# Appendix 4B-1: Annual Water Budgets for Treatment Cells in Stormwater Treatment Area 1-W

| | Inflow[a, b] | | | | Outflow | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $I_s$ | $I_g$ | P | $\Sigma_{inflow}$ | $O_s$ | $O_g$ | ET | $\Sigma_{outflow}$ | $\Delta S$ | r | ε |
| Buffer Cell | | | | | | | | | | | |
| WY 95-96 | 256.4 | - | 0.7 | 257.0 | 224.3 | 7.4 | 0.7 | 232.4 | 0.10 | 24.5 | 9.5% |
| WY 96-97 | 177.7 | - | 0.8 | 178.5 | 149.8 | 7.6 | 0.7 | 158.1 | -0.13 | 20.6 | 11.5% |
| WY 97-98 | 130.2 | - | 0.8 | 131.1 | 118.8 | 8.2 | 0.7 | 127.7 | 0.16 | 3.2 | 2.5% |
| WY 98-99 | 147.4 | - | 0.6 | 148.1 | 124.7 | 8.1 | 0.8 | 133.6 | -0.29 | 14.8 | 10.0% |
| WY 99-00 | - | - | - | - | - | - | - | - | - | - | - |
| WY 00-01 | - | - | - | - | - | - | - | - | - | - | - |
| WY 01-02 | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 711.7 | - | 2.9 | 714.6 | 617.5 | 31.3 | 2.9 | 651.7 | -0.16 | 63.1 | 8.8% |
| | 99.6% | - | 0.4% | | 94.8% | 4.8% | 0.4% | | | | |
| Treatment Cell 1 | | | | | | | | | | | |
| WY 95-96 | 100.1 | 4.0 | 6.8 | 110.9 | 102.4 | 0.1 | 6.8 | 109.3 | 0.78 | 0.8 | 0.8% |
| WY 96-97 | 57.5 | 3.0 | 7.5 | 68.0 | 58.4 | 0.2 | 6.9 | 65.4 | -0.94 | 3.5 | 5.1% |
| WY 97-98 | 41.5 | 6.1 | 7.8 | 55.4 | 43.0 | 0.0 | 6.5 | 49.6 | 1.18 | 4.7 | 8.4% |
| WY 98-99 | 47.5 | 3.6 | 6.3 | 57.4 | 52.2 | 0.5 | 7.7 | 60.4 | -0.35 | -2.6 | -4.6% |
| WY 99-00 | 177.1 | 4.0 | 7.5 | 188.5 | 148.5 | 6.7 | 7.6 | 162.8 | 0.82 | 24.9 | 13.2% |
| WY 00-01 | 136.8 | 1.8 | 5.2 | 143.7 | 104.1 | 7.5 | 8.3 | 119.9 | -2.30 | 26.1 | 18.1% |
| WY 01-02 | 157.2 | 2.8 | 7.8 | 167.8 | 180.3 | 6.3 | 7.8 | 194.4 | 0.93 | -27.6 | -16.4% |
| TOTAL | 717.7 | 25.2 | 48.9 | 791.8 | 689.0 | 21.2 | 51.7 | 761.9 | 0.12 | 29.7 | 3.8% |
| | 90.6% | 3.2% | 6.2% | | 90.4% | 2.8% | 6.8% | | | | |
| Treatment Cell 2 | | | | | | | | | | | |
| WY 95-96 | 124.2 | - | 5.3 | 129.5 | 116.1 | 22.4 | 5.3 | 143.8 | 0.48 | -14.8 | -11.4% |
| WY 96-97 | 92.3 | - | 5.9 | 98.2 | 89.9 | 22.8 | 5.4 | 118.1 | -0.86 | -19.0 | -19.4% |
| WY 97-98 | 77.3 | - | 6.2 | 83.4 | 73.5 | 24.8 | 5.1 | 103.3 | 1.19 | -21.1 | -25.3% |
| WY 98-99 | 77.1 | - | 4.9 | 82.0 | 62.6 | 24.5 | 6.0 | 93.0 | -0.59 | -10.4 | -12.7% |
| WY 99-00 | 73.0 | - | 5.5 | 78.5 | 70.9 | 23.8 | 5.4 | 100.1 | 0.62 | -22.2 | -28.4% |
