## Table 5.30. Lyne Lane Site Impact on Human Receptors with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.1 | 0.2 | 0.0E+00 | 31.0 | 77.4 | H40 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.8 | 0.4 | - | 62.5 | 31.3 | H40 | Wealden |
| $PM_{10}$ | LT | 40 | EU | 2.0E-02 | 4.9E-02 | 4.6E-03 | 16.1 | 40.3 | H27 | Charlton |
| | 24h 90.41 | 50 | EU | 0.1 | 0.2 | - | 32.3 | 64.6 | H27 | Charlton |
| $PM_{2.5}$ | LT | 25 | EU | 2.0E-02 | 0.1 | 3.1E-03 | 10.5 | 42.0 | H27 | Charlton |
| $SO_2$ | LT | 50 | WHO | 9.9E-03 | 2.0E-02 | - | 9.6 | 19.3 | H15 | Hooton |
| | 15m 99.9 | 266 | UKAQS | 0.8 | 0.3 | - | 20.1 | 7.6 | H15 | Hooton |
| | 1 hr 99.73 | 350 | EU | 0.5 | 0.1 | - | 19.7 | 5.6 | H15 | Hooton |
| | 24h 99.18 | 125 | EU | 0.1 | 0.1 | - | 19.4 | 15.5 | H15 | Hooton |
| Benzene | LT | 16.25 | UKAQS | 1.2 | 7.5 | - | 1.7 | 10.3 | H30 | Charlton |
| | LT | 5 | EU | 1.2 | 24.2 | - | 1.7 | 33.4 | H30 | Charlton |
| CO | 8hr max | 10000 | EU | 0.6 | 6.0E-03 | - | 422.3 | 4.2 | H40 | Hooton |
| HCl | 1 hr max | 750 | H1 | 1.8 | 0.2 | - | 2.6 | 0.4 | H29 | Hooton |
| HF | Month Mn | 16 | H1 | 0.2 | 1.2 | - | 2.7 | 16.8 | H29 | Hooton |
| | 1 hr max | 160 | H1 | 0.2 | 0.1 | - | 5.2 | 3.2 | H29 | Hooton |
| PAH as B[a]P | LT | 0.001 | EU | 1.4E-05 | 1.4 | - | 2.4E-04 | 24.4 | H28 | Wealden |
| | LT | 0.00025 | UKAQS | 1.4E-05 | 5.6 | - | 2.4E-04 | 97.6 | H28 | Wealden |
| Pb | LT | 0.5 | EU | 2.4E-04 | 4.7E-02 | - | 1.1E-02 | 2.2 | H30 | Beddington |
| | LT | 0.25 | UKAQS | 2.4E-04 | 0.1 | - | 1.1E-02 | 4.5 | H30 | Beddington |
| Hg | LT | 0.25 | H1 | 2.4E-04 | 0.1 | - | 2.4E-03 | 1.0 | H30 | Beddington |
| | 1 hr max | 7.5 | H1 | 9.2E-03 | 0.1 | - | 1.4E-02 | 0.2 | H29 | Hooton |
| Sb | LT | 5 | H1 | 2.4E-03 | 4.7E-02 | - | 4.0E-03 | 0.1 | H30 | Beddington |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H29 | Hooton |
| As | LT | 0.006 | EU | 2.4E-03 | 39.3 | - | 3.1E-03 | 52.3 | H30 | Beddington |
| | LT | 0.003 | H1 | 2.4E-03 | 78.6 | - | 3.1E-03 | **104.6** | H30 | Beddington |
| Cd | LT | 0.005 | EU | 2.4E-04 | 4.7 | - | 4.9E-04 | 9.7 | H30 | Beddington |
| Cr | LT | 5 | H1 | 2.4E-03 | 4.7E-02 | - | 4.2E-03 | 0.1 | H30 | Beddington |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H29 | Hooton |
| Cr VI | LT | 0.0002 | H1 | 2.4E-04 | **118** | - | 2.0E-03 | **1017.9** | H30 | Hooton |
| Cu | LT | 10 | H1 | 2.4E-03 | 2.4E-02 | - | 1.9E-02 | 0.2 | H30 | Beddington |
| | 1 hr max | 200 | H1 | 0.1 | 4.6E-02 | - | 0.1 | 0.1 | H29 | Hooton |
| Mn | LT | 0.15 | H1 | 2.4E-03 | 1.6 | - | 8.1E-03 | 5.4 | H30 | Beddington |
| | 1 hr max | 1500 | H1 | 0.1 | 6.2E-03 | - | 0.1 | 6.9E-03 | H29 | Hooton |
| Ni | LT | 0.02 | EU | 2.4E-03 | 11.8 | - | 3.0E-03 | 15.1 | H30 | Beddington |
| V | LT | 5 | H1 | 2.4E-03 | 4.7E-02 | - | 5.7E-03 | 0.1 | H30 | Beddington |
| | 1 hr max | 1 | H1 | 0.1 | 9.2 | - | 0.1 | 9.9 | H29 | Hooton |
| $NH_3$ | LT | 180 | H1 | 1.1E-03 | 5.9E-04 | - | 1.4 | 0.8 | H22 | Hooton |
| | 1 hr max | 2500 | H1 | 1.8 | 0.1 | - | 3.6 | 0.1 | H29 | Hooton |
| PCB | LT | 0.2 | H1 | 2.4E-05 | 1.2E-02 | - | 8.8E-05 | 4.4E-02 | H30 | Beddington |
| | 1 hr max | 6 | H1 | 9.2E-04 | 1.5E-02 | - | 1.1E-03 | 1.8E-02 | H29 | Hooton |
| Dioxin & Furan | LT | - | - | 5.8E-08 | - | - | 8.5E-08 | - | H30 | Charlton |

## Table 5.31. Lyne Lane Site Impact on AQMA locations with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.1 | 0.2 | 0.0E+00 | 32.0 | 79.9 | AQMA12 | Beddington |
| | 1 hr 99.79 | 200 | EU | 1.5 | 0.8 | - | 49.5 | 24.8 | AQMA11 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 6.1E-03 | 1.5E-02 | 1.0E-05 | 15.6 | 38.9 | AQMA12 | Hooton |
| | 24h 90.41 | 50 | EU | 2.1E-02 | 4.3E-02 | - | 31.4 | 62.8 | AQMA11 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 6.1E-03 | 2.4E-02 | 6.7E-06 | 10.1 | 40.2 | AQMA12 | Hooton |

### Table 5.32. Lyne Lane Site Impact on AQMA locations with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 9.9E-03 | 2.5E-02 | 0.0E+00 | 41.8 | **104.5** | AQMA10 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.3 | 0.1 | - | 83.9 | 41.9 | AQMA10 | Wealden |
| $PM_{10}$ | LT | 40 | EU | 5.0E-03 | 1.3E-02 | 4.9E-03 | 15.7 | 39.2 | AQMA11 | Hooton |
| | 24h 90.41 | 50 | EU | 2.1E-02 | 4.3E-02 | - | 31.4 | 62.8 | AQMA11 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 2.5E-03 | 9.9E-03 | 2.4E-05 | 10.3 | 41.3 | AQMA13 | Hooton |

### Table 5.33. Lyne Lane Human and AQMA Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 38 |
| Hooton Gasification | 96 |
| Wealden EfW | 9 |
| Charlton Pyrolysis and GE | 21 |

