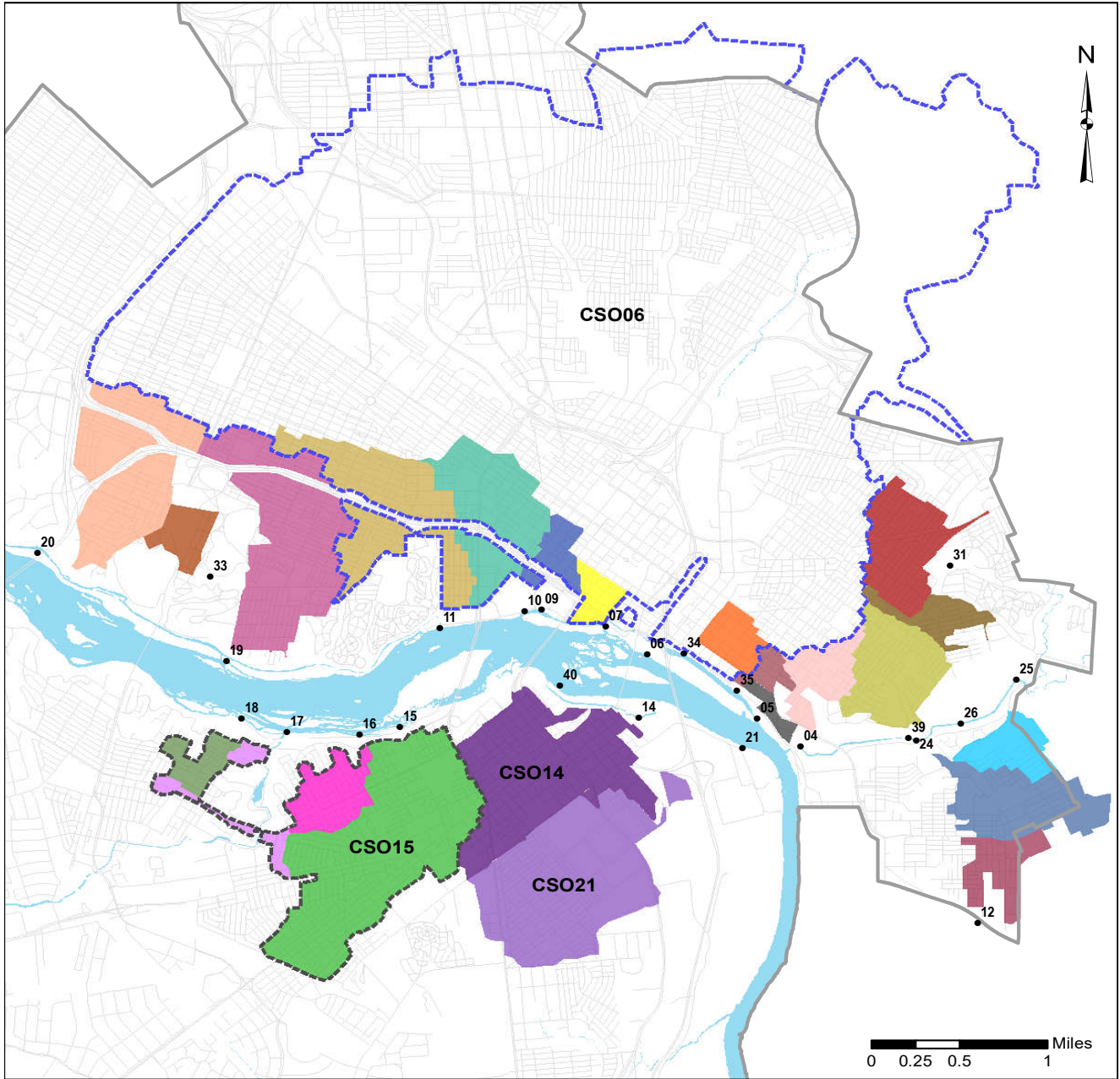
CITY OF RICHMOND, VIRGINIA  
DEPARTMENT OF PUBLIC UTILITIES

Combined Sewer Overflow Monthly Report

July, 2020



# Combined Sewer System Drainage Area Map



## Legend

|  |            |  |       |  |       |  |       |  |       |  |       |  |       |  |       |
|--|------------|--|-------|--|-------|--|-------|--|-------|--|-------|--|-------|--|-------|
|  | City Limit |  | CSO04 |  | CSO09 |  | CSO14 |  | CSO18 |  | CSO24 |  | CSO33 |  | CSO40 |
|  | CSO05      |  | CSO10 |  | CSO15 |  | CSO19 |  | CSO25 |  | CSO34 |  | CSO35 |  |       |
|  | CSO06      |  | CSO11 |  | CSO16 |  | CSO20 |  | CSO26 |  | CSO31 |  | CSO39 |  |       |
|  | CSO07      |  | CSO12 |  | CSO17 |  | CSO21 |  |       |  |       |  |       |  |       |

**CSO04 - Bloody Run  
Overflow Model Summary  
Current Month: July 2020**

| Date    | Num of Overflow  | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|------------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  | 1                | 1.02                                  | 1.50                                | 4.08  | 0.42                       | 3.17                         |
| 7/2/20  |                  |                                       |                                     |   |                            |                              |
| 7/3/20  |                  |                                       |                                     |   |                            |                              |
| 7/4/20  |                  |                                       |                                     |   |                            |                              |
| 7/5/20  |                  |                                       |                                     |   |                            |                              |
| 7/6/20  |                  |                                       |                                     |   |                            |                              |
| 7/7/20  |                  | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                  |                                       |                                     |   |                            |                              |
| 7/9/20  |                  | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                  |                                       |                                     |   |                            |                              |
| 7/11/20 |                  | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                  |                                       |                                     |   |                            |                              |
| 7/13/20 |                  | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                  |                                       |                                     |   |                            |                              |
| 7/15/20 |                  |                                       |                                     |   |                            |                              |
| 7/16/20 |                  |                                       |                                     |   |                            |                              |
| 7/17/20 |                  | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                  |                                       |                                     |   |                            |                              |
| 7/19/20 |                  |                                       |                                     |   |                            |                              |
| 7/20/20 |                  |                                       |                                     |   |                            |                              |
| 7/21/20 | 1 <sup>(3)</sup> | 0.30                                  | 0.58                                | 0.84  | 0.02                       | 0.25                         |
| 7/22/20 |                  | 0.24                                  | 1.33                                | 0.48  | 0.001                      | 0.08                         |
| 7/23/20 |                  |                                       |                                     |   |                            |                              |
| 7/24/20 | 1                | 0.18                                  | 0.50                                | 1.08  | 0.002                      | 0.17                         |
| 7/25/20 |                  |                                       |                                     |   |                            |                              |
| 7/26/20 |                  |                                       |                                     |   |                            |                              |
| 7/27/20 |                  |                                       |                                     |   |                            |                              |
| 7/28/20 |                  |                                       |                                     |   |                            |                              |
| 7/29/20 |                  |                                       |                                     |   |                            |                              |
| 7/30/20 |                  | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 | 1                | 0.91                                  | 1.42                                | 2.04  | 0.29                       | 16.92                        |

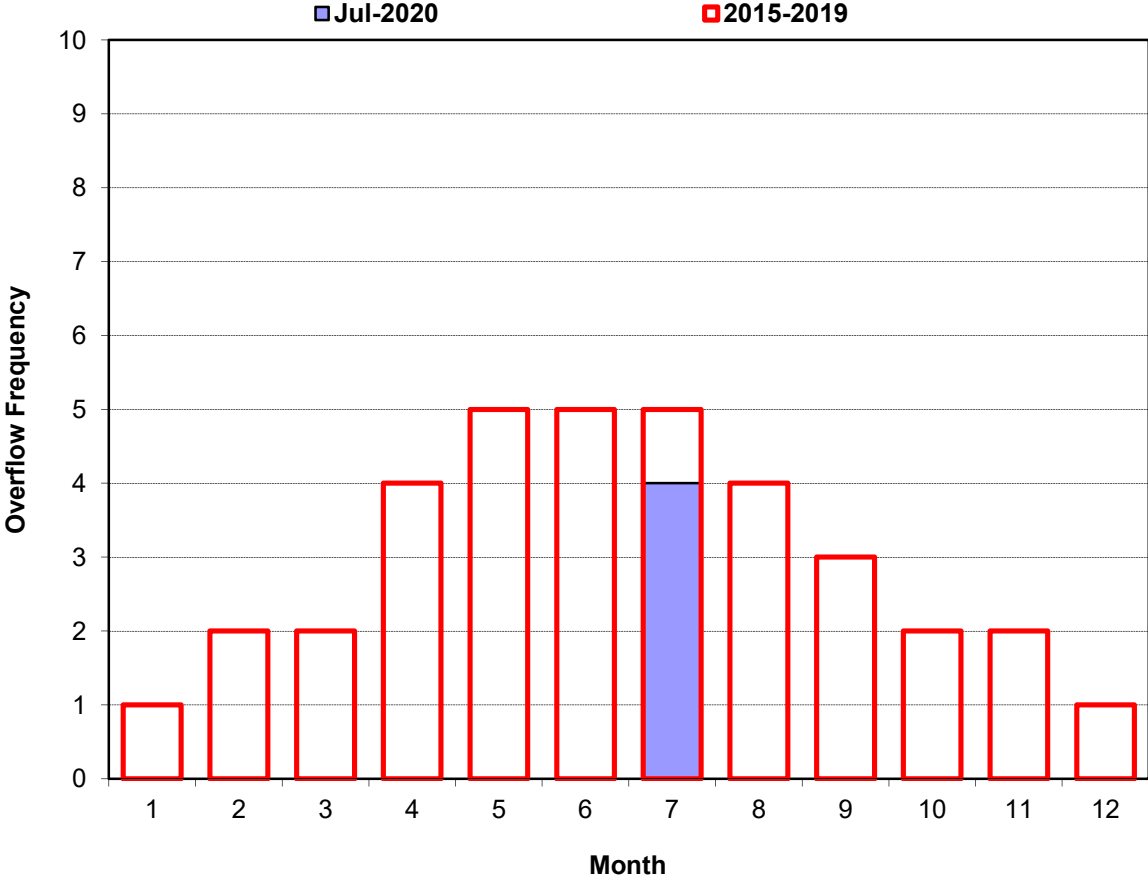
**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 4               | 2.80                                  | 6.17                                | 4.08  | 0.74                       | 20.58                         |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

<sup>(3)</sup> Overflow event continued on the following day.

### City of Richmond, Virginia Overflow Frequency by Month



**CSO05 - Peach Street  
Overflow Model Summary  
Current Month: July 2020**

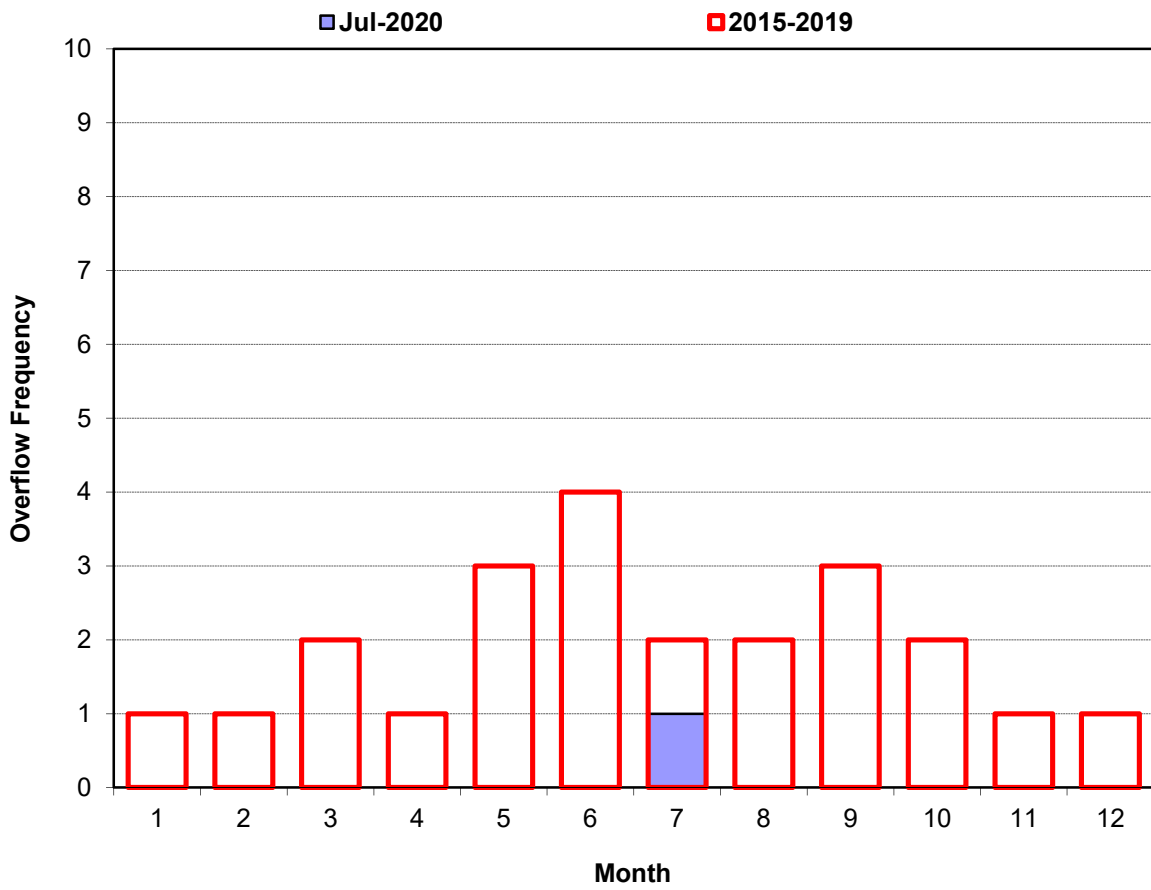
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 0.03                    | 1.17                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 |                 | 0.91                               | 1.42                             | 2.04   |                         |                           |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 1               | 2.80                               | 6.17                             | 4.08   | 0.03                    | 1.17                       |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



**CSO06 - Shockoe**  
**Overflow Model Summary<sup>†</sup>**  
**Current Month: July 2020**

| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 36.3                    | 6.75                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 | 1               | 0.91                               | 1.42                             | 2.04   | 13.4                    | 4.42                      |

