

**City of Winnipeg**  
**Water and Waste Department**  
**South End Water Pollution Control Centre Monitoring Data**  
**July 2017**

| Licence #<br>2716RR | File #<br>1069.10 | Final Effluent<br>24 Hour Composite |         |           |         |          |         |                |                  |                  |                | Final Effluent<br>Grab Sample |             |            |
|---------------------|-------------------|-------------------------------------|---------|-----------|---------|----------|---------|----------------|------------------|------------------|----------------|-------------------------------|-------------|------------|
|                     |                   | TSS                                 |         | BOD5      |         | cBOD5    |         | Ammonia        | Ortho Phosphorus | Total Phosphorus | Total Nitrogen | Temp.                         | pH          | E.Coli     |
|                     |                   | (mg/L)                              | (mg/L)* | (mg/L)    | (mg/L)* | (mg/L)   | (mg/L)* | (kg NH3-N/day) | (mg/L-P)         | (mg/L-P)*        | (mg/L-N)*      | (°C)                          | (units)     | MPN/100 mL |
| 1-Jul-17            | 52.5              | 8                                   | 9       | 15        | 17      | 5        | 6       | 1,670          | 3.36             | 4.2              | 40.7           | 17.8                          | 6.68        | 13         |
| 2-Jul-17            | 47.8              | 6                                   | 9       | 21        | 17      | 4        | 6       | 1,562          | 3.54             | 4.2              | 40.9           | 17.1                          | 6.74        | 1          |
| 3-Jul-17            | 51.8              | 10                                  | 9       | 15        | 17      | 5        | 6       | 1,643          | 3.50             | 4.2              | 41.0           | 17.5                          | 6.80        | 1          |
| 4-Jul-17            | 61.3              | 9                                   | 9       | 22        | 18      | 6        | 6       | 1,758          | 3.15             | 4.2              | 41.1           | 17.7                          | 6.70        | 317        |
| 5-Jul-17            | 53.9              | 5                                   | 9       | 14        | 17      | 4        | 6       | 1,622          | 3.04             | 4.2              | 40.9           | 18.3                          | 6.70        | 24         |
| 6-Jul-17            | 52.6              | 6                                   | 8       | 20        | 17      | 5        | 6       | 1,710          | 3.65             | 4.1              | 40.8           | 18.5                          | 6.66        | 22         |
| 7-Jul-17            | 59.3              | 7                                   | 8       | 16        | 17      | 4        | 5       | 1,850          | 3.30             | 4.1              | 40.5           | 18.1                          | 6.75        | 38         |
| 8-Jul-17            | 50.2              | 12                                  | 9       | 19        | 17      | 6        | 5       | 1,716          | 3.54             | 4.1              | 40.4           | 18.5                          | 6.66        | 23         |
| 9-Jul-17            | 50.5              | 9                                   | 9       | 18        | 17      | 6        | 5       | 1,713          | 3.64             | 4.0              | 40.3           | 18.2                          | 6.73        | 3          |
| 10-Jul-17           | 52.6              | 14                                  | 9       | 20        | 17      | 7        | 6       | 1,766          | 3.55             | 4.0              | 40.4           | 17.9                          | 6.69        | 99         |
| 11-Jul-17           | 56.6              | 14                                  | 9       | 21        | 17      | 8        | 6       | 1,772          | 3.23             | 4.0              | 40.7           | 18.1                          | 6.74        | 261        |
| 12-Jul-17           | 89.9              | 11                                  | 9       | 21        | 18      | 9        | 6       | 1,869          | 2.11             | 4.0              | 40.4           | 17.5                          | 6.80        | 2,420      |
| 13-Jul-17           | 61.4              | 10                                  | 9       | 17        | 17      | 6        | 6       | 1,486          | 2.01             | 3.9              | 40.6           | 17.5                          | 6.80        | 86         |
| 14-Jul-17           | 57.2              | 6                                   | 8       | 16        | 17      | 4        | 5       | 1,671          | 2.75             | 3.9              | 40.6           | 17.8                          | 6.83        | 66         |
| 15-Jul-17           | 53.2              | 13                                  | 9       | 16        | 17      | 8        | 5       | 1,739          | 3.18             | 3.9              | 41.0           | 18.1                          | 6.92        | 4          |
| 16-Jul-17           | 53.2              | 12                                  | 9       | 21        | 18      | 10       | 6       | 1,756          | 3.22             | 4.0              | 41.3           | 18.3                          | 6.92        | 8          |
| 17-Jul-17           | 54.1              | 5                                   | 9       | 17        | 18      | 6        | 6       | 1,721          | 3.08             | 4.0              | 41.3           | 18.3                          | 6.75        | 172        |