### Table 5.34. Lyne Lane Ecological Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 2 |
| Hooton Gasification | 214 |
| Wealden EfW | 0 |
| Charlton Pyrolysis and GE | 0 |

## Table 5.35. Lyne Lane Site Impact on Ecological Receptors with Maximum PCs from Combustion Processes

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| Wim1 | 0.023 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.002 | 0.3 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 70.0 | Hooton | 0.003 | 0.3 | 1.0 | 97.4 | Hooton |
| Win1 | 0.031 | 0.3 | 0.00 | 23.2 | **232.3** | Hooton | 0.002 | 1.5 | 0.00 | 1.7 | **1170.6** | Hooton | 0.001 | 0.2 | 0.2 | 26.5 | Hooton | 0.005 | 0.2 | 0.8 | 28.0 | Hooton |
| Win2 | 0.032 | 0.3 | 0.00 | 23.2 | **232.3** | Hooton | 0.002 | 1.6 | 0.00 | 1.7 | **1170.6** | Hooton | 0.001 | 0.2 | 0.2 | 26.5 | Hooton | 0.005 | 0.2 | 0.8 | 28.0 | Hooton |
| Win3 | 0.033 | 0.3 | 0.00 | 23.2 | **232.3** | Hooton | 0.002 | 1.6 | 0.00 | 1.7 | **1170.7** | Hooton | 0.001 | 0.2 | 0.2 | 26.5 | Hooton | 0.005 | 0.2 | 0.8 | 28.0 | Hooton |
| Mol1 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol2 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol3 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol4 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol5 | 0.008 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.3 | Hooton |
| Wim2 | 0.022 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.002 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 70.0 | Hooton | 0.003 | 0.3 | 1.0 | 97.4 | Hooton |
| Wim3 | 0.022 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.002 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 70.0 | Hooton | 0.003 | 0.3 | 1.0 | 97.4 | Hooton |
| Wim4 | 0.021 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 70.0 | Hooton | 0.003 | 0.3 | 1.0 | 97.4 | Hooton |
| Mol6 | 0.008 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol7 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol8 | 0.008 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol9 | 0.008 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol10 | 0.007 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol11 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol12 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol13 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol14 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol15 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 0.001 | 0.1 | 0.9 | 94.4 | Hooton |
| TBH1 | 0.012 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.3** | Hooton | 0.001 | 0.2 | 0.2 | 95.0 | Hooton | 0.002 | 0.2 | 0.7 | 68.9 | Hooton |
| TBH2 | 0.022 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.5 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.2 | Hooton | 0.003 | 0.3 | 0.9 | 86.8 | Hooton |
| TBH3 | 0.022 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.5 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 0.003 | 0.3 | 0.9 | 86.8 | Hooton |
| TBH4 | 0.042 | 0.4 | 0.00 | 13.4 | **134.2** | Hooton | 0.003 | 0.9 | 0.00 | 1.0 | **300.1** | Hooton | 0.002 | 0.9 | 0.2 | 95.7 | Hooton | 0.006 | 0.6 | 0.8 | 84.2 | Hooton |

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| TBH5 | 0.013 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH6 | 0.014 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH7 | 0.019 | 0.2 | 0.08 | 13.5 | **134.7** | Hooton | 0.001 | 0.4 | 0.01 | 1.0 | **301.2** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 0.003 | 0.3 | 0.8 | 83.9 | Hooton |
| TBH8 | 0.020 | 0.2 | 0.08 | 13.5 | **134.7** | Hooton | 0.001 | 0.4 | 0.01 | 1.0 | **301.2** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 0.003 | 0.3 | 0.8 | 83.9 | Hooton |
| TBH9 | 0.012 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.3** | Hooton | 0.001 | 0.3 | 0.2 | 95.0 | Hooton | 0.002 | 0.2 | 0.7 | 68.9 | Hooton |
| TBH10 | 0.012 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.3** | Hooton | 0.001 | 0.3 | 0.2 | 95.0 | Hooton | 0.002 | 0.2 | 0.7 | 68.9 | Hooton |
| TBH11 | 0.014 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH12 | 0.014 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH13 | 0.013 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH14 | 0.013 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH15 | 0.014 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH16 | 0.014 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH17 | 0.015 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 0.002 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH18 | 0.058 | 0.6 | 0.06 | 13.5 | **134.9** | Hooton | 0.004 | 1.3 | 0.00 | 1.0 | **301.8** | Hooton | 0.003 | 1.2 | 0.2 | 96.0 | Hooton | 0.009 | 0.9 | 0.8 | 84.5 | Hooton |
| TBH19 | 0.043 | 0.4 | 0.06 | 13.5 | **134.8** | Hooton | 0.003 | 1.0 | 0.00 | 1.0 | **301.5** | Hooton | 0.002 | 0.9 | 0.2 | 95.7 | Hooton | 0.007 | 0.7 | 0.8 | 84.3 | Hooton |
| TBH20 | 0.043 | 0.4 | 0.08 | 13.5 | **134.9** | Hooton | 0.003 | 1.0 | 0.01 | 1.0 | **301.7** | Hooton | 0.002 | 0.9 | 0.2 | 95.7 | Hooton | 0.006 | 0.6 | 0.8 | 84.2 | Hooton |
| TBH21 | 0.058 | 0.6 | 0.08 | 13.5 | **135.1** | Hooton | 0.004 | 1.3 | 0.01 | 1.0 | **302.1** | Hooton | 0.003 | 1.2 | 0.2 | 96.0 | Hooton | 0.009 | 0.9 | 0.8 | 84.5 | Hooton |
| SWL1 | 0.044 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.4 | 0.00 | 1.2 | **526.1** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 0.007 | 0.2 | 0.9 | 28.6 | Hooton |
| SWL2 | 0.360 | 1.8 | 0.08 | 16.7 | 83.7 | Bed. | 0.026 | 11.5 | 0.01 | 1.2 | **538.7** | Bed. | 0.016 | 1.8 | 0.2 | 24.8 | Hooton | 0.053 | 1.8 | 0.9 | 30.6 | Hooton |
| SWL3 | 0.063 | 0.3 | 0.00 | 16.4 | 81.8 | Hooton | 0.004 | 2.0 | 0.00 | 1.2 | **526.7** | Hooton | 0.003 | 0.3 | 0.2 | 23.3 | Hooton | 0.009 | 0.3 | 1.1 | 37.9 | Hooton |
| SWL4 | 0.059 | 0.3 | 0.00 | 16.4 | 81.8 | Hooton | 0.004 | 1.9 | 0.00 | 1.2 | **526.6** | Hooton | 0.003 | 0.3 | 0.2 | 23.3 | Hooton | 0.009 | 0.3 | 1.1 | 37.8 | Hooton |
| SWL5 | 0.042 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.4 | 0.00 | 1.2 | **526.0** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 0.006 | 0.2 | 1.1 | 37.8 | Hooton |
| SWL6 | 0.042 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.3 | 0.00 | 1.2 | **526.0** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 0.006 | 0.2 | 1.1 | 35.4 | Hooton |
| SWL7 | 0.185 | 0.9 | 0.07 | 16.6 | 82.8 | Hooton | 0.013 | 5.9 | 0.00 | 1.2 | **532.8** | Hooton | 0.008 | 0.9 | 0.2 | 23.9 | Hooton | 0.028 | 0.9 | 0.9 | 29.7 | Hooton |
| SWL8 | 0.048 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.5 | 0.00 | 1.2 | **526.2** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 0.007 | 0.2 | 1.1 | 35.4 | Hooton |
| Ric1 | 0.030 | 0.3 | 0.00 | 26.4 | **264.3** | Hooton | 0.002 | 1.5 | 0.00 | 1.9 | **1332.5** | Hooton | 0.001 | 0.2 | 0.2 | 27.8 | Hooton | 0.005 | 0.2 | 1.1 | 35.3 | Hooton |
| Ric2 | 0.024 | 0.2 | 0.00 | 26.4 | **264.2** | Hooton | 0.002 | 1.2 | 0.00 | 1.9 | **1332.2** | Hooton | 0.001 | 0.1 | 0.2 | 27.8 | Hooton | 0.004 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric3 | 0.029 | 0.3 | 0.00 | 26.4 | **264.3** | Hooton | 0.002 | 1.5 | 0.00 | 1.9 | **1332.5** | Hooton | 0.001 | 0.2 | 0.2 | 27.8 | Hooton | 0.004 | 0.1 | 1.1 | 35.3 | Hooton |