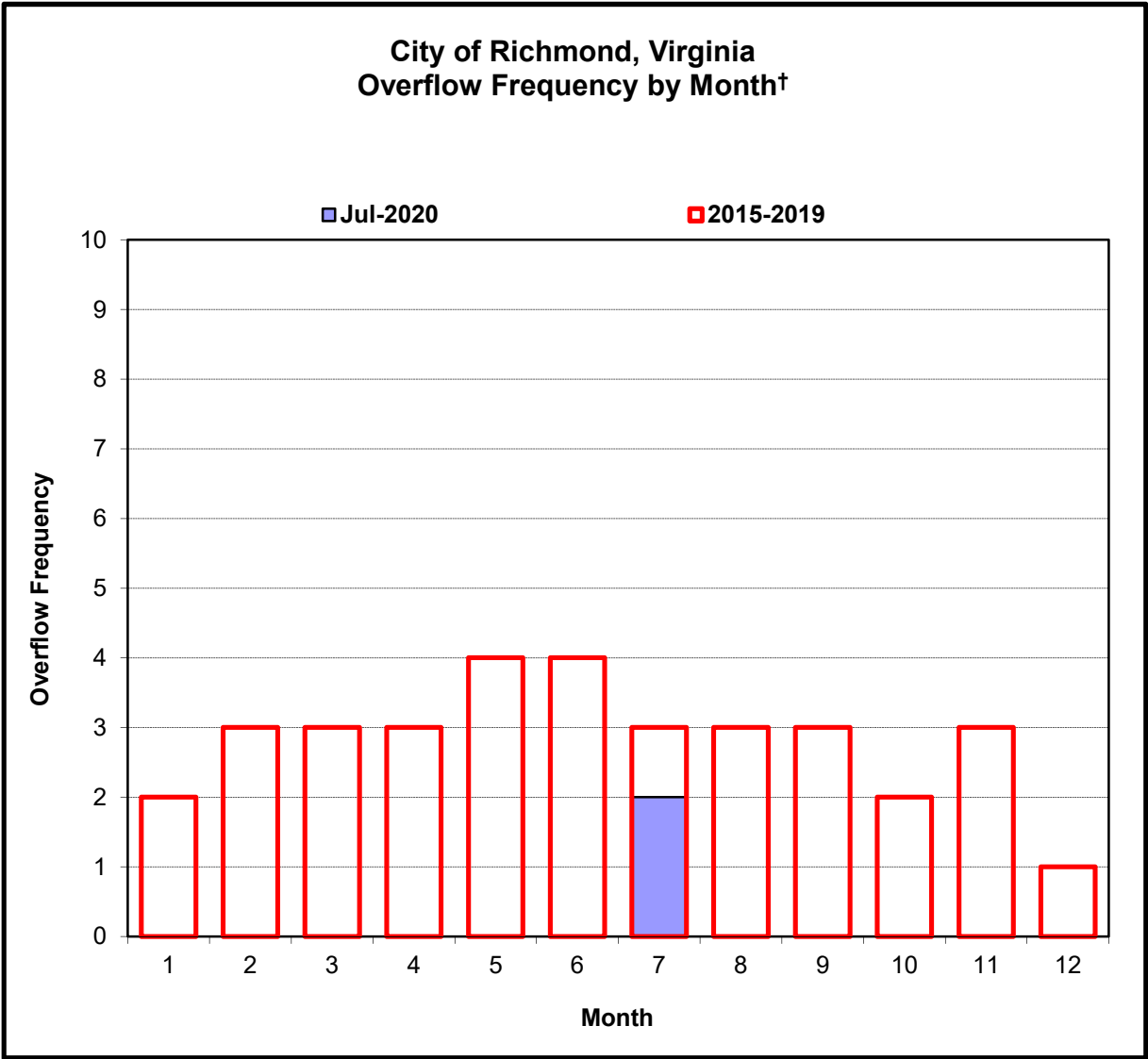
**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 2               | 2.80                               | 6.17                             | 4.08   | 49.70                   | 11.17                      |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

<sup>†</sup> Overflow occurred after the Shockoe Retention Basin was full.

### City of Richmond, Virginia Overflow Frequency by Month†



† Overflow occurred after the Shockoe Retention Basin was full.



**CSO07 - Byrd  
 Overflow Model Summary  
 Current Month: July 2020**

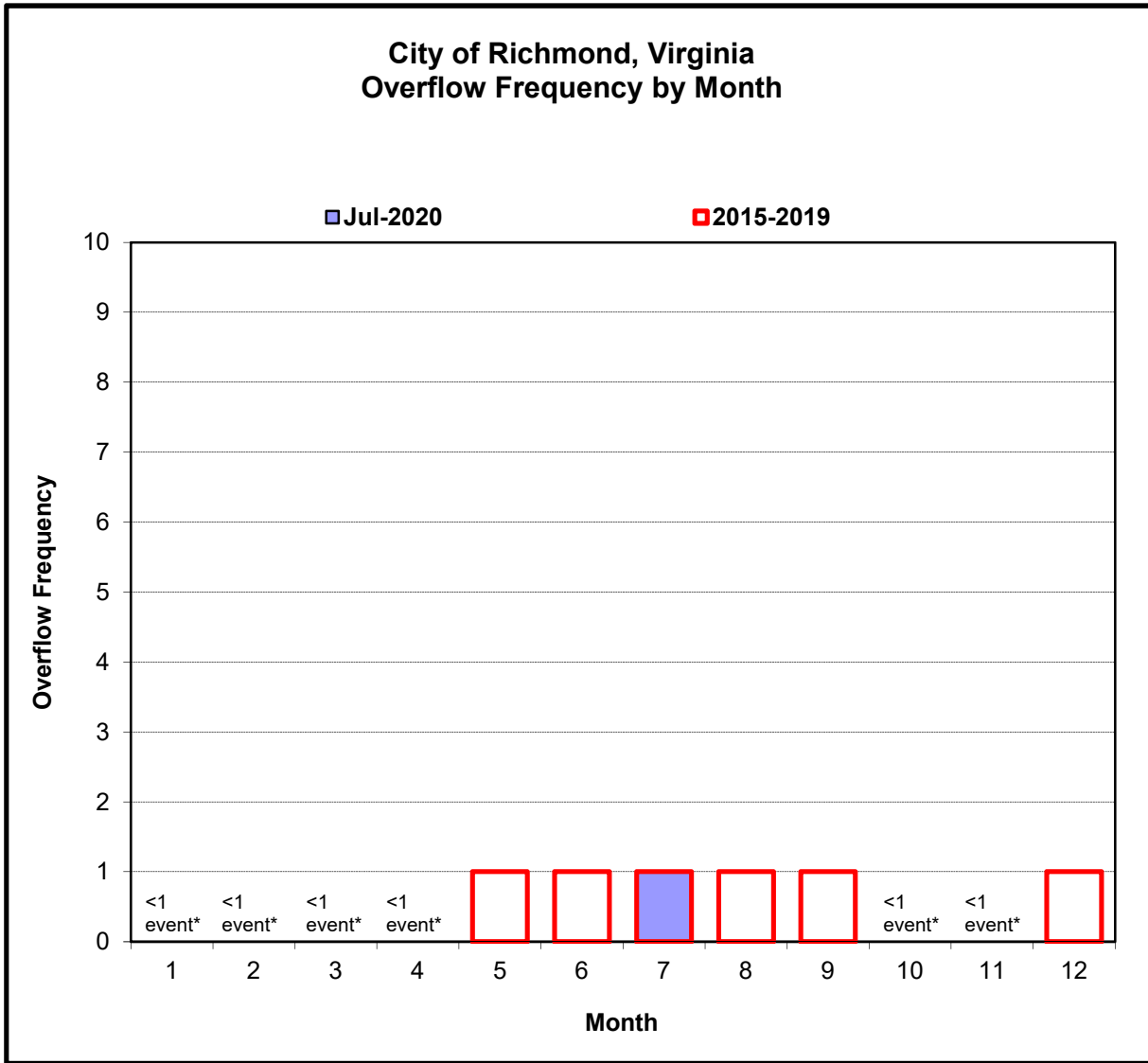
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 0.002                   | 0.08                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 |                 | 0.91                               | 1.42                             | 2.04   |                         |                           |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 1               | 2.80                               | 6.17                             | 4.08   | 0.00                    | 0.08                       |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO09 - 7th Street  
Overflow Model Summary  
Current Month: July 2020**

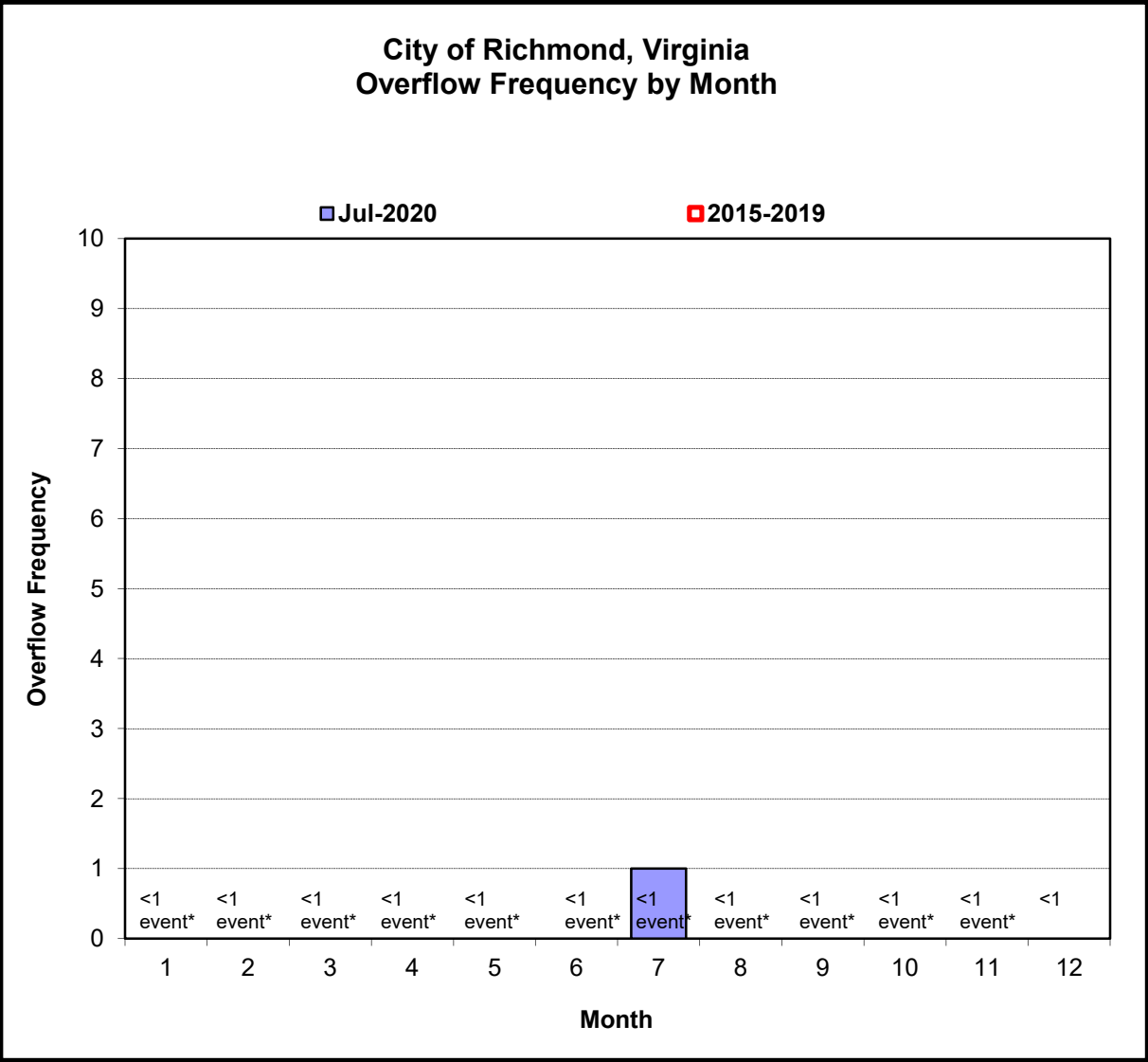
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  | 1               | 1.02                                  | 1.50                                | 4.08  | 0.02                       | 0.08                         |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 |                 | 0.91                                  | 1.42                                | 2.04  |                            |                              |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 1               | 2.80                                  | 6.17                                | 4.08  | 0.02                       | 0.08                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO10 - Gambles Hill  
 Overflow Model Summary  
 Current Month: July 2020**