| 18-Jul-17           | 52.1              | 7                                   | 9       | 15        | 17      | 5        | 6       | 1,765          | 2.99             | 3.9              | 41.4           | 18.3                          | 6.70        | 23         |
| 19-Jul-17           | 50.8              | 5                                   | 9       | 15        | 17      | 4        | 6       | 2,008          | 3.45             | 3.9              | 41.8           | 18.1                          | 6.77        | 140        |
| 20-Jul-17           | 51.4              | 9                                   | 9       | 22        | 18      | 5        | 6       | 1,829          | 3.79             | 3.9              | 42.2           | 18.3                          | 6.84        | 10         |
| 21-Jul-17           | 52.2              | 6                                   | 9       | 16        | 17      | 4        | 6       | 1,645          | 3.05             | 3.9              | 42.8           | 18.4                          | 6.71        | 158        |
| 22-Jul-17           | 55.7              | 6                                   | 8       | 7         | 17      | 6        | 6       | 1,737          | 2.98             | 3.9              | 43.1           | 18.7                          | 6.68        | 10         |
| 23-Jul-17           | 52.7              | 4                                   | 8       | 14        | 17      | 4        | 6       | 1,632          | 2.68             | 3.9              | 43.3           | 18.6                          | 6.83        | 16         |
| 24-Jul-17           | 52.2              | 6                                   | 8       | 13        | 17      | 3        | 5       | 1,538          | 2.94             | 3.9              | 43.5           | 18.6                          | 6.71        | 13         |
| 25-Jul-17           | 60.3              | 7                                   | 8       | 15        | 17      | 3        | 5       | 1,623          | 2.86             | 3.9              | 43.7           | 18.5                          | 6.75        | 59         |
| 26-Jul-17           | 52.9              | 4                                   | 8       | 16        | 17      | 3        | 5       | 1,519          | 2.95             | 3.8              | 43.7           | 18.6                          | 6.76        | 8          |
| 27-Jul-17           | 52.2              | 5                                   | 8       | nr        | 17      | nr       | 5       | 1,598          | 3.24             | 3.8              | 43.4           | 18.7                          | 6.70        | 11         |
| 28-Jul-17           | 52.0              | 5                                   | 8       | 15        | 17      | 3        | 5       | 1,539          | 2.72             | 3.8              | 43.2           | 19.1                          | 6.59        | 42         |
| 29-Jul-17           | 49.6              | 6                                   | 8       | 24        | 17      | 4        | 5       | 1,538          | 2.99             | 3.8              | 43.1           | 19.3                          | 6.62        | 10         |
| 30-Jul-17           | 49.9              | 6                                   | 8       | 18        | 17      | 4        | 5       | 1,628          | 3.46             | 3.8              | 43.1           | 20.5                          | 6.91        | 8          |
| 31-Jul-17           | 51.3              | 6                                   | 8       | 18        | 17      | 4        | 5       | 1,550          | 1.82             | 3.8              | 43.1           | 19.1                          | 6.64        | 74         |
| <b>Max:</b>         | 89.9              |                                     |         |           |         |          |         |                |                  |                  |                |                               |             |            |
| <b>Min:</b>         | 47.8              |                                     |         |           |         |          |         |                |                  |                  |                |                               |             |            |
| <b>Average:</b>     | <b>54.6</b>       | <b>8</b>                            |         | <b>17</b> |         | <b>5</b> |         | <b>1,683</b>   | <b>3.09</b>      |                  |                | <b>18.3</b>                   | <b>6.74</b> |            |
| <b>Total Flow:</b>  | <b>1693.4</b>     |                                     |         |           |         |          |         |                |                  |                  |                |                               |             |            |
| <b>Geo.Mean:</b>    |                   |                                     |         |           |         |          |         |                |                  |                  |                |                               |             | <b>27</b>  |

**Notes:**

- (1) Effluent ammonia load based upon Raw Sewage flows and Final NH3-N concentrations
- (2) nr - not recorded or no result; na - not analyzed; ns - no sample
- (3) Where value is expressed as less than (<), the value is halved and used in the calculations
- (4) \* = 30 day rolling average

- (5)\*\* Flow, highlighted in bold, in excess of 98.6 ML/D per clause 27 of Licence 2716RR
- (6) Bracketed Coliform results not used in the Geometric Mean calculation
- (7) Raw wastewater flows in excess of 100 ML/D will by-pass the secondary process