For Lyne Lane, at Human receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.7µg/m$^3$ at receptor H30, North East of the Site, though at this location the LT PEC is, at 24.6µg/m$^3$, only 61.4% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for $NO_2$. PCs contributing to exceedances of stated objectives include for the annual mean H1 objectives of 0.003µg/m$^3$ for As and 0.0002µg/m$^3$ for CR VI, though these are considered over-estimates and on detailed assessment of the facilities would likely be compliant with the EAL. The road PCs at these locations are small, with the largest being for $NO_2$ at 2.6E-1µg/m$^3$. The majority of the WC PCs are split between the Hooton Gasification and Beddington ERF scenarios; though Wealden EfW provides PAH; and the WC PCs for $SO_2$, Benzene and Dioxins come from the Charlton Pyrolysis and GE scenario. All maximum PCs are at locations in the near vicinity of the site, receptors H29 or 30.

At Human receptors with maximum PECs, maximum PECs for $NO_2$, $SO_2$, CO and $NH_3$ come from further afield, where background concentrations are notably higher, for example $NO_2$ has a maximum LT PEC of 31.0µg/m$^3$ (77.4% of the objective) at H40, nearer to the Oakleaf Farm site, which is influenced by Heathrow airport. Other notable differences are that; for ST $NO_2$, Wealden EfW provides maximum PEC; for PM Charlton Pyrolysis and GE gives rise to maximum PECs; and ST $SO_2$ come under the Hooton Gasification scenario.

At AQMA receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.1µg/m$^3$ at AQMA12, North East of the Site, though at this location the LT PEC is, at 32.0µg/m$^3$, only 79.9% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for $NO_2$. The road PCs at these locations are small, with the largest being for $PM_{10}$ at 1.0E-5µg/m$^3$. The majority of the WC PCs are attributed to the Hooton Gasification scenario, though Beddington ERF provides WC PCs for $NO_2$. All maximum PCs are at the AQMAs nearest to the site, AQMA11 or 12.

At AQMA receptors with maximum PECs, PECs for $NO_2$ and $PM_{2.5}$ come from further afield, where monitored and background concentrations are higher, for example $NO_2$ has a maximum LT PEC of 41.8µg/m$^3$ (an exceedance of the objective) at AQMA 10, nearer to the Earlswood STW site. This PEC was also derived from a monitored concentration in 2015, the most recent available, so is now likely to be reduced. For $PM_{2.5}$, the maximum LT PEC was at AQMA 13, in Woking town centre. The road PCs at these locations are small, with the largest being for $PM_{10}$ at 1.4E-6µg/m$^3$. The majority of the WC PECs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PECs for LT $NO_2$ and Wealden EfW for ST $NO_2$.

For Ecological receptors, for nutrient nitrogen deposition, PCs are small, the maximum being 0.360keq ha$^{-1}$ y$^{-1}$ at SWL2, 1.8% of the $CL_{min}$. However, PEDRs are in exceedance of the $CL_{min}$ at all sites except those representing the South West London Waterbodies SPA due to high background deposition rates. Lyne Lane is expected to provide road PCs to nitrogen deposition at a number of sites along the M3, for example at SWL2 with a road PC of 0.08keq ha$^{-1}$ y$^{-1}$. For Nitric acid, there is a similar story, where PCs are low (maximum again being at SWL2, 11.5% of the $CL_{min}$), but at each site all PEDRs are in exceedance of the $CL_{min}$. Lyne Lane is expected to provide road PCs to nitric acid deposition at a number of sites along the M3, for example at SWL2 with a road PC of 0.01keq ha$^{-1}$ y$^{-1}$. For sulphuric acid, PCs are again low (the maximum being at SWL2 with 0.016keq ha$^{-1}$ y$^{-1}$, 1.8% of the $CL_{min}$) though for this parameter background deposition rates are lower, so PEDRs are in all cases below the $CL_{min}$, the maximum at 96%. For $NH_3$, PCs are also low (the maximum being 0.05µg/m$^3$ at SWL2), and PECs all fall below the Critical Level, though only marginally at some locations. For example at TBH5, 6 and 11-17, the PEC is 98% of the CL. For all ecological receptors and parameters, maximum PCs come from the Hooton Gasification scenario, with one exception, for SWL2 nitrogen depositions, where this is attributed to the Beddington ERF scenario. Overall, the South West London Waterbodies SPA experiences the highest PCs from the Lyne Lane site, with the Hooton Gasification scenario the least desirable in terms of its ecological impact.

By way of a summarising comparison, at Human and AQMA receptors, the worst case impact on any given pollutant PC or PEC comes, in a majority of cases, from the Hooton Gasification scenario, with Beddington ERF second, Charlton Pyrolysis and GE third, and Wealden EfW fourth. At Ecological receptors, WC PCs are almost exclusively under the Hooton Gasification scenario, though two come from the Beddington ERF scenario. As EAL exceedances are limited to those discussed, each waste management process is considered acceptable for potential application at the Lyne Lane Site, subject to detailed consideration.

# Trumps Farm

Taking the results from the meteorological year and proxy facility for the which worst case emissions for each pollutant are predicted, results are presented for the Trumps Farm site at Human receptors for the locations which experience both the maximum pollutant PC and PEC in Table 5.36 and Table 5.37, at AQMAs in Table 5.38 and Table 5.39 and for deposition rates at ecological receptors in Table 5.42. Colour coded tables provide a qualitative colour coded comparison of the relative impacts of each proxy facility at this SWLP site, using the count of the occasions a facility provides the worst case results for a given pollutant and the associated averaging period in the results tables. These are given at Human and AQMA receptors in Table 5.47, and at ecological receptors in Table 5.48. Percentages in **bold** are exceeding the relevant EAL.