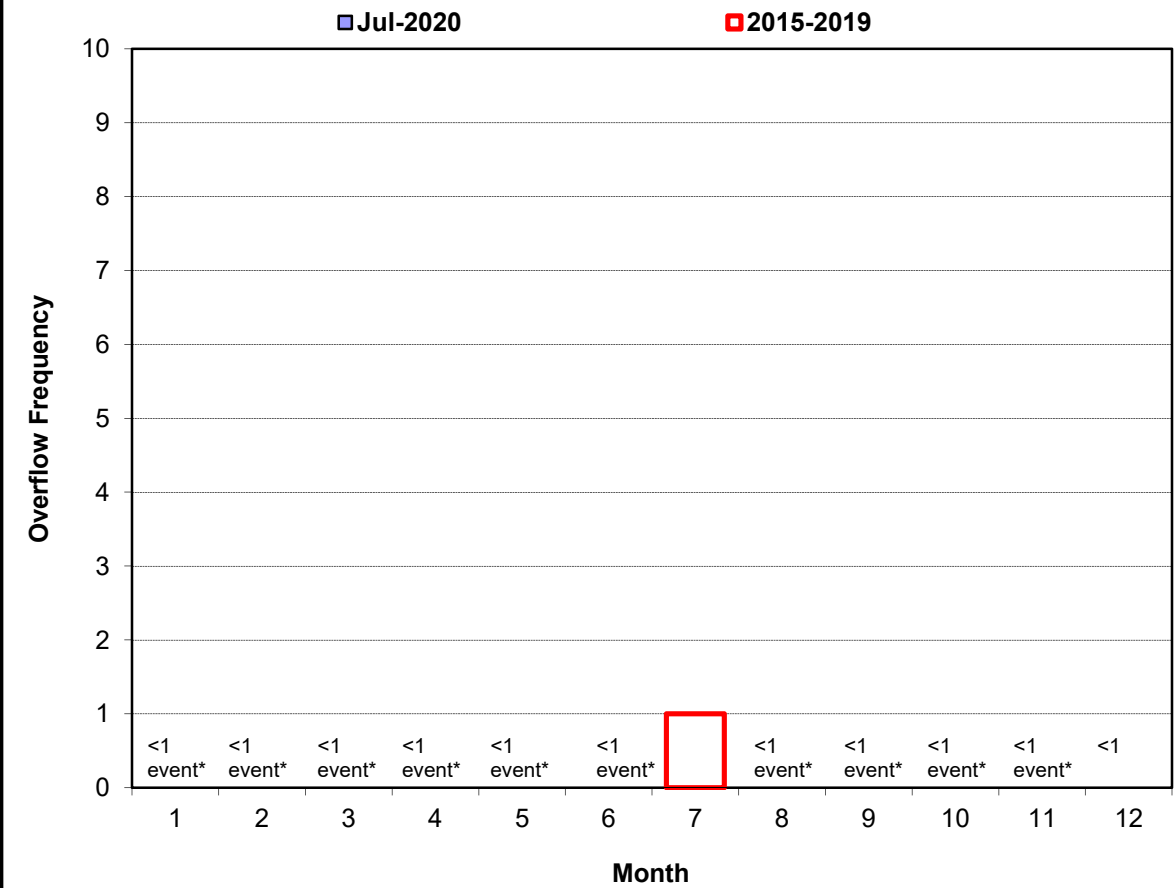
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  |                 | 1.02                                  | 1.50                                | 4.08  |                            |                              |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 |                 | 0.91                                  | 1.42                                | 2.04  |                            |                              |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 0               | 2.80                                  | 6.17                                | 4.08  | 0.00                       | 0.00                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO11 - Park Hydro  
Overflow Model Summary  
Current Month: July 2020**

| Date    | Num of Overflow  | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|------------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  | 1                | 1.02                                  | 1.50                                | 4.08  | 2.6                        | 2.00                         |
| 7/2/20  |                  |                                       |                                     |   |                            |                              |
| 7/3/20  |                  |                                       |                                     |   |                            |                              |
| 7/4/20  |                  |                                       |                                     |   |                            |                              |
| 7/5/20  |                  |                                       |                                     |   |                            |                              |
| 7/6/20  |                  |                                       |                                     |   |                            |                              |
| 7/7/20  |                  | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                  |                                       |                                     |   |                            |                              |
| 7/9/20  |                  | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                  |                                       |                                     |   |                            |                              |
| 7/11/20 |                  | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                  |                                       |                                     |   |                            |                              |
| 7/13/20 |                  | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                  |                                       |                                     |   |                            |                              |
| 7/15/20 |                  |                                       |                                     |   |                            |                              |
| 7/16/20 |                  |                                       |                                     |   |                            |                              |
| 7/17/20 |                  | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                  |                                       |                                     |   |                            |                              |
| 7/19/20 |                  |                                       |                                     |   |                            |                              |
| 7/20/20 |                  |                                       |                                     |   |                            |                              |
| 7/21/20 | 1 <sup>(3)</sup> | 0.30                                  | 0.58                                | 0.84  | 0.02                       | 0.33                         |
| 7/22/20 |                  | 0.24                                  | 1.33                                | 0.48  | 0.04                       | 2.50                         |
| 7/23/20 |                  |                                       |                                     |   |                            |                              |
| 7/24/20 | 1                | 0.18                                  | 0.50                                | 1.08  | 0.04                       | 0.50                         |
| 7/25/20 |                  |                                       |                                     |   |                            |                              |
| 7/26/20 |                  |                                       |                                     |   |                            |                              |
| 7/27/20 |                  |                                       |                                     |   |                            |                              |
| 7/28/20 |                  |                                       |                                     |   |                            |                              |
| 7/29/20 |                  |                                       |                                     |   |                            |                              |
| 7/30/20 |                  | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 | 1                | 0.91                                  | 1.42                                | 2.04  | 2.7                        | 17.17                        |

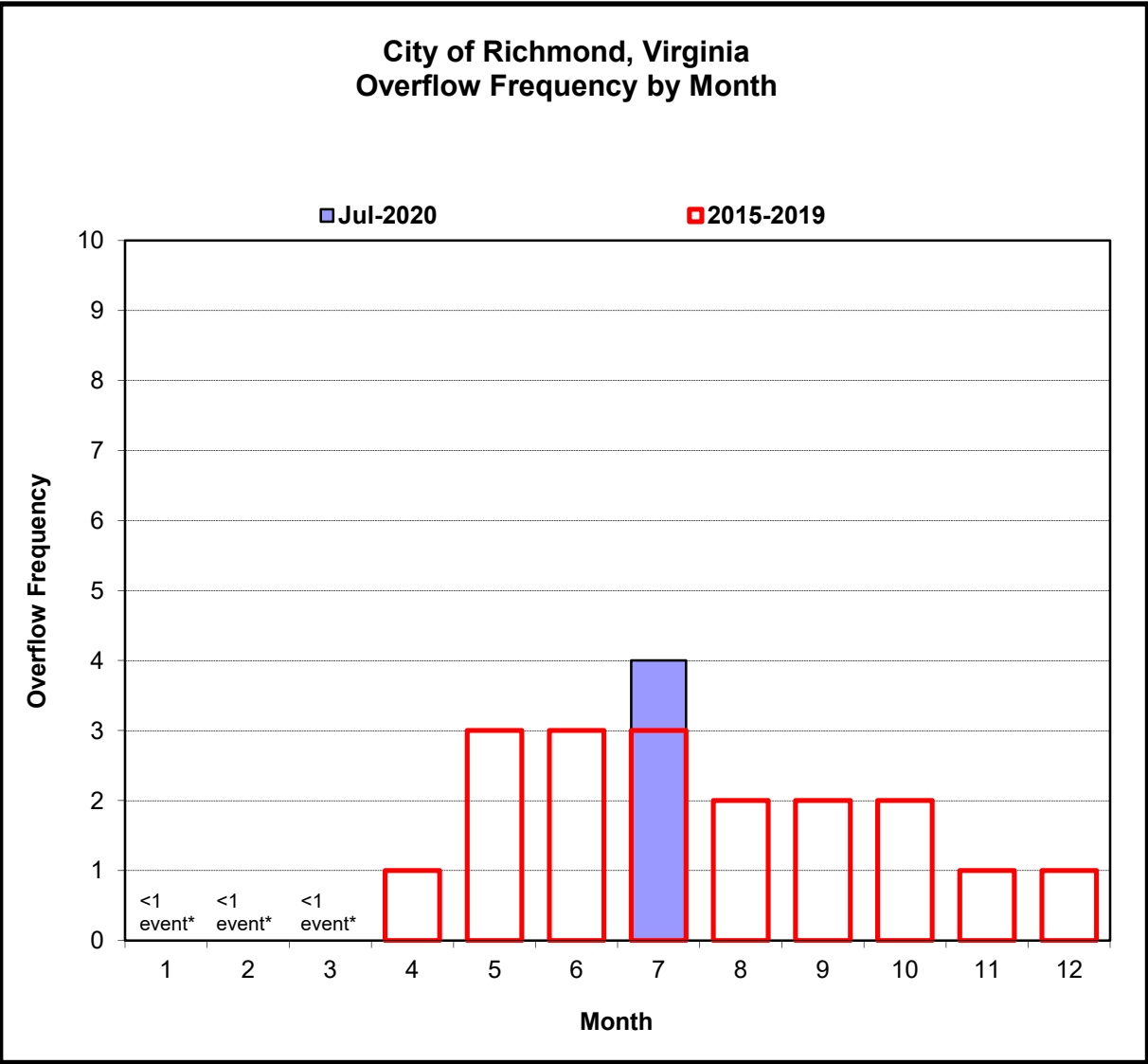
**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 4               | 2.80                                  | 6.17                                | 4.08  | 5.40                       | 22.50                         |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

<sup>(3)</sup> Overflow event continued on the following day.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.



**CSO12 - Hilton Street  
Overflow Model Summary  
Current Month: July 2020**

| Date    | Num of Overflow  | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|------------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1                | 1.02                               | 1.50                             | 4.08   | 0.27                    | 3.17                      |
| 7/2/20  |                  |                                    |                                  |  |                         |                           |
| 7/3/20  |                  |                                    |                                  |  |                         |                           |
| 7/4/20  |                  |                                    |                                  |  |                         |                           |
| 7/5/20  |                  |                                    |                                  |  |                         |                           |
| 7/6/20  |                  |                                    |                                  |  |                         |                           |
| 7/7/20  |                  | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                  |                                    |                                  |  |                         |                           |
| 7/9/20  |                  | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                  |                                    |                                  |  |                         |                           |
| 7/11/20 |                  | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                  |                                    |                                  |  |                         |                           |
| 7/13/20 |                  | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                  |                                    |                                  |  |                         |                           |
| 7/15/20 |                  |                                    |                                  |  |                         |                           |
| 7/16/20 |                  |                                    |                                  |  |                         |                           |
| 7/17/20 |                  | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                  |                                    |                                  |  |                         |                           |
| 7/19/20 |                  |                                    |                                  |  |                         |                           |
| 7/20/20 |                  |                                    |                                  |  |                         |                           |
| 7/21/20 | 1 <sup>(3)</sup> | 0.30                               | 0.58                             | 0.84   | 0.001                   | 0.08                      |
| 7/22/20 |                  | 0.24                               | 1.33                             | 0.48   | 0.01                    | 0.25                      |
| 7/23/20 |                  |                                    |                                  |  |                         |                           |
| 7/24/20 |                  | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                  |                                    |                                  |  |                         |                           |
| 7/26/20 |                  |                                    |                                  |  |                         |                           |
| 7/27/20 |                  |                                    |                                  |  |                         |                           |
| 7/28/20 |                  |                                    |                                  |  |                         |                           |
| 7/29/20 |                  |                                    |                                  |  |                         |                           |
| 7/30/20 |                  | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 | 1                | 0.91                               | 1.42                             | 2.04   | 0.15                    | 16.75                     |

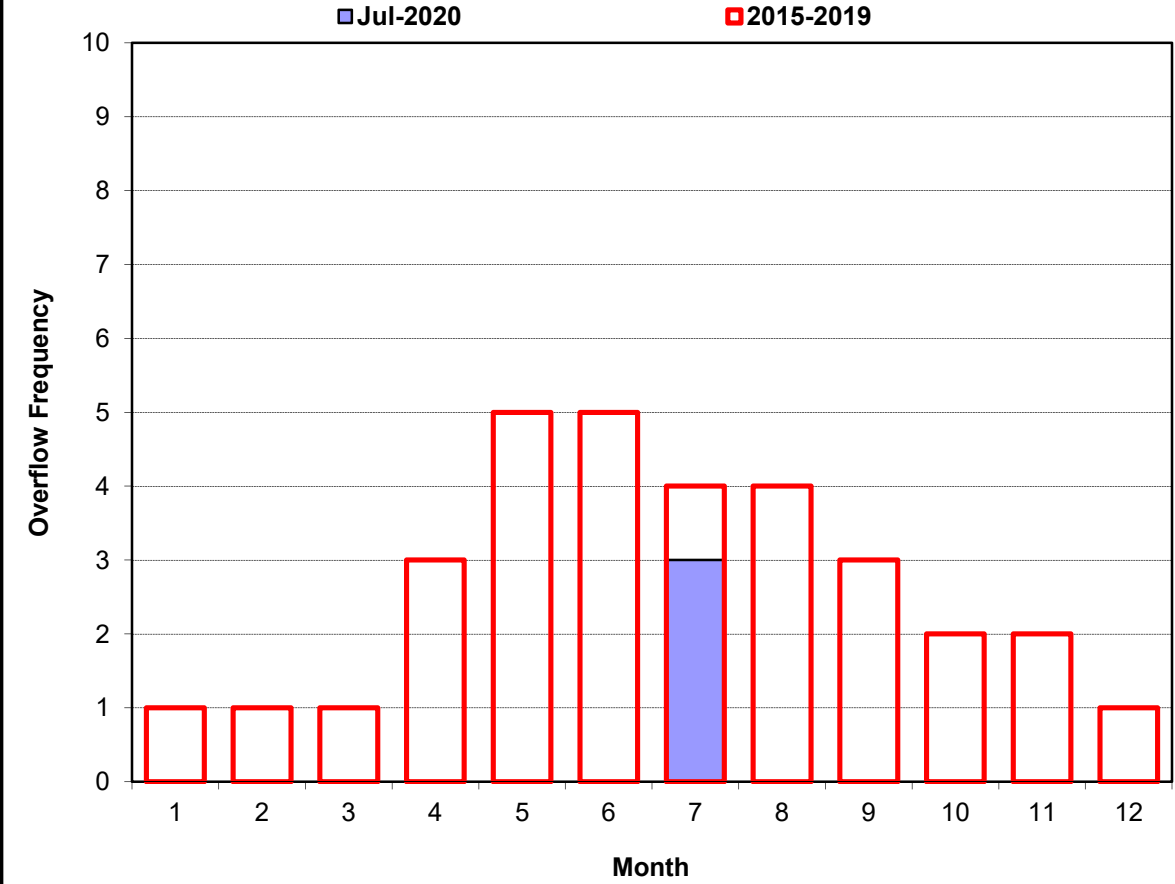
**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 3               | 2.80                               | 6.17                             | 4.08   | 0.43                    | 20.25                      |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

<sup>(3)</sup> Overflow event continued on the following day.

