

UPC Wind Sheffield Stormwater Analysis
Stormwater Treatment Sizing per VT Manual
Prepared by Pioneer Environmental Associates LLC.
September 22, 2006

Water Quality Volume Calculation (WQv) - Section 1.1.1

| Basin | Area (acres) | | % Impervious | Rv * | WQv** | | |
|--------------|--------------|--------------|--------------|------|---------|--------|--------|
| | Impervious | Total | | | acre-ft | gal | cu ft |
| B-01 | 2.6 | 23.1 | 11.5% | 0.15 | 0.27 | 86,427 | 11,554 |
| B-02 | 2.2 | 17.0 | 13.2% | 0.17 | 0.22 | 70,225 | 9,388 |
| B-03 | 1.6 | 12.8 | 12.3% | 0.16 | 0.15 | 50,157 | 6,706 |
| B-04 | 1.2 | 17.5 | 7.1% | 0.11 | 0.15 | 48,730 | 6,515 |
| B-05 | 1.3 | 24.7 | 5.2% | 0.10 | 0.18 | 58,591 | 7,833 |
| B-06 | 0.9 | 9.7 | 9.0% | 0.13 | 0.10 | 31,074 | 4,154 |
| B-07 | 1.1 | 13.4 | 8.4% | 0.13 | 0.13 | 41,106 | 5,495 |
| B-08 | 1.1 | 19.9 | 5.5% | 0.10 | 0.15 | 48,348 | 6,464 |
| B-09 | 1.2 | 10.8 | 11.1% | 0.15 | 0.12 | 39,420 | 5,270 |
| B-10 | 1.7 | 24.2 | 6.8% | 0.11 | 0.20 | 66,093 | 8,836 |
| B-11 | 0.5 | 2.5 | 20.8% | 0.24 | 0.04 | 14,210 | 1,900 |
| B-12 | 0.4 | 5.4 | 8.3% | 0.12 | 0.05 | 16,302 | 2,179 |
| Total | 15.9 | 180.8 | --- | --- | --- | --- | --- |

Measurements performed in GIS.

* $Rv = 0.05 + (I) * (0.009)$

** $WQv = [(0.9") * (Rv) * (A)] / 12$