### Table 5.36. Trumps Farm Site Impact on Human Receptors with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| **$NO_2$** | LT | 40 | EU | 0.7 | 1.8 | 1.0E-02 | 18.2 | 45.6 | H32 | Beddington |
| | 1 hr 99.79 | 200 | EU | 6.1 | 3.1 | - | 40.9 | 20.5 | H33 | Beddington |
| **$PM_{10}$** | LT | 40 | EU | 0.1 | 0.1 | 1.6E-03 | 13.7 | 34.4 | H32 | Hooton |
| | 24h 90.41 | 50 | EU | 0.2 | 0.4 | - | 27.6 | 55.1 | H32 | Hooton |
| **$PM_{2.5}$** | LT | 25 | EU | 0.1 | 0.2 | 1.1E-03 | 9.2 | 36.6 | H32 | Hooton |
| **$SO_2$** | LT | 50 | WHO | 0.4 | 0.9 | - | 3.8 | 7.6 | H32 | Charlton |
| | 15m 99.9 | 266 | UKAQS | 12.7 | 4.8 | - | 19.3 | 7.2 | H31 | Charlton |
| | 1 hr 99.73 | 350 | EU | 9.2 | 2.6 | - | 15.7 | 4.5 | H31 | Charlton |
| | 24h 99.18 | 125 | EU | 2.6 | 2.1 | - | 9.2 | 7.3 | H33 | Charlton |
| **Benzene** | LT | 16.25 | UKAQS | 0.9 | 5.4 | - | 1.3 | 8.0 | H32 | Charlton |
| | LT | 5 | EU | 0.9 | 17.6 | - | 1.3 | 26.1 | H32 | Charlton |
| **CO** | 8hr max | 10000 | EU | 7.2 | 0.1 | - | 351.0 | 3.5 | H33 | Hooton |
| **HCl** | 1 hr max | 750 | H1 | 1.8 | 0.2 | - | 2.6 | 0.3 | H35 | Hooton |
| **HF** | Month Mn | 16 | H1 | 0.2 | 1.1 | - | 2.7 | 16.7 | H35 | Hooton |
| | 1 hr max | 160 | H1 | 0.2 | 0.1 | - | 5.2 | 3.2 | H35 | Hooton |
| **PAH as B[a]P** | LT | 0.001 | EU | 3.9E-05 | 3.9 | - | 2.7E-04 | 26.9 | H32 | Wealden |
| | LT | 0.00025 | UKAQS | 3.9E-05 | 15.6 | - | 2.7E-04 | **107.6** | H32 | Wealden |
| **Pb** | LT | 0.5 | EU | 2.6E-04 | 0.1 | - | 1.1E-02 | 2.3 | H32 | Hooton |
| | LT | 0.25 | UKAQS | 2.6E-04 | 0.1 | - | 1.1E-02 | 4.5 | H32 | Hooton |
| **Hg** | LT | 0.25 | H1 | 2.6E-04 | 0.1 | - | 2.5E-03 | 1.0 | H32 | Hooton |
| | 1 hr max | 7.5 | H1 | 8.9E-03 | 0.1 | - | 1.3E-02 | 0.2 | H35 | Hooton |
| **Sb** | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 4.2E-03 | 0.1 | H32 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H35 | Hooton |
| **As** | LT | 0.006 | EU | 2.6E-03 | 44.2 | - | 3.4E-03 | 57.2 | H32 | Hooton |
| | LT | 0.003 | H1 | 2.6E-03 | 88.3 | - | 3.4E-03 | **114.3** | H32 | Hooton |
| **Cd** | LT | 0.005 | EU | 2.6E-04 | 5.3 | - | 5.1E-04 | 10.3 | H32 | Hooton |
| **Cr** | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 4.4E-03 | 0.1 | H32 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H35 | Hooton |
| **Cr VI** | LT | 0.0002 | H1 | 2.6E-04 | **132** | - | 2.1E-03 | **1032.5** | H32 | Hooton |
| **Cu** | LT | 10 | H1 | 2.6E-03 | 2.6E-02 | - | 2.0E-02 | 0.2 | H32 | Hooton |
| | 1 hr max | 200 | H1 | 0.1 | 4.5E-02 | - | 0.1 | 0.1 | H35 | Hooton |
| **Mn** | LT | 0.15 | H1 | 2.6E-03 | 1.8 | - | 8.3E-03 | 5.6 | H32 | Hooton |
| | 1 hr max | 1500 | H1 | 0.1 | 5.9E-03 | - | 0.1 | 6.7E-03 | H35 | Hooton |
| **Ni** | LT | 0.02 | EU | 2.6E-03 | 13.2 | - | 3.3E-03 | 16.6 | H32 | Hooton |
| **V** | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 5.9E-03 | 0.1 | H32 | Hooton |
| | 1 hr max | 1 | H1 | 0.1 | 8.9 | - | 0.1 | 9.6 | H35 | Hooton |
| **$NH_3$** | LT | 180 | H1 | 0.1 | 2.9E-02 | - | 0.9 | 0.5 | H32 | Hooton |
| | 1 hr max | 2500 | H1 | 1.8 | 0.1 | - | 3.5 | 0.1 | H35 | Hooton |
| **PCB** | LT | 0.2 | H1 | 2.6E-05 | 1.3E-02 | - | 9.0E-05 | 4.5E-02 | H32 | Hooton |
| | 1 hr max | 6 | H1 | 8.9E-04 | 1.5E-02 | - | 1.0E-03 | 1.7E-02 | H35 | Hooton |
| **Dioxin & Furan** | LT | - | - | 4.2E-08 | - | - | 6.9E-08 | - | H32 | Charlton |