**City of Richmond, Virginia  
Overflow Frequency by Month**



**CSO14 - Stockton  
 Overflow Model Summary  
 Current Month: July 2020**

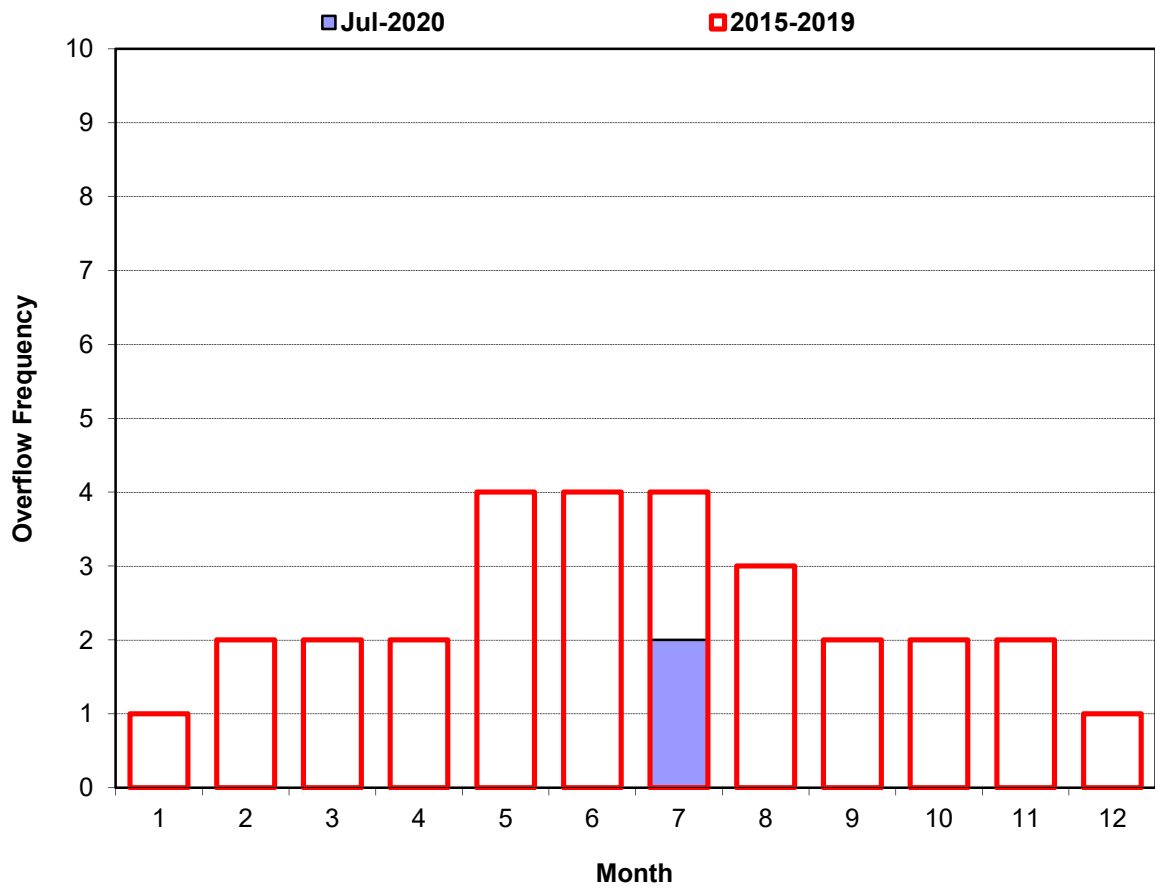
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 2.5                     | 0.83                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 | 1               | 0.91                               | 1.42                             | 2.04   | 1.7                     | 16.92                     |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 2               | 2.80                               | 6.17                             | 4.08   | 4.20                    | 17.75                      |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



**CSO15 - Canoe Run  
Overflow Model Summary  
Current Month: July 2020**

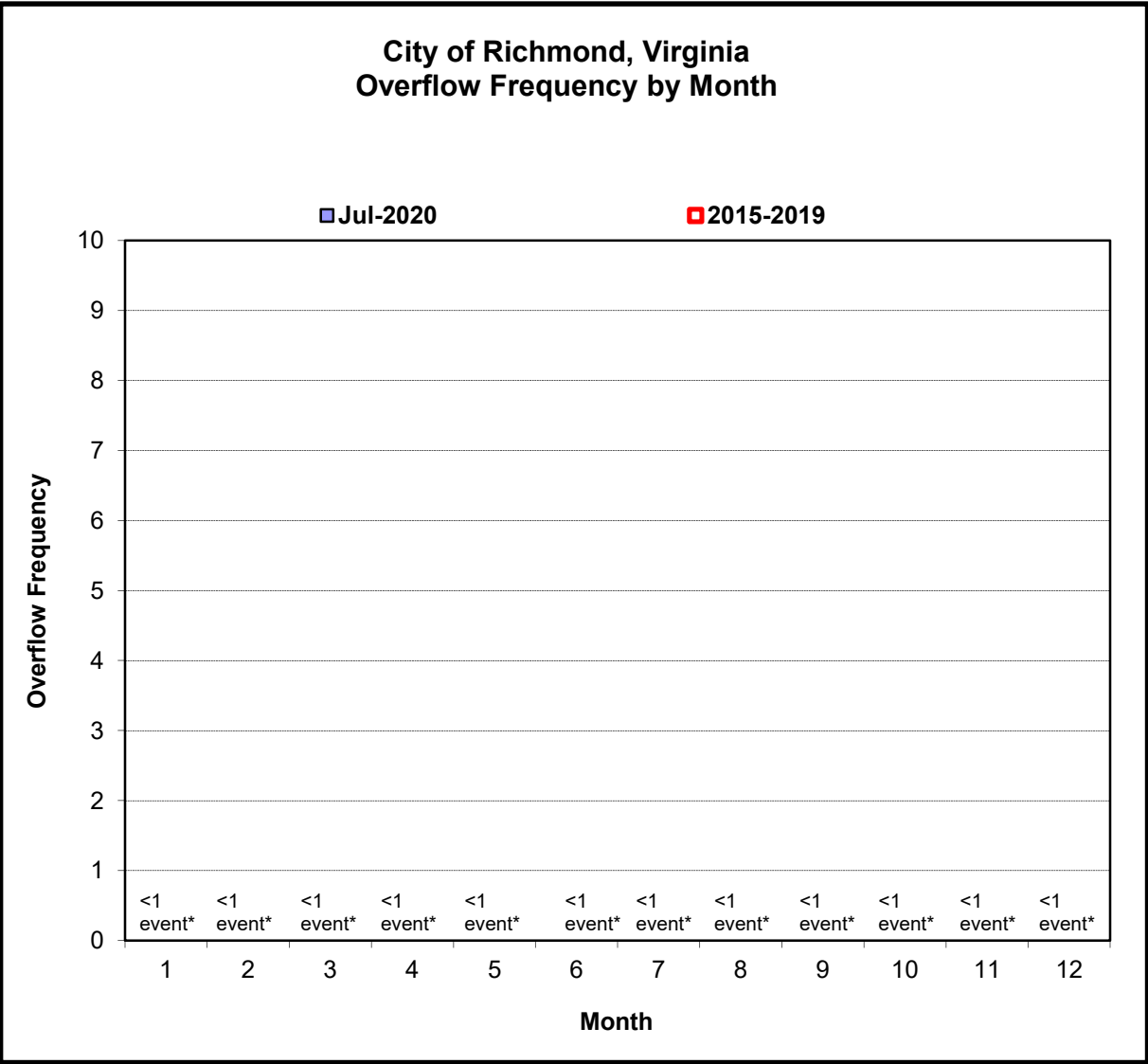
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  |                 | 1.02                                  | 1.50                                | 4.08  |                            |                              |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 |                 | 0.91                                  | 1.42                                | 2.04  |                            |                              |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 0               | 2.80                                  | 6.17                                | 4.08  | 0.00                       | 0.00                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO16 - Woodland  
Overflow Model Summary  
Current Month: July 2020**

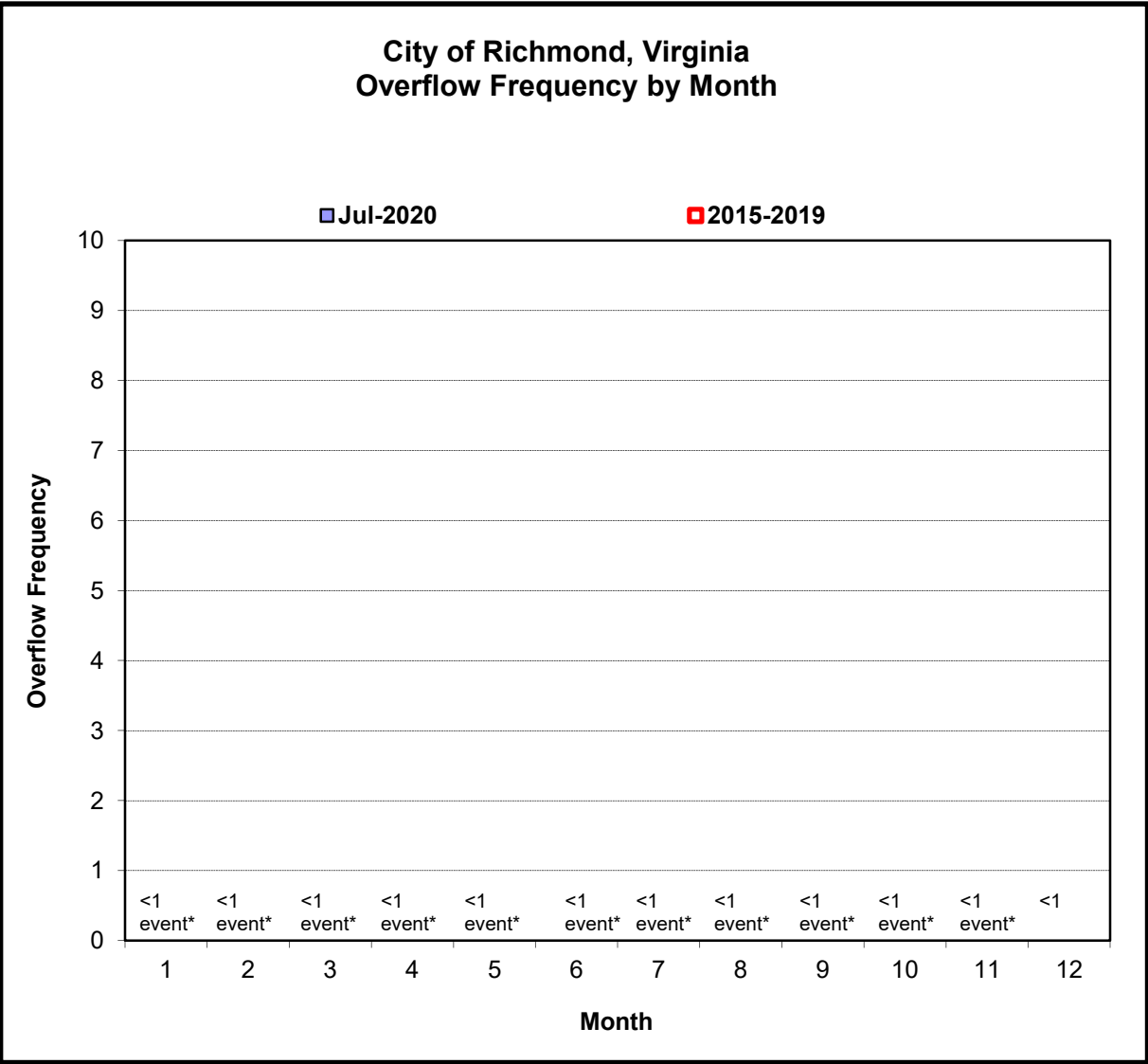
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  |                 | 1.02                                  | 1.50                                | 4.08  |                            |                              |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 |                 | 0.91                                  | 1.42                                | 2.04  |                            |                              |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 0               | 2.80                                  | 6.17                                | 4.08  | 0.00                       | 0.00                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.



**CSO17 - Reedy Creek  
 Overflow Model Summary  
 Current Month: July 2020**

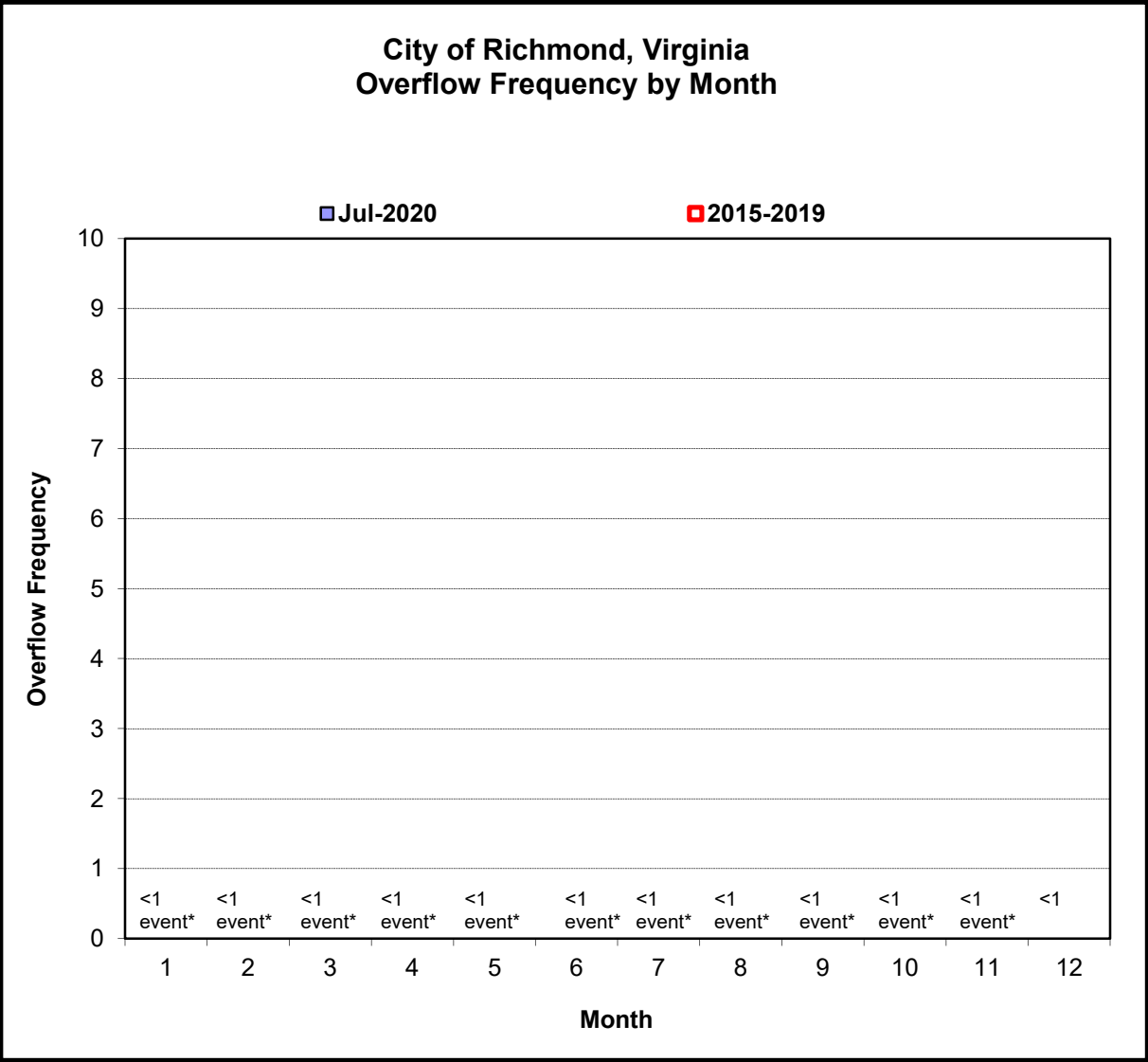
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  |                 | 1.02                                  | 1.50                                | 4.08  |                            |                              |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 |                 | 0.91                                  | 1.42                                | 2.04  |                            |                              |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 0               | 2.80                                  | 6.17                                | 4.08  | 0.00                       | 0.00                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO18 - 42nd Street  
 Overflow Model Summary  
 Current Month: July 2020**