| WY 00-01 | 44.8 | - | 3.7 | 48.5 | 47.8 | 20.5 | 5.9 | 74.2 | -1.84 | -23.9 | -49.4% |
| WY 01-02 | 90.7 | - | 5.5 | 96.2 | 83.5 | 17.1 | 5.6 | 106.1 | 0.82 | -10.6 | -11.1% |
| TOTAL | 579.4 | - | 37.0 | 616.3 | 544.2 | 155.7 | 38.7 | 738.6 | -0.17 | -122.1 | -19.8% |
| | 94.0% | - | 6.0% | | 73.7% | 21.1% | 5.2% | | | | |
| Treatment Cell 3 | | | | | | | | | | | |
| WY 95-96 | 102.4 | 5.3 | 5.2 | 112.9 | 88.2 | 7.4 | 5.3 | 100.8 | 0.47 | 11.6 | 10.3% |
| WY 96-97 | 58.4 | 3.9 | 5.8 | 68.0 | 61.9 | 7.6 | 5.3 | 74.9 | -0.41 | -6.4 | -9.5% |
| WY 97-98 | 43.0 | 7.9 | 6.0 | 56.9 | 35.7 | 8.1 | 5.0 | 48.8 | 0.58 | 7.5 | 13.2% |
| WY 98-99 | 59.4 | 4.7 | 4.8 | 68.9 | 52.4 | 8.6 | 5.9 | 66.9 | -0.55 | 2.6 | 3.8% |
| WY 99-00 | 89.9 | 5.2 | 5.3 | 100.4 | 77.6 | 8.0 | 5.4 | 91.0 | 0.52 | 8.9 | 8.9% |
| WY 00-01 | 60.8 | 2.3 | 3.6 | 66.7 | 43.1 | 7.6 | 5.8 | 56.5 | -0.96 | 11.2 | 16.8% |
| WY 01-02 | 89.6 | 3.6 | 5.4 | 98.6 | 37.3 | 6.4 | 5.5 | 49.2 | 0.50 | 48.9 | 49.6% |
| TOTAL | 503.4 | 32.8 | 36.2 | 572.4 | 396.2 | 53.7 | 38.1 | 487.9 | 0.15 | 84.3 | 14.7% |
| | 88.0% | 5.7% | 6.3% | | 81.2% | 11.0% | 7.8% | | | | |
| Treatment Cell 4 | | | | | | | | | | | |
| WY 95-96 | 116.1 | - | 1.9 | 117.9 | 110.0 | 8.4 | 1.9 | 120.3 | 0.14 | -2.5 | -2.1% |
| WY 96-97 | 89.9 | - | 2.1 | 92.0 | 83.4 | 8.5 | 1.9 | 93.9 | -0.25 | -1.6 | -1.8% |
| WY 97-98 | 73.5 | - | 2.2 | 75.7 | 63.9 | 9.3 | 1.8 | 75.0 | 0.44 | 0.2 | 0.3% |
| WY 98-99 | 62.6 | - | 1.8 | 64.3 | 53.3 | 9.2 | 2.1 | 64.6 | -0.20 | 0.0 | -0.1% |
| WY 99-00 | 70.9 | - | 1.9 | 72.8 | 71.9 | 8.9 | 1.9 | 82.8 | 0.15 | -10.1 | -13.8% |
| WY 00-01 | 47.8 | - | 1.3 | 49.1 | 39.6 | 7.7 | 2.1 | 49.4 | -0.53 | 0.3 | 0.7% |
| WY 01-02 | 83.5 | - | 2.0 | 85.4 | 76.3 | 6.4 | 2.0 | 84.6 | 0.28 | 0.5 | 0.6% |
| TOTAL | 544.2 | - | 13.1 | 557.3 | 498.4 | 58.3 | 13.8 | 570.5 | 0.02 | -13.2 | -2.4% |
| | 97.6% | - | 2.4% | | 87.4% | 10.2% | 2.4% | | | | |

[a] All water budget terms expressed as $hm^3$ (= 1,000,000 $m^3$). 1 $hm^3$ = 810.7 ac-ft.

[b] $I_s$ = total surface water inflow; $I_g$ = total groundwater inflow; P = precipitation; $O_s$ = total surface water outflow; $O_g$ = total groundwater outflow; ET = evapotranspiration; $\Delta S$ = change in storage volume; r = water budget residual; ε = water budget error.