## Table 5.37. Trumps Farm Site Impact on Human Receptors with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.1 | 0.2 | 0.0E+00 | 30.9 | 77.4 | H40 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.7 | 0.3 | - | 62.4 | 31.2 | H40 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 3.1E-02 | 0.1 | 0.0E+00 | 16.1 | 40.4 | H27 | Hooton |
| | 24h 90.41 | 50 | EU | 0.1 | 0.2 | - | 32.3 | 64.6 | H27 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 3.1E-02 | 0.1 | 0.0E+00 | 10.5 | 42.0 | H27 | Hooton |
| $SO_2$ | LT | 50 | WHO | 1.2E-02 | 2.4E-02 | - | 9.7 | 19.3 | H15 | Hooton |
| | 15m 99.9 | 266 | UKAQS | 1.2 | 0.4 | - | 20.4 | 7.7 | H15 | Hooton |
| | 1 hr 99.73 | 350 | EU | 0.5 | 0.1 | - | 19.8 | 5.7 | H15 | Hooton |
| | 24h 99.18 | 125 | EU | 0.1 | 0.1 | - | 19.4 | 15.5 | H15 | Hooton |
| Benzene | LT | 16.25 | UKAQS | 0.9 | 5.4 | - | 1.3 | 8.0 | H32 | Charlton |
| | LT | 5 | EU | 0.9 | 17.6 | - | 1.3 | 26.1 | H32 | Charlton |
| CO | 8hr max | 10000 | EU | 0.6 | 5.8E-03 | - | 422.3 | 4.2 | H40 | Hooton |
| HCl | 1 hr max | 750 | H1 | 1.8 | 0.2 | - | 2.6 | 0.3 | H35 | Hooton |
| HF | Month Mn | 16 | H1 | 0.2 | 1.1 | - | 2.7 | 16.7 | H35 | Hooton |
| | 1 hr max | 160 | H1 | 0.2 | 0.1 | - | 5.2 | 3.2 | H35 | Hooton |
| PAH as B[a]P | LT | 0.001 | EU | 3.9E-05 | 3.9 | - | 2.7E-04 | 26.9 | H32 | Wealden |
| | LT | 0.00025 | UKAQS | 3.9E-05 | 15.6 | - | 2.7E-04 | **107.6** | H32 | Wealden |
| Pb | LT | 0.5 | EU | 2.6E-04 | 0.1 | - | 1.1E-02 | 2.3 | H32 | Hooton |
| | LT | 0.25 | UKAQS | 2.6E-04 | 0.1 | - | 1.1E-02 | 4.5 | H32 | Hooton |
| Hg | LT | 0.25 | H1 | 2.6E-04 | 0.1 | - | 2.5E-03 | 1.0 | H32 | Hooton |
| | 1 hr max | 7.5 | H1 | 8.9E-03 | 0.1 | - | 1.3E-02 | 0.2 | H35 | Hooton |
| Sb | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 4.2E-03 | 0.1 | H32 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H35 | Hooton |
| As | LT | 0.006 | EU | 2.6E-03 | 44.2 | - | 3.4E-03 | 57.2 | H32 | Hooton |
| | LT | 0.003 | H1 | 2.6E-03 | 88.3 | - | 3.4E-03 | **114.3** | H32 | Hooton |
| Cd | LT | 0.005 | EU | 2.6E-04 | 5.3 | - | 5.1E-04 | 10.3 | H32 | Hooton |
| Cr | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 4.4E-03 | 0.1 | H32 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H35 | Hooton |
| Cr VI | LT | 0.0002 | H1 | 2.6E-04 | **132** | - | 2.1E-03 | **1032.5** | H32 | Hooton |
| Cu | LT | 10 | H1 | 2.6E-03 | 2.6E-02 | - | 2.0E-02 | 0.2 | H32 | Hooton |
| | 1 hr max | 200 | H1 | 0.1 | 4.5E-02 | - | 0.1 | 0.1 | H35 | Hooton |
| Mn | LT | 0.15 | H1 | 2.6E-03 | 1.8 | - | 8.3E-03 | 5.6 | H32 | Hooton |
| | 1 hr max | 1500 | H1 | 0.1 | 5.9E-03 | - | 0.1 | 6.7E-03 | H35 | Hooton |
| Ni | LT | 0.02 | EU | 2.6E-03 | 13.2 | - | 3.3E-03 | 16.6 | H32 | Hooton |
| V | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 5.9E-03 | 0.1 | H32 | Hooton |
| | 1 hr max | 1 | H1 | 0.1 | 8.9 | - | 0.1 | 9.6 | H35 | Hooton |
| $NH_3$ | LT | 180 | H1 | 1.2E-03 | 6.5E-04 | - | 1.4 | 0.8 | H22 | Hooton |
| | 1 hr max | 2500 | H1 | 1.8 | 0.1 | - | 3.5 | 0.1 | H35 | Hooton |
| PCB | LT | 0.2 | H1 | 2.6E-05 | 1.3E-02 | - | 9.0E-05 | 4.5E-02 | H32 | Hooton |
| | 1 hr max | 6 | H1 | 8.9E-04 | 1.5E-02 | - | 1.0E-03 | 1.7E-02 | H35 | Hooton |
| Dioxin & Furan | LT | - | - | 4.2E-08 | - | - | 6.9E-08 | - | H32 | Charlton |

## Table 5.38. Trumps Farm Site Impact on AQMA locations with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.1 | 0.2 | 4.0E-02 | 24.1 | 60.3 | AQMA11 | Beddington |
| | 1 hr 99.79 | 200 | EU | 1.5 | 0.7 | - | 49.5 | 24.7 | AQMA11 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 7.1E-03 | 1.8E-02 | 4.9E-03 | 15.7 | 39.2 | AQMA11 | Hooton |
| | 24h 90.41 | 50 | EU | 2.5E-02 | 4.9E-02 | - | 31.4 | 62.8 | AQMA11 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 7.1E-03 | 2.8E-02 | 3.3E-03 | 10.2 | 40.9 | AQMA11 | Hooton |

### Table 5.39. Trumps Farm Site Impact on AQMA locations with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 1.0E-02 | 2.6E-02 | 0.0E+00 | 41.8 | **104.5** | AQMA10 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.2 | 0.1 | - | 83.8 | 41.9 | AQMA10 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 7.1E-03 | 1.8E-02 | 4.9E-03 | 15.7 | 39.2 | AQMA11 | Hooton |
| | 24h 90.41 | 50 | EU | 2.5E-02 | 4.9E-02 | - | 31.4 | 62.8 | AQMA11 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 2.5E-03 | 1.0E-02 | 2.4E-05 | 10.3 | 41.3 | AQMA13 | Hooton |

### Table 5.40. Trumps Farm Human and AQMA Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 9 |
| Hooton Gasification | 128 |
| Wealden EfW | 8 |
| Charlton Pyrolysis and GE | 19 |

### Table 5.41. Trumps Farm Ecological Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 0 |
| Hooton Gasification | 216 |
| Wealden EfW | 0 |
| Charlton Pyrolysis and GE | 0 |

## Table 5.42. Trumps Farm Site Impact on Ecological Receptors with Maximum PCs from Combustion Processes

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| Wim1 | 0.020 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 69.9 | Hooton | 3.0E-03 | 0.3 | 1.0 | 97.4 | Hooton |
| Win1 | 0.049 | 0.5 | 0.00 | 23.2 | **232.5** | Hooton | 0.004 | 2.5 | 0.00 | 1.7 | **1171.5** | Hooton | 0.002 | 0.3 | 0.2 | 26.6 | Hooton | 7.4E-03 | 0.2 | 0.8 | 28.1 | Hooton |
| Win2 | 0.043 | 0.4 | 0.00 | 23.2 | **232.4** | Hooton | 0.003 | 2.2 | 0.00 | 1.7 | **1171.2** | Hooton | 0.002 | 0.3 | 0.2 | 26.6 | Hooton | 6.5E-03 | 0.2 | 0.8 | 28.1 | Hooton |
| Win3 | 0.044 | 0.4 | 0.00 | 23.2 | **232.4** | Hooton | 0.003 | 2.2 | 0.00 | 1.7 | **1171.2** | Hooton | 0.002 | 0.3 | 0.2 | 26.6 | Hooton | 6.7E-03 | 0.2 | 0.8 | 28.1 | Hooton |
| Mol1 | 0.011 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.6E-03 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol2 | 0.011 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.6 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.7E-03 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol3 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.5E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol4 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.4E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol5 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.3E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Wim2 | 0.018 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 69.9 | Hooton | 2.8E-03 | 0.3 | 1.0 | 97.3 | Hooton |
| Wim3 | 0.019 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 69.9 | Hooton | 2.8E-03 | 0.3 | 1.0 | 97.3 | Hooton |
| Wim4 | 0.018 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.3 | 0.2 | 69.9 | Hooton | 2.7E-03 | 0.3 | 1.0 | 97.3 | Hooton |
| Mol6 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.4E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol7 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.5E-03 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol8 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.3E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol9 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.4E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol10 | 0.008 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.3E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol11 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.5E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol12 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.5E-03 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol13 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.5E-03 | 0.1 | 0.9 | 94.4 | Hooton |
| Mol14 | 0.010 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.5 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.6E-03 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol15 | 0.011 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.6 | 0.00 | 1.8 | **1232.9** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 1.7E-03 | 0.2 | 0.9 | 94.4 | Hooton |
| TBH1 | 0.012 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.3** | Hooton | 0.001 | 0.3 | 0.2 | 95.0 | Hooton | 1.8E-03 | 0.2 | 0.7 | 68.9 | Hooton |
| TBH2 | 0.024 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.5 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 3.7E-03 | 0.4 | 0.9 | 86.8 | Hooton |
| TBH3 | 0.025 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.6 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 3.7E-03 | 0.4 | 0.9 | 86.8 | Hooton |
| TBH4 | 0.103 | 1.0 | 0.00 | 13.5 | **134.8** | Hooton | 0.007 | 2.3 | 0.00 | 1.0 | **301.4** | Hooton | 0.005 | 2.2 | 0.2 | 97.0 | Hooton | 1.6E-02 | 1.6 | 0.9 | 85.2 | Hooton |