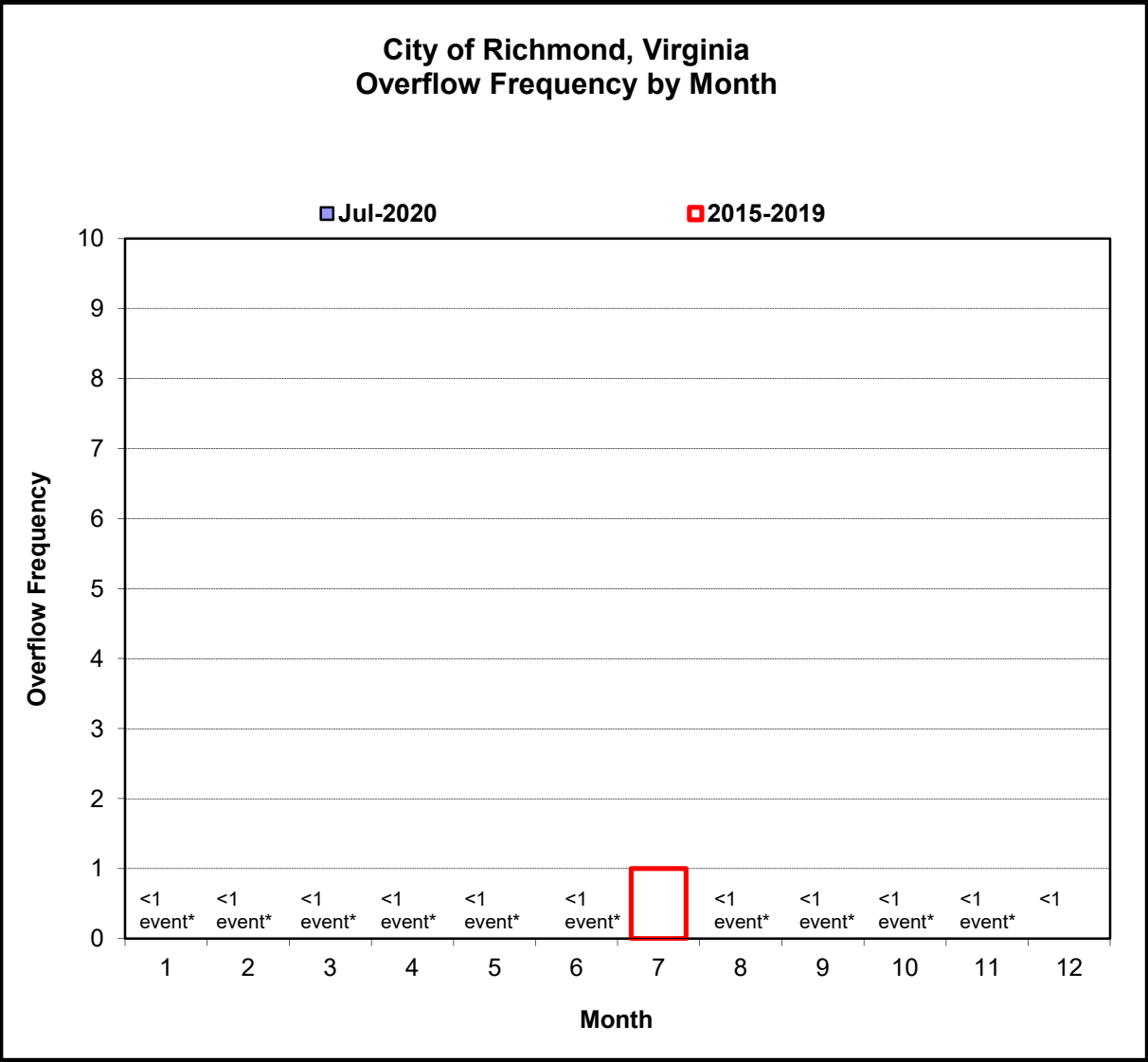
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  |                 | 1.02                                  | 1.50                                | 4.08  |                            |                              |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 |                 | 0.91                                  | 1.42                                | 2.04  |                            |                              |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 0               | 2.80                                  | 6.17                                | 4.08  | 0.00                       | 0.00                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO19 - Hampton  
 Overflow Model Summary  
 Current Month: July 2020**

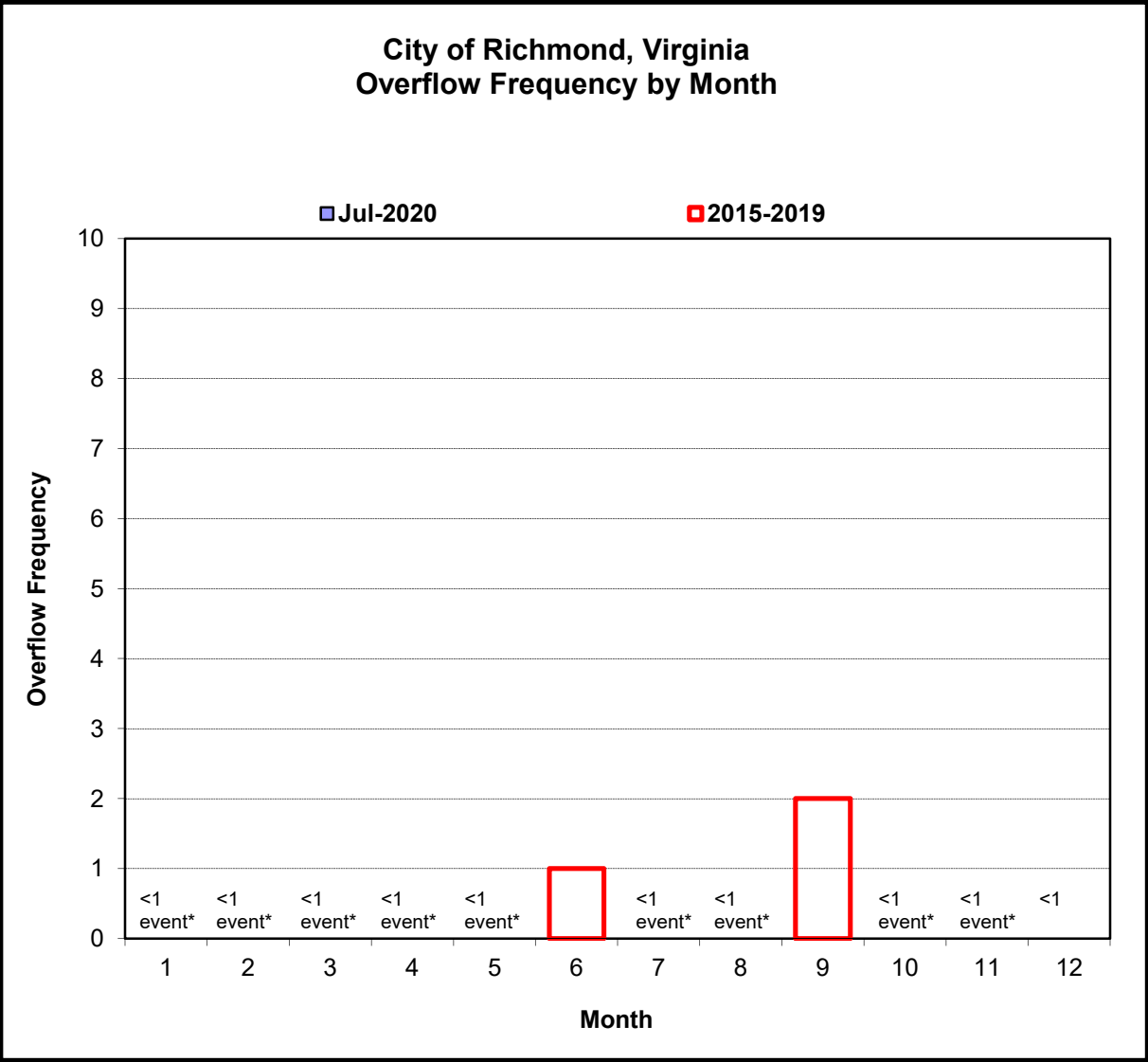
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  |                 | 1.02                                  | 1.50                                | 4.08  |                            |                              |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 |                 | 0.91                                  | 1.42                                | 2.04  |                            |                              |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 0               | 2.80                                  | 6.17                                | 4.08  | 0.00                       | 0.00                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO20 - Mc Cloy  
 Overflow Model Summary  
 Current Month: July 2020**

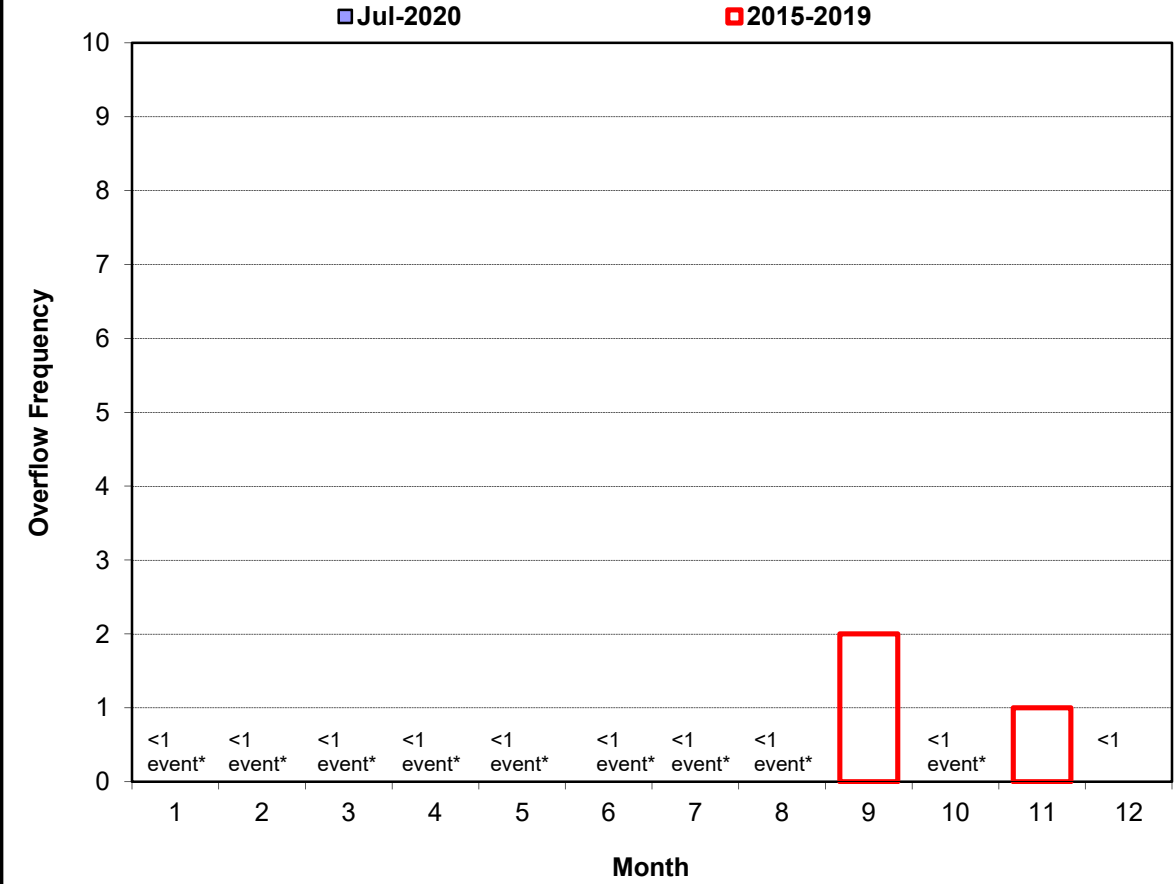
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  |                 | 1.02                               | 1.50                             | 4.08   |                         |                           |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 |                 | 0.91                               | 1.42                             | 2.04   |                         |                           |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 0               | 2.80                               | 6.17                             | 4.08   | 0.00                    | 0.00                       |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.