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| TBH5 | 0.016 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 2.4E-03 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH6 | 0.018 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.5** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 2.7E-03 | 0.3 | 1.0 | 98.0 | Hooton |
| TBH7 | 0.023 | 0.2 | 0.08 | 13.5 | **134.7** | Hooton | 0.002 | 0.5 | 0.01 | 1.0 | **301.3** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 3.4E-03 | 0.3 | 0.8 | 83.9 | Hooton |
| TBH8 | 0.024 | 0.2 | 0.08 | 13.5 | **134.7** | Hooton | 0.002 | 0.5 | 0.01 | 1.0 | **301.3** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 3.6E-03 | 0.4 | 0.8 | 84.0 | Hooton |
| TBH9 | 0.012 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.3** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 1.9E-03 | 0.2 | 0.7 | 68.9 | Hooton |
| TBH10 | 0.012 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.3** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 1.9E-03 | 0.2 | 0.7 | 68.9 | Hooton |
| TBH11 | 0.017 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.4 | 0.2 | 95.1 | Hooton | 2.6E-03 | 0.3 | 1.0 | 98.0 | Hooton |
| TBH12 | 0.017 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.4 | 0.2 | 95.1 | Hooton | 2.6E-03 | 0.3 | 1.0 | 98.0 | Hooton |
| TBH13 | 0.015 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 2.3E-03 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH14 | 0.016 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 2.4E-03 | 0.2 | 1.0 | 98.0 | Hooton |
| TBH15 | 0.017 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.4 | 0.2 | 95.1 | Hooton | 2.5E-03 | 0.3 | 1.0 | 98.0 | Hooton |
| TBH16 | 0.018 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.5** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 2.6E-03 | 0.3 | 1.0 | 98.0 | Hooton |
| TBH17 | 0.018 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.5** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 2.7E-03 | 0.3 | 1.0 | 98.0 | Hooton |
| TBH18 | 0.119 | 1.2 | 0.06 | 13.6 | **135.5** | Hooton | 0.009 | 2.7 | 0.00 | 1.0 | **303.1** | Hooton | 0.005 | 2.5 | 0.2 | 97.3 | Hooton | 1.8E-02 | 1.8 | 0.9 | 85.4 | Hooton |
| TBH19 | 0.069 | 0.7 | 0.06 | 13.5 | **135.0** | Hooton | 0.005 | 1.5 | 0.00 | 1.0 | **302.0** | Hooton | 0.003 | 1.5 | 0.2 | 96.2 | Hooton | 1.0E-02 | 1.0 | 0.8 | 84.6 | Hooton |
| TBH20 | 0.068 | 0.7 | 0.08 | 13.5 | **135.1** | Hooton | 0.005 | 1.5 | 0.01 | 1.0 | **302.3** | Hooton | 0.003 | 1.4 | 0.2 | 96.2 | Hooton | 1.0E-02 | 1.0 | 0.8 | 84.6 | Hooton |
| TBH21 | 0.122 | 1.2 | 0.08 | 13.6 | **135.7** | Hooton | 0.009 | 2.7 | 0.01 | 1.0 | **303.5** | Hooton | 0.005 | 2.6 | 0.2 | 97.4 | Hooton | 1.8E-02 | 1.8 | 0.9 | 85.4 | Hooton |
| SWL1 | 0.043 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.4 | 0.00 | 1.2 | **526.0** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 6.5E-03 | 0.2 | 0.9 | 28.6 | Hooton |
| SWL2 | 0.113 | 0.6 | 0.15 | 16.6 | 82.8 | Hooton | 0.008 | 3.6 | 0.01 | 1.2 | **532.9** | Hooton | 0.005 | 0.6 | 0.2 | 23.6 | Hooton | 1.7E-02 | 0.6 | 0.9 | 29.4 | Hooton |
| SWL3 | 0.052 | 0.3 | 0.00 | 16.4 | 81.8 | Hooton | 0.004 | 1.7 | 0.00 | 1.2 | **526.3** | Hooton | 0.002 | 0.3 | 0.2 | 23.3 | Hooton | 7.8E-03 | 0.3 | 1.1 | 37.8 | Hooton |
| SWL4 | 0.053 | 0.3 | 0.00 | 16.4 | 81.8 | Hooton | 0.004 | 1.7 | 0.00 | 1.2 | **526.4** | Hooton | 0.002 | 0.3 | 0.2 | 23.3 | Hooton | 8.0E-03 | 0.3 | 1.1 | 37.8 | Hooton |
| SWL5 | 0.049 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.6 | 0.00 | 1.2 | **526.2** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 7.3E-03 | 0.2 | 1.1 | 37.8 | Hooton |
| SWL6 | 0.030 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.002 | 1.0 | 0.00 | 1.2 | **525.6** | Hooton | 0.001 | 0.2 | 0.2 | 23.1 | Hooton | 4.6E-03 | 0.2 | 1.1 | 35.3 | Hooton |
| SWL7 | 0.108 | 0.5 | 0.07 | 16.5 | 82.4 | Hooton | 0.008 | 3.5 | 0.00 | 1.2 | **530.3** | Hooton | 0.005 | 0.6 | 0.2 | 23.5 | Hooton | 1.6E-02 | 0.5 | 0.9 | 29.4 | Hooton |
| SWL8 | 0.035 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.1 | 0.00 | 1.2 | **525.8** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 5.3E-03 | 0.2 | 1.1 | 35.4 | Hooton |
| Ric1 | 0.026 | 0.3 | 0.00 | 26.4 | **264.3** | Hooton | 0.002 | 1.3 | 0.00 | 1.9 | **1332.3** | Hooton | 0.001 | 0.2 | 0.2 | 27.8 | Hooton | 3.9E-03 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric2 | 0.019 | 0.2 | 0.00 | 26.4 | **264.2** | Hooton | 0.001 | 1.0 | 0.00 | 1.9 | **1332.0** | Hooton | 0.001 | 0.1 | 0.2 | 27.7 | Hooton | 2.9E-03 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric3 | 0.025 | 0.3 | 0.00 | 26.4 | **264.3** | Hooton | 0.002 | 1.3 | 0.00 | 1.9 | **1332.2** | Hooton | 0.001 | 0.2 | 0.2 | 27.8 | Hooton | 3.8E-03 | 0.1 | 1.1 | 35.3 | Hooton |

For Trumps Farm, at Human receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.7µg/m$^3$ at receptor H32, East of the Site, though at this location the LT PEC is, at 18.2µg/m$^3$, only 45.6% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for $NO_2$. PCs contributing to exceedances of stated objectives include for the annual mean AQS objective of 0.00025µg/m$^3$ for PAH, and the H1 objectives 0.003µg/m$^3$ for As and 0.0002µg/m$^3$ for CR VI, though these are considered over-estimates and on detailed assessment of the facilities would likely be compliant with the EAL. The road PCs at these locations are small, with the largest being for $NO_2$ at 1.0E-2µg/m$^3$. The majority of the WC PCs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PCs for $NO_2$; Wealden EfW for PAH; and the WC PCs for $SO_2$, Benzene and Dioxins come from the Charlton Pyrolysis and GE scenario. All maximum PCs are at locations in the near vicinity of the site, receptors H32, 33 or 35.

At Human receptors with maximum PECs, the profile of the WC locations and facilities are similar, with exceedances in the same pollutants and proxy scenarios. Maximum PECs for $NO_2$, $SO_2$ and CO however come from further afield, where background concentrations are notably higher, for example $NO_2$ has a maximum LT PEC of 30.9µg/m$^3$ (77.4% of the objective) at H40, nearer to the Oakleaf Farm site, which is influenced by Heathrow airport. Maximum $SO_2$ PECs come at H15, nearer to the Earlswood STW site. Also, maximum PM PECs are seen along the M3, but nearer to the Lyne Lane site as this is closer to the junction with the M25.

At AQMA receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.1µg/m$^3$ at AQMA11, South East of the Site, though at this location the LT PEC is, at 24.1µg/m$^3$, only 60.3% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for $NO_2$. The road PCs at these locations are small, with the largest being for $NO_2$ at 4.0E-2µg/m$^3$. The majority of the WC PCs are attributed to the Hooton Gasification scenario, though Beddington ERF provides WC PCs for $NO_2$. All maximum PCs are at the AQMAs nearest to the site, AQMA 11.

At AQMA receptors with maximum PECs, the PECs for $NO_2$ and $PM_{2.5}$ come from further afield, where monitored and background concentrations are respectively are higher, for example $NO_2$ has a maximum LT PEC of 41.8µg/m$^3$ (an exceedance of the objective) at AQMA 10, nearer to the Earlswood STW site. This PEC was also derived from a monitored concentration in 2015, the most recent available, so is now likely to be reduced. For $PM_{2.5}$, the maximum LT PEC was at AQMA 13, in Woking town centre. The road PCs at these locations are small, with the largest being for $PM_{10}$ at 4.9E-3µg/m$^3$. The majority of the WC PECs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PECs for LT $NO_2$.

For Ecological receptors, for nutrient nitrogen deposition, PCs are small, the maximum being 0.122keq ha$^{-1}$ y$^{-1}$ at TBH21, 1.2% of the $CL_{min}$. However, PEDRs are in exceedance of the $CL_{min}$ at all sites except those representing the South West London Waterbodies SPA due to high background deposition rates. Trumps Farm is expected to create road PCs to nitrogen deposition at multiple receptors along the M3, the maximum being 0.15keq ha$^{-1}$ y$^{-1}$ at SWL2. For Nitric acid, there is a similar story, where PCs are low (maximum again being at TBH21, 2.7% of the $CL_{min}$), but at each site all PEDRs are in exceedance of the $CL_{min}$. Trumps Farm is expected to create road PCs to nitric acid deposition at multiple receptors along the M3, the maximum being 0.01keq ha$^{-1}$ y$^{-1}$ at SWL2. For sulphuric acid, PCs are again low (the maximum being at TBH21 with 0.005keq ha$^{-1}$ y$^{-1}$, 0.6% of the $CL_{min}$) though for this parameter background deposition rates are lower, so PEDRs are in all cases below the $CL_{min}$, the maximum at 97.4%. For $NH_3$, PCs are also low (the maximums being 1.8E-2µg/m$^3$ at TBH18 and 21), and PECs all fall below the Critical Level, though only marginally at some locations. For example at TBH5, 6 and 11-17, the PEC is 98% of the CL. For all ecological receptors and parameters, maximum PCs come from the Hooton Gasification scenario. Overall, the Thames Basin Heath SPA experiences the highest PCs from the Trumps Farm site, with the Hooton Gasification scenario the least desirable in terms of its ecological impact.

By way of a summarising comparison, at Human and AQMA receptors, the worst case impact on any given pollutant PC or PEC comes, in a majority of cases, from the Hooton Gasification scenario, with Charlton Pyrolysis and GE second, Beddington ERF third and Wealden EfW fourth. At Ecological receptors, WC PCs are exclusively under the Hooton Gasification scenario. As EAL exceedances are limited to those discussed, each waste management process is considered acceptable for potential application at the Trumps Farm Site, subject to detailed consideration.

# Oakleaf Farm

Taking the results from the meteorological year and proxy facility for the which worst case emissions for each pollutant are predicted, results are presented for the Oakleaf Farm site at Human receptors for the locations which experience both the maximum pollutant PC and PEC in Table 5.43 and Table 5.44, at AQMAs in Table 5.45 and Table 5.46 and for deposition rates at ecological receptors in Table 5.49. Colour coded tables provide a qualitative colour coded comparison of the relative impacts of each proxy facility at this SWLP site, using the count of the occasions a facility provides the worst case results for a given pollutant and the associated averaging period in the results tables. These are given at Human and AQMA receptors in Table 5.47, and at ecological receptors in Table 5.48. Percentages in **bold** are exceeding the relevant EAL.