**CSO21 - Gordon Ave  
Overflow Model Summary  
Current Month: July 2020**

| Date    | Num of Overflow  | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|------------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  | 1                | 1.02                                  | 1.50                                | 4.08  | 4.60                       | 5.67                         |
| 7/2/20  |                  |                                       |                                     |   |                            |                              |
| 7/3/20  |                  |                                       |                                     |   |                            |                              |
| 7/4/20  |                  |                                       |                                     |   |                            |                              |
| 7/5/20  |                  |                                       |                                     |   |                            |                              |
| 7/6/20  |                  |                                       |                                     |   |                            |                              |
| 7/7/20  |                  | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                  |                                       |                                     |   |                            |                              |
| 7/9/20  |                  | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                  |                                       |                                     |   |                            |                              |
| 7/11/20 |                  | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                  |                                       |                                     |   |                            |                              |
| 7/13/20 |                  | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                  |                                       |                                     |   |                            |                              |
| 7/15/20 |                  |                                       |                                     |   |                            |                              |
| 7/16/20 |                  |                                       |                                     |   |                            |                              |
| 7/17/20 |                  | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                  |                                       |                                     |   |                            |                              |
| 7/19/20 |                  |                                       |                                     |   |                            |                              |
| 7/20/20 |                  |                                       |                                     |   |                            |                              |
| 7/21/20 | 1 <sup>(3)</sup> | 0.30                                  | 0.58                                | 0.84  | 0.21                       | 0.33                         |
| 7/22/20 |                  | 0.24                                  | 1.33                                | 0.48  | 0.08                       | 0.25                         |
| 7/23/20 |                  |                                       |                                     |   |                            |                              |
| 7/24/20 | 1                | 0.18                                  | 0.50                                | 1.08  | 0.04                       | 0.17                         |
| 7/25/20 |                  |                                       |                                     |   |                            |                              |
| 7/26/20 |                  |                                       |                                     |   |                            |                              |
| 7/27/20 |                  |                                       |                                     |   |                            |                              |
| 7/28/20 |                  |                                       |                                     |   |                            |                              |
| 7/29/20 |                  |                                       |                                     |   |                            |                              |
| 7/30/20 |                  | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 | 1                | 0.91                                  | 1.42                                | 2.04  | 2.10                       | 17.00                        |

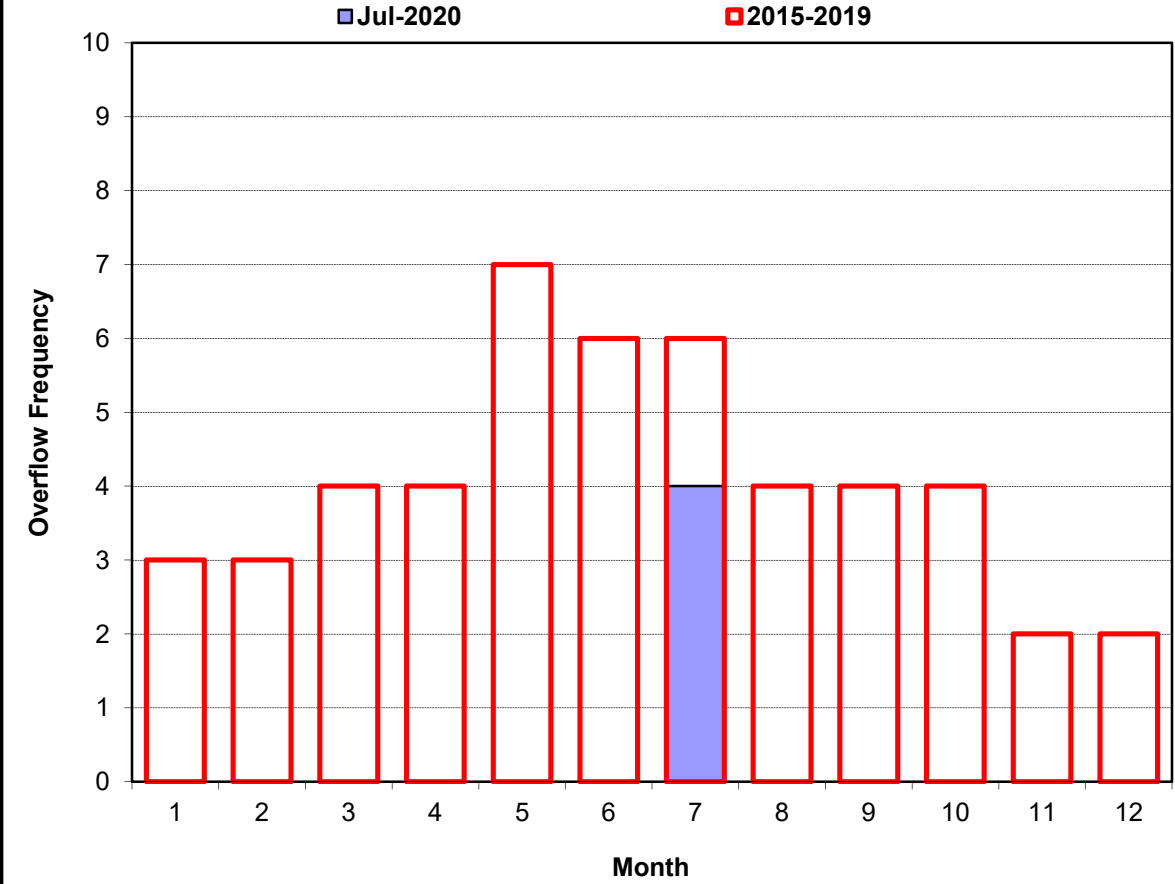
**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 4               | 2.80                                  | 6.17                                | 4.08  | 7.00                       | 23.42                         |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

<sup>(3)</sup> Overflow event continued on the following day.

### City of Richmond, Virginia Overflow Frequency by Month



**CSO24 - Gillies & Varina  
 Overflow Model Summary  
 Current Month: July 2020**

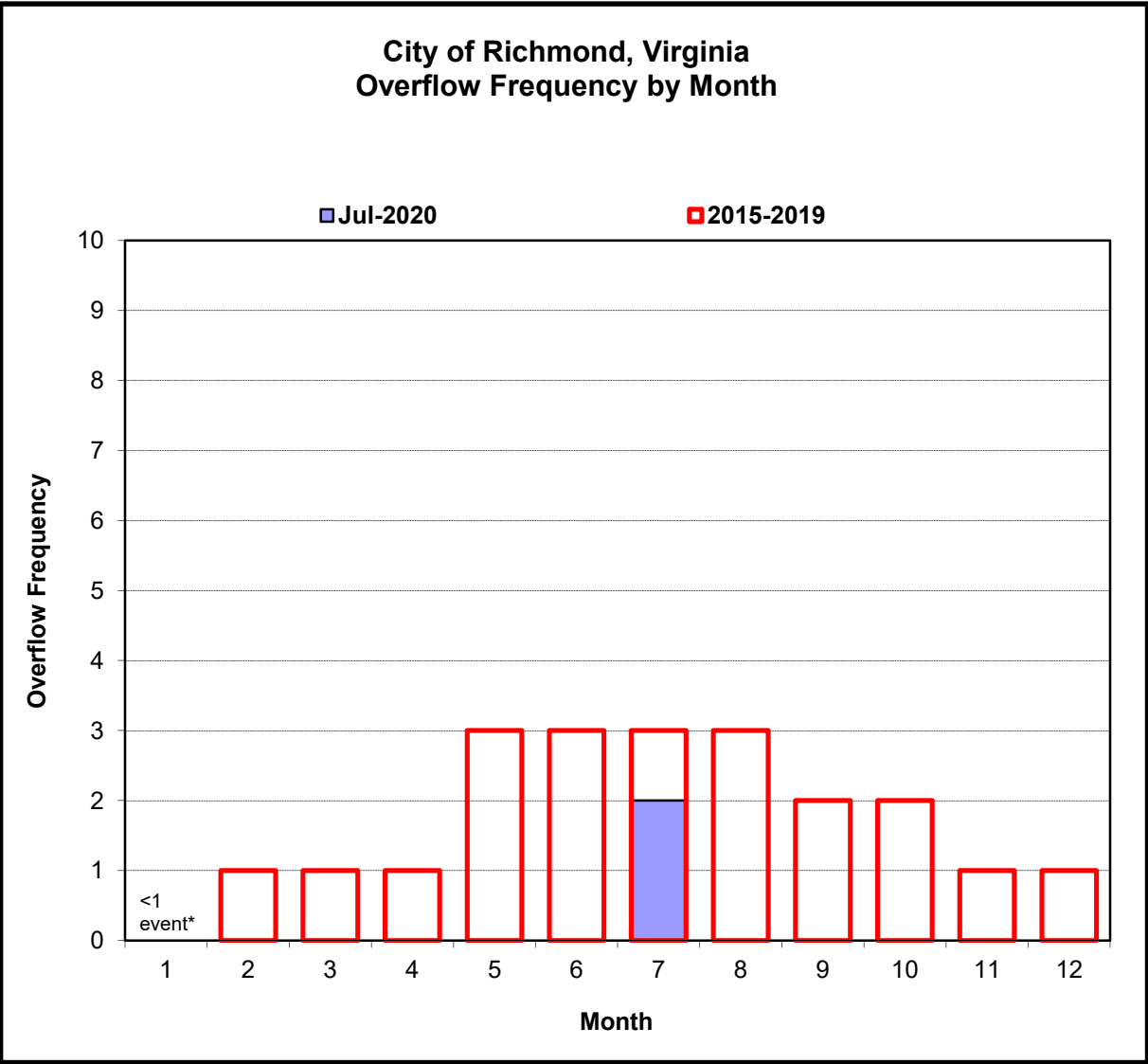
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 0.14                    | 0.50                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 | 1               | 0.91                               | 1.42                             | 2.04   | 0.04                    | 0.33                      |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 2               | 2.80                               | 6.17                             | 4.08   | 0.18                    | 0.83                       |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO25 - Briel & Gillies Cr  
 Overflow Model Summary  
 Current Month: July 2020**

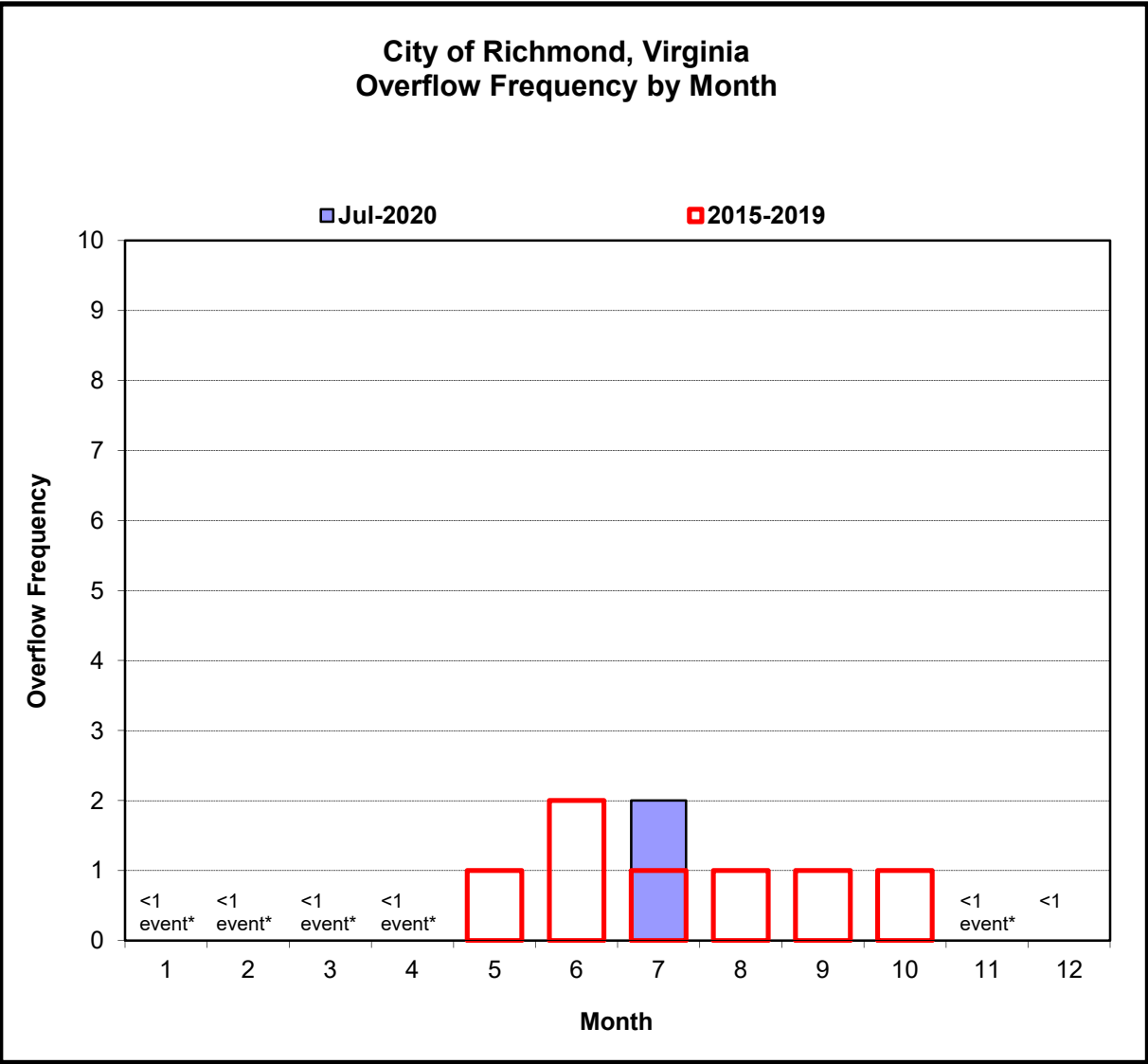
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  | 1               | 1.02                                  | 1.50                                | 4.08  | 0.09                       | 0.42                         |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 | 1               | 0.91                                  | 1.42                                | 2.04  | 0.004                      | 0.17                         |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 2               | 2.80                                  | 6.17                                | 4.08  | 0.09                       | 0.58                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO26 - Govt Road & NSRR  
 Overflow Model Summary  
 Current Month: July 2020**