### Table 5.43. Oakleaf Farm Site Impact on Human Receptors with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.5 | 1.2 | 1.0E-01 | 22.4 | 56.1 | H41 | Charlton |
| | 1 hr 99.79 | 200 | EU | 6.7 | 3.3 | - | 55.8 | 27.9 | H37 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 3.3E-02 | 0.1 | 1.2E-03 | 14.3 | 35.8 | H40 | Hooton |
| | 24h 90.41 | 50 | EU | 0.1 | 0.2 | - | 28.7 | 57.4 | H40 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 3.3E-02 | 0.1 | 7.7E-04 | 9.5 | 38.0 | H40 | Hooton |
| $SO_2$ | LT | 50 | WHO | 0.6 | 1.2 | - | 5.5 | 11.1 | H41 | Charlton |
| | 15m 99.9 | 266 | UKAQS | 14.8 | 5.6 | - | 24.7 | 9.3 | H39 | Charlton |
| | 1 hr 99.73 | 350 | EU | 12.6 | 3.6 | - | 22.4 | 6.4 | H39 | Charlton |
| | 24h 99.18 | 125 | EU | 5.3 | 4.3 | - | 15.2 | 12.2 | H39 | Charlton |
| Benzene | LT | 16.25 | UKAQS | 1.3 | 8.1 | - | 1.9 | 11.7 | H41 | Charlton |
| | LT | 5 | EU | 1.3 | 26.3 | - | 1.9 | 37.9 | H41 | Charlton |
| CO | 8hr max | 10000 | EU | 9.3 | 0.1 | - | 416.4 | 4.2 | H39 | Hooton |
| HCl | 1 hr max | 750 | H1 | 2.0 | 0.3 | - | 2.8 | 0.4 | H39 | Hooton |
| HF | Month Mn | 16 | H1 | 0.2 | 1.2 | - | 2.7 | 16.9 | H39 | Hooton |
| | 1 hr max | 160 | H1 | 0.2 | 0.1 | - | 5.2 | 3.2 | H39 | Hooton |
| PAH as B[a]P | LT | 0.001 | EU | 2.3E-05 | 2.3 | - | 2.5E-04 | 25.3 | H40 | Wealden |
| | LT | 0.00025 | UKAQS | 2.3E-05 | 9.2 | - | 2.5E-04 | **101.2** | H40 | Wealden |
| Pb | LT | 0.5 | EU | 1.6E-04 | 3.3E-02 | - | 1.1E-02 | 2.2 | H40 | Hooton |
| | LT | 0.25 | UKAQS | 1.6E-04 | 0.1 | - | 1.1E-02 | 4.5 | H40 | Hooton |
| Hg | LT | 0.25 | H1 | 1.6E-04 | 0.1 | - | 2.4E-03 | 0.9 | H40 | Hooton |
| | 1 hr max | 7.5 | H1 | 9.9E-03 | 0.1 | - | 1.4E-02 | 0.2 | H39 | Hooton |
| Sb | LT | 5 | H1 | 1.6E-03 | 3.3E-02 | - | 3.2E-03 | 0.1 | H40 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H39 | Hooton |
| As | LT | 0.006 | EU | 1.6E-03 | 27.1 | - | 2.4E-03 | 40.1 | H40 | Hooton |
| | LT | 0.003 | H1 | 1.6E-03 | 54.2 | - | 2.4E-03 | 80.2 | H40 | Hooton |
| Cd | LT | 0.005 | EU | 1.6E-04 | 3.3 | - | 4.1E-04 | 8.3 | H40 | Hooton |
| Cr | LT | 5 | H1 | 1.6E-03 | 3.3E-02 | - | 3.4E-03 | 0.1 | H40 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H39 | Hooton |
| Cr VI | LT | 0.0002 | H1 | 1.6E-04 | 81 | - | 2.0E-03 | **981.4** | H40 | Hooton |
| Cu | LT | 10 | H1 | 1.6E-03 | 1.6E-02 | - | 1.9E-02 | 0.2 | H40 | Hooton |
| | 1 hr max | 200 | H1 | 0.1 | 5.0E-02 | - | 0.1 | 0.1 | H39 | Hooton |
| Mn | LT | 0.15 | H1 | 1.6E-03 | 1.1 | - | 7.3E-03 | 4.9 | H40 | Hooton |
| | 1 hr max | 1500 | H1 | 0.1 | 6.6E-03 | - | 0.1 | 7.4E-03 | H39 | Hooton |
| Ni | LT | 0.02 | EU | 1.6E-03 | 8.1 | - | 2.3E-03 | 11.5 | H40 | Hooton |
| V | LT | 5 | H1 | 1.6E-03 | 3.3E-02 | - | 4.9E-03 | 0.1 | H40 | Hooton |
| | 1 hr max | 1 | H1 | 0.1 | 9.9 | - | 0.1 | 10.6 | H39 | Hooton |
| $NH_3$ | LT | 180 | H1 | 3.3E-02 | 1.8E-02 | - | 1.2 | 0.6 | H40 | Hooton |
| | 1 hr max | 2500 | H1 | 2.0 | 0.1 | - | 4.2 | 0.2 | H39 | Hooton |
| PCB | LT | 0.2 | H1 | 1.6E-05 | 8.1E-03 | - | 8.0E-05 | 4.0E-02 | H40 | Hooton |
| | 1 hr max | 6 | H1 | 9.9E-04 | 1.7E-02 | - | 1.1E-03 | 1.9E-02 | H39 | Hooton |
| Dioxin & Furan | LT | - | - | 6.3E-08 | - | - | 9.0E-08 | - | H41 | Charlton |

## Table 5.44. Oakleaf Farm Site Impact on Human Receptors with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.4 | 0.9 | 1.0E-02 | 31.3 | 78.2 | H40 | Beddington |
| | 1 hr 99.79 | 200 | EU | 4.9 | 2.5 | - | 66.7 | 33.3 | H40 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 4.9E-03 | 1.2E-02 | 0.0E+00 | 16.1 | 40.3 | H27 | Hooton |
| | 24h 90.41 | 50 | EU | 1.8E-02 | 3.5E-02 | - | 32.2 | 64.5 | H27 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 4.9E-03 | 1.9E-02 | 0.0E+00 | 10.5 | 41.9 | H27 | Hooton |
| $SO_2$ | LT | 50 | WHO | 5.6E-03 | 1.1E-02 | - | 9.6 | 19.3 | H15 | Hooton |
| | 15m 99.9 | 266 | UKAQS | 14.8 | 5.6 | - | 24.7 | 9.3 | H39 | Charlton |
| | 1 hr 99.73 | 350 | EU | 12.6 | 3.6 | - | 22.4 | 6.4 | H39 | Charlton |
| | 24h 99.18 | 125 | EU | 0.1 | 0.1 | - | 19.4 | 15.5 | H15 | Hooton |
| Benzene | LT | 16.25 | UKAQS | 1.3 | 8.1 | - | 1.9 | 11.7 | H41 | Charlton |
| | LT | 5 | EU | 1.3 | 26.3 | - | 1.9 | 37.9 | H41 | Charlton |
| CO | 8hr max | 10000 | EU | 3.9 | 3.9E-02 | - | 425.7 | 4.3 | H40 | Hooton |
| HCl | 1 hr max | 750 | H1 | 2.0 | 0.3 | - | 2.8 | 0.4 | H39 | Hooton |
| HF | Month Mn | 16 | H1 | 0.2 | 1.2 | - | 2.7 | 16.9 | H39 | Hooton |
| | 1 hr max | 160 | H1 | 0.2 | 0.1 | - | 5.2 | 3.2 | H39 | Hooton |
| PAH as B[a]P | LT | 0.001 | EU | 2.3E-05 | 2.3 | - | 2.5E-04 | 25.3 | H40 | Wealden |
| | LT | 0.00025 | UKAQS | 2.3E-05 | 9.2 | - | 2.5E-04 | **101.2** | H40 | Wealden |
| Pb | LT | 0.5 | EU | 1.6E-04 | 3.3E-02 | - | 1.1E-02 | 2.2 | H40 | Hooton |
| | LT | 0.25 | UKAQS | 1.6E-04 | 0.1 | - | 1.1E-02 | 4.5 | H40 | Hooton |
| Hg | LT | 0.25 | H1 | 1.6E-04 | 0.1 | - | 2.4E-03 | 0.9 | H40 | Hooton |
| | 1 hr max | 7.5 | H1 | 9.9E-03 | 0.1 | - | 1.4E-02 | 0.2 | H39 | Hooton |
| Sb | LT | 5 | H1 | 1.6E-03 | 3.3E-02 | - | 3.2E-03 | 0.1 | H40 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H39 | Hooton |
| As | LT | 0.006 | EU | 1.6E-03 | 27.1 | - | 2.4E-03 | 40.1 | H40 | Hooton |
| | LT | 0.003 | H1 | 1.6E-03 | 54.2 | - | 2.4E-03 | 80.2 | H40 | Hooton |
| Cd | LT | 0.005 | EU | 1.6E-04 | 3.3 | - | 4.1E-04 | 8.3 | H40 | Hooton |
| Cr | LT | 5 | H1 | 1.6E-03 | 3.3E-02 | - | 3.4E-03 | 0.1 | H40 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H39 | Hooton |
| Cr VI | LT | 0.0002 | H1 | 1.6E-04 | 81 | - | 2.0E-03 | **981.4** | H40 | Hooton |
| Cu | LT | 10 | H1 | 1.6E-03 | 1.6E-02 | - | 1.9E-02 | 0.2 | H40 | Hooton |
| | 1 hr max | 200 | H1 | 0.