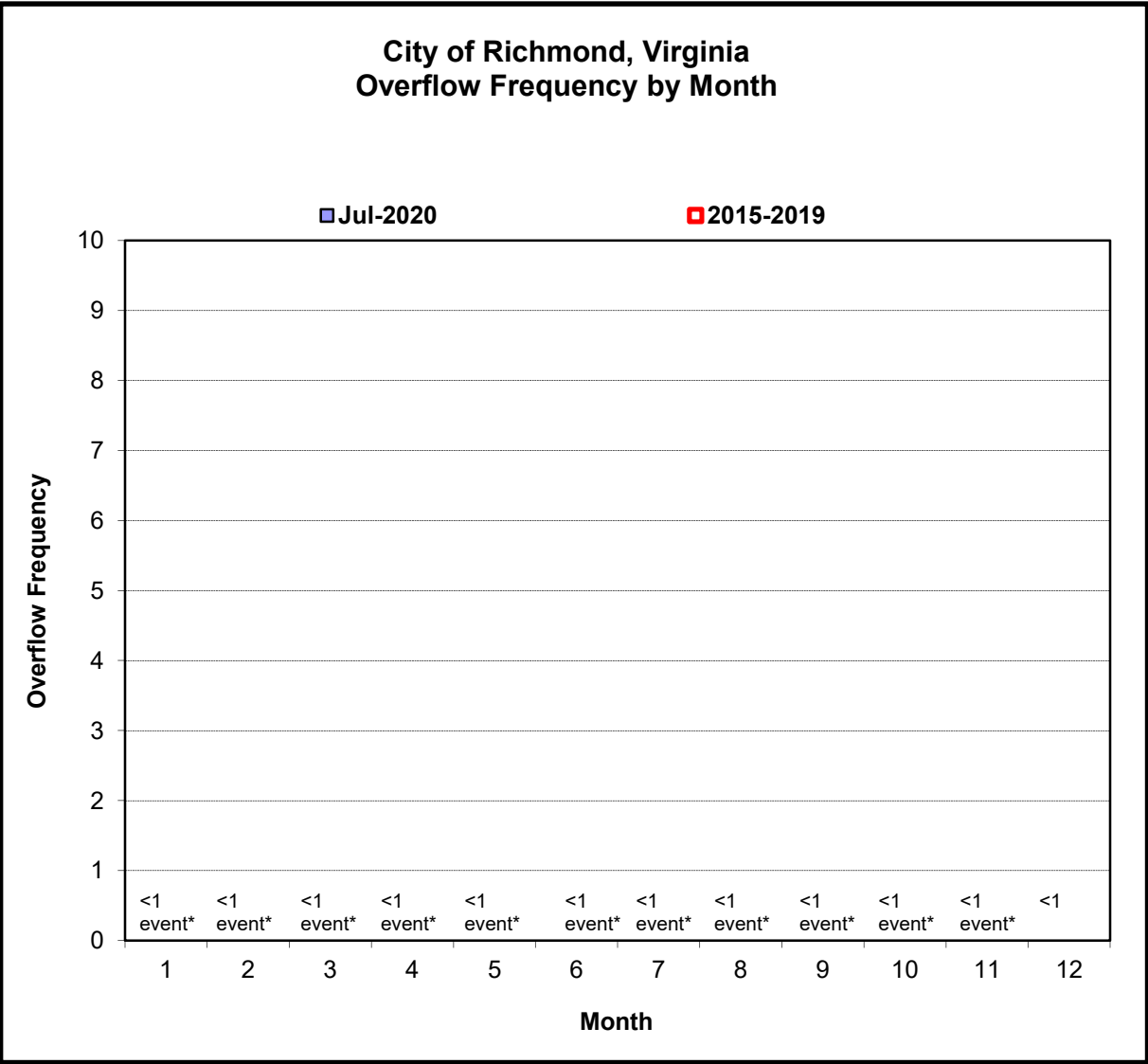
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  |                 | 1.02                               | 1.50                             | 4.08   |                         |                           |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 |                 | 0.91                               | 1.42                             | 2.04   |                         |                           |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 0               | 2.80                               | 6.17                             | 4.08   | 0.00                    | 0.00                       |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.



**CSO31 - Oakwood Cem  
Overflow Model Summary  
Current Month: July 2020**

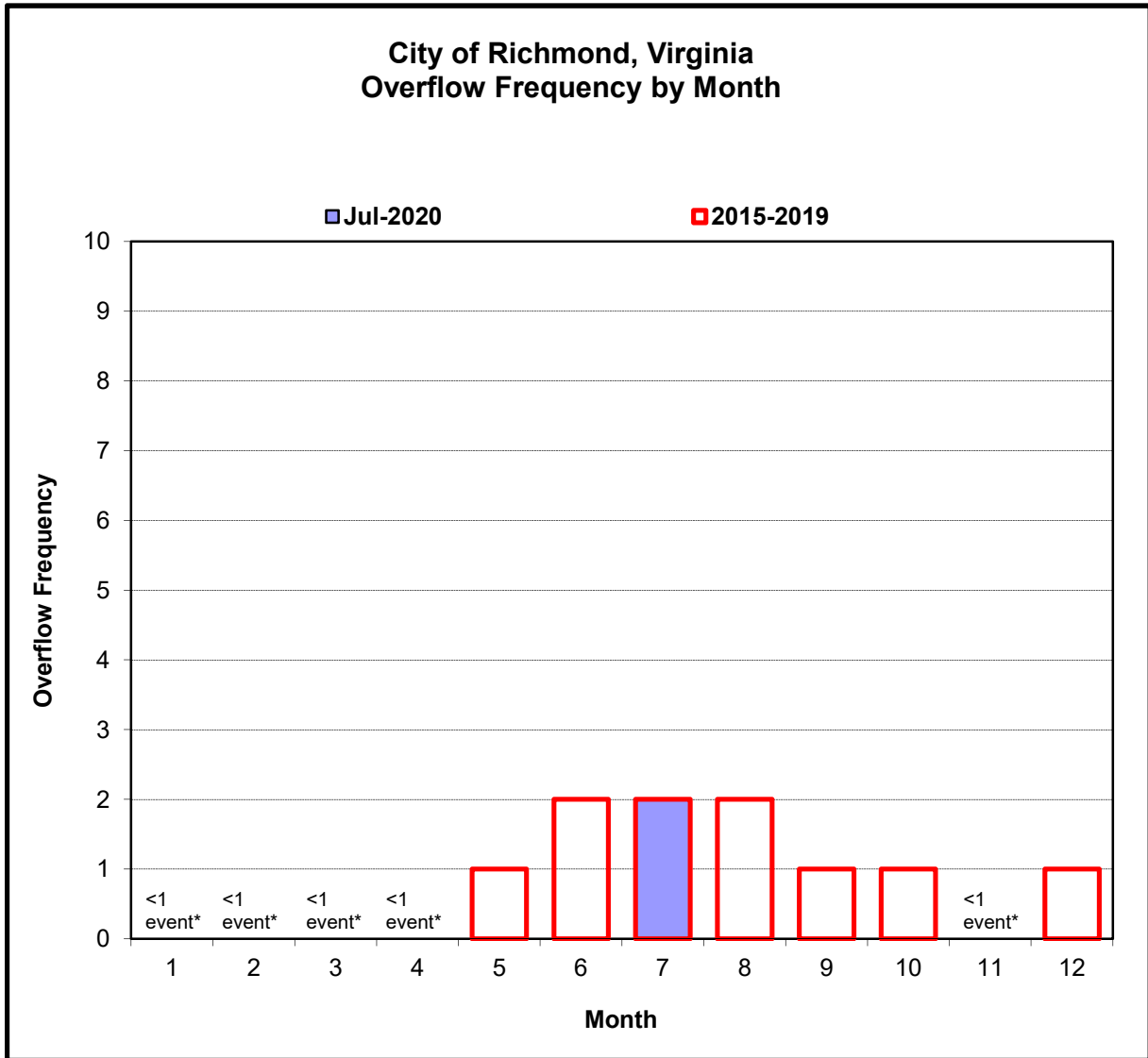
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  | 1               | 1.02                                  | 1.50                                | 4.08  | 0.31                       | 0.25                         |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 | 1               | 0.91                                  | 1.42                                | 2.04  | 0.12                       | 0.17                         |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 2               | 2.80                                  | 6.17                                | 4.08  | 0.43                       | 0.42                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO33 - Shields Lake  
Overflow Model Summary  
Current Month: July 2020**

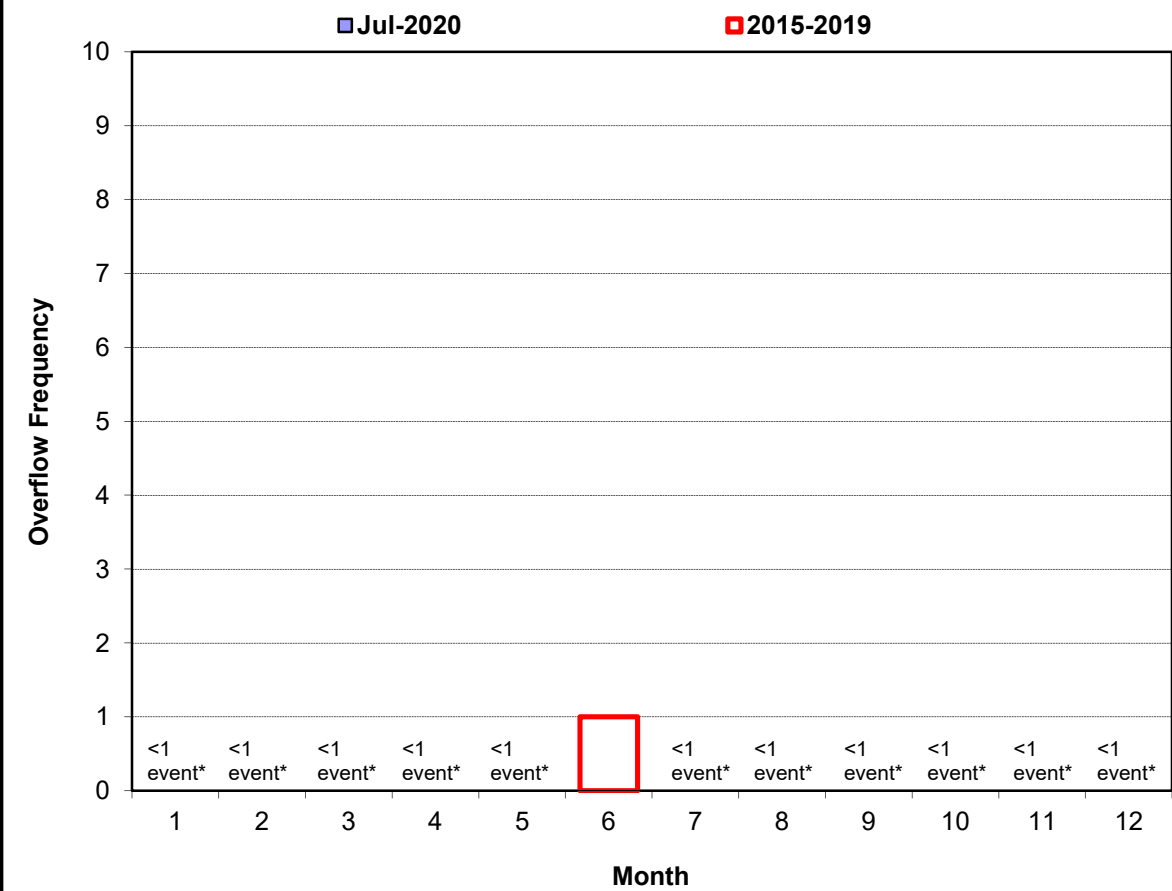
| Date    | Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hr) |
|---------|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|------------------------------|
| 7/1/20  |                 | 1.02                                  | 1.50                                | 4.08  |                            |                              |
| 7/2/20  |                 |                                       |                                     |   |                            |                              |
| 7/3/20  |                 |                                       |                                     |   |                            |                              |
| 7/4/20  |                 |                                       |                                     |   |                            |                              |
| 7/5/20  |                 |                                       |                                     |   |                            |                              |
| 7/6/20  |                 |                                       |                                     |   |                            |                              |
| 7/7/20  |                 | 0.03                                  | 0.25                                | 0.12  |                            |                              |
| 7/8/20  |                 |                                       |                                     |   |                            |                              |
| 7/9/20  |                 | 0.02                                  | 0.17                                | 0.12  |                            |                              |
| 7/10/20 |                 |                                       |                                     |   |                            |                              |
| 7/11/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/12/20 |                 |                                       |                                     |   |                            |                              |
| 7/13/20 |                 | 0.05                                  | 0.17                                | 0.36  |                            |                              |
| 7/14/20 |                 |                                       |                                     |   |                            |                              |
| 7/15/20 |                 |                                       |                                     |   |                            |                              |
| 7/16/20 |                 |                                       |                                     |   |                            |                              |
| 7/17/20 |                 | 0.03                                  | 0.08                                | 0.36  |                            |                              |
| 7/18/20 |                 |                                       |                                     |   |                            |                              |
| 7/19/20 |                 |                                       |                                     |   |                            |                              |
| 7/20/20 |                 |                                       |                                     |   |                            |                              |
| 7/21/20 |                 | 0.30                                  | 0.58                                | 0.84  |                            |                              |
| 7/22/20 |                 | 0.24                                  | 1.33                                | 0.48  |                            |                              |
| 7/23/20 |                 |                                       |                                     |   |                            |                              |
| 7/24/20 |                 | 0.18                                  | 0.50                                | 1.08  |                            |                              |
| 7/25/20 |                 |                                       |                                     |   |                            |                              |
| 7/26/20 |                 |                                       |                                     |   |                            |                              |
| 7/27/20 |                 |                                       |                                     |   |                            |                              |
| 7/28/20 |                 |                                       |                                     |   |                            |                              |
| 7/29/20 |                 |                                       |                                     |   |                            |                              |
| 7/30/20 |                 | 0.01                                  | 0.08                                | 0.12  |                            |                              |
| 7/31/20 |                 | 0.91                                  | 1.42                                | 2.04  |                            |                              |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup><br>Total (in) | Hours of <sup>(1)</sup><br>Rainfall | Max. Rainfall <sup>(1)</sup><br>Intensity (in/hr) | Volume of<br>Overflow (MG) | Duration of<br>Overflow (hrs) |
|-----------------|---------------------------------------|-------------------------------------|---|----------------------------|-------------------------------|
| 0               | 2.80                                  | 6.17                                | 4.08  | 0.00                       | 0.00                          |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO34 - 19th & Dock  
 Overflow Model Summary  
 Current Month: July 2020**

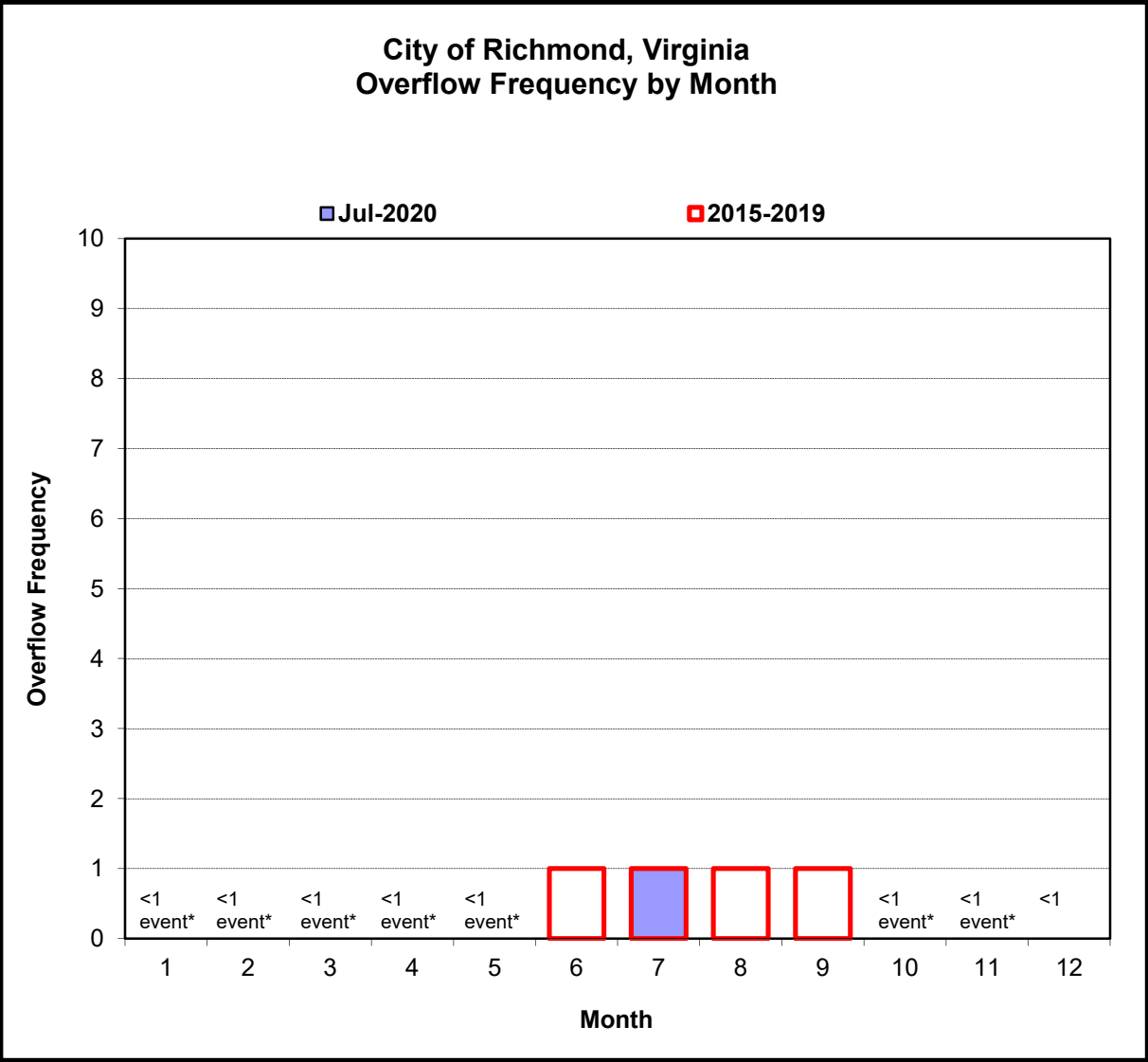
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 0.03                    | 0.17                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 |                 | 0.91                               | 1.42                             | 2.04   |                         |                           |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 1               | 2.80                               | 6.17                             | 4.08   | 0.03                    | 0.17                       |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.

**CSO35 - 29th & Dock  
 Overflow Model Summary  
 Current Month: July 2020**

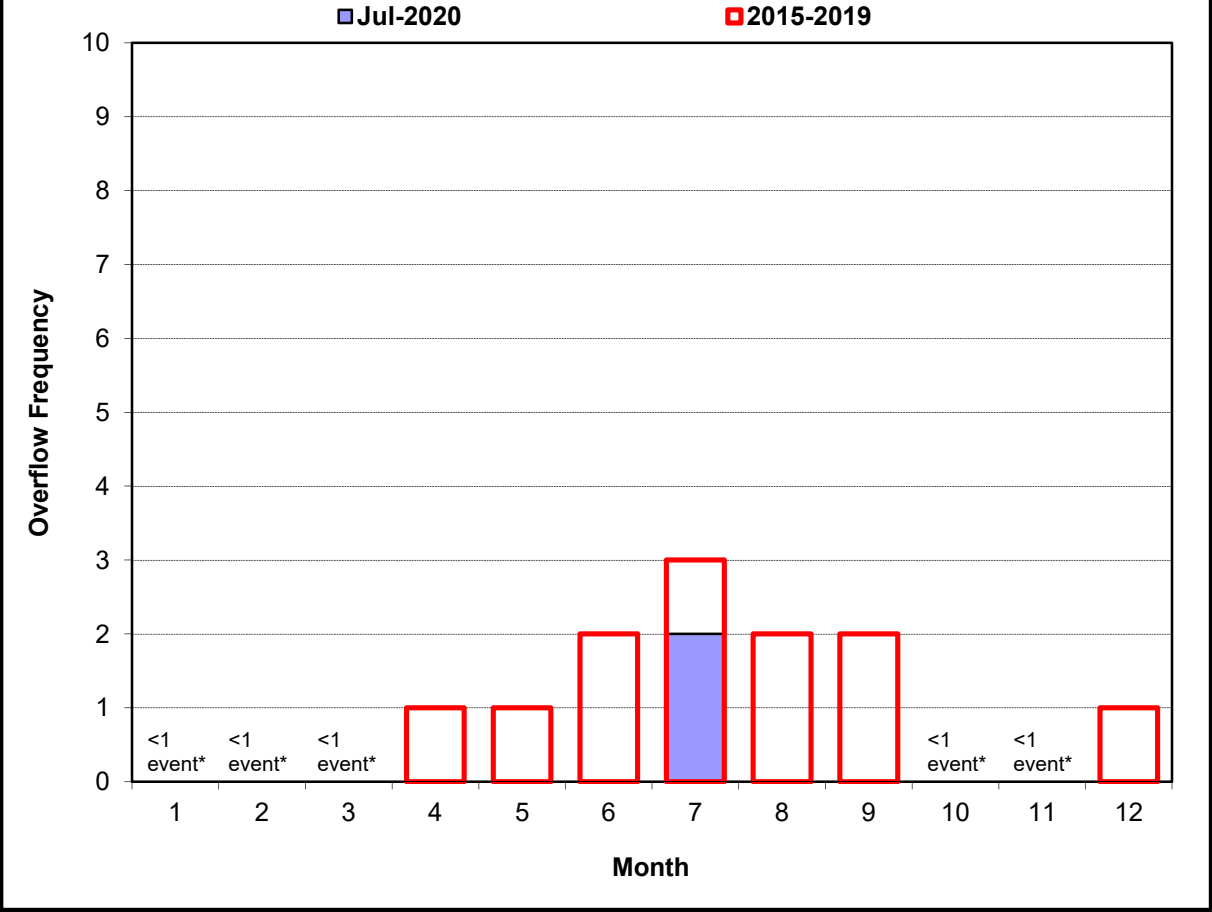
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 0.06                    | 0.25                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 | 1               | 0.91                               | 1.42                             | 2.04   | 0.01                    | 0.17                      |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 2               | 2.80                               | 6.17                             | 4.08   | 0.07                    | 0.42                       |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



\* Average Overflow Frequency is less than once in the month.



**CSO39 - Govt Road & Gillies  
 Overflow Model Summary  
 Current Month: July 2020**

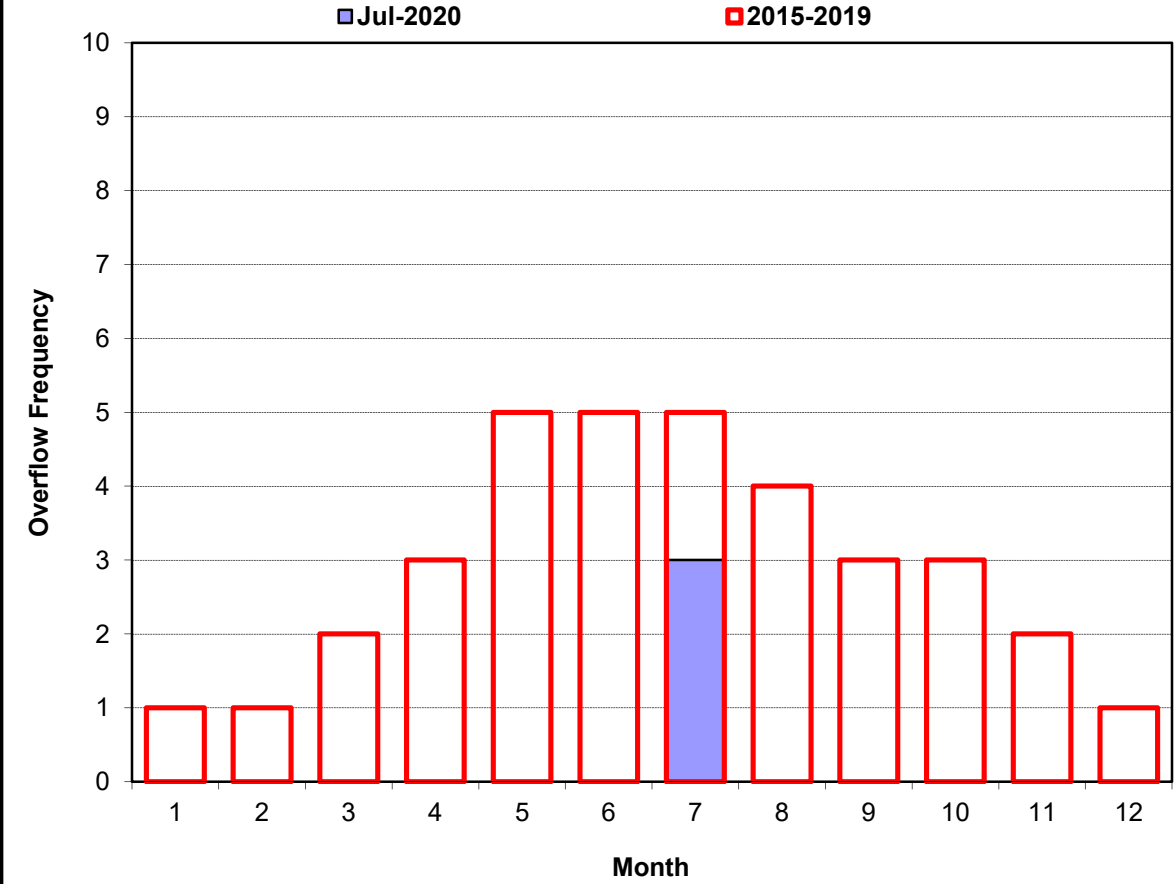
| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 0.4                     | 3.17                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 |                 | 0.30                               | 0.58                             | 0.84   |                         |                           |
| 7/22/20 | 1               | 0.24                               | 1.33                             | 0.48   | 0.01                    | 0.17                      |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 | 1               | 0.91                               | 1.42                             | 2.04   | 0.24                    | 16.75                     |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 3               | 2.80                               | 6.17                             | 4.08   | 0.65                    | 20.08                      |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month



**CSO40 - Diff User**  
**Overflow Model Summary**  
**Current Month: July 2020**

| Date    | Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hr) |
|---------|-----------------|------------------------------------|----------------------------------|--|-------------------------|---------------------------|
| 7/1/20  | 1               | 1.02                               | 1.50                             | 4.08   | 2.4                     | 2.58                      |
| 7/2/20  |                 |                                    |                                  |  |                         |                           |
| 7/3/20  |                 |                                    |                                  |  |                         |                           |
| 7/4/20  |                 |                                    |                                  |  |                         |                           |
| 7/5/20  |                 |                                    |                                  |  |                         |                           |
| 7/6/20  |                 |                                    |                                  |  |                         |                           |
| 7/7/20  |                 | 0.03                               | 0.25                             | 0.12   |                         |                           |
| 7/8/20  |                 |                                    |                                  |  |                         |                           |
| 7/9/20  |                 | 0.02                               | 0.17                             | 0.12   |                         |                           |
| 7/10/20 |                 |                                    |                                  |  |                         |                           |
| 7/11/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/12/20 |                 |                                    |                                  |  |                         |                           |
| 7/13/20 |                 | 0.05                               | 0.17                             | 0.36   |                         |                           |
| 7/14/20 |                 |                                    |                                  |  |                         |                           |
| 7/15/20 |                 |                                    |                                  |  |                         |                           |
| 7/16/20 |                 |                                    |                                  |  |                         |                           |
| 7/17/20 |                 | 0.03                               | 0.08                             | 0.36   |                         |                           |
| 7/18/20 |                 |                                    |                                  |  |                         |                           |
| 7/19/20 |                 |                                    |                                  |  |                         |                           |
| 7/20/20 |                 |                                    |                                  |  |                         |                           |
| 7/21/20 | 1               | 0.30                               | 0.58                             | 0.84   | 0.02                    | 0.17                      |
| 7/22/20 |                 | 0.24                               | 1.33                             | 0.48   |                         |                           |
| 7/23/20 |                 |                                    |                                  |  |                         |                           |
| 7/24/20 |                 | 0.18                               | 0.50                             | 1.08   |                         |                           |
| 7/25/20 |                 |                                    |                                  |  |                         |                           |
| 7/26/20 |                 |                                    |                                  |  |                         |                           |
| 7/27/20 |                 |                                    |                                  |  |                         |                           |
| 7/28/20 |                 |                                    |                                  |  |                         |                           |
| 7/29/20 |                 |                                    |                                  |  |                         |                           |
| 7/30/20 |                 | 0.01                               | 0.08                             | 0.12   |                         |                           |
| 7/31/20 | 1               | 0.91                               | 1.42                             | 2.04   | 1.4                     | 18.67                     |

**MONTH SUMMARY**

| Num of Overflow | Rainfall <sup>(1)</sup> Total (in) | Hours of <sup>(1)</sup> Rainfall | Max. Rainfall <sup>(1)</sup> Intensity (in/hr) | Volume of Overflow (MG) | Duration of Overflow (hrs) |
|-----------------|------------------------------------|----------------------------------|--|-------------------------|----------------------------|
| 3               | 2.80                               | 6.17                             | 4.08   | 3.80                    | 21.42                      |

<sup>(1)</sup> Based on the NWS Station at Richmond Airport (KRIC ASOS) rainfall data.

### City of Richmond, Virginia Overflow Frequency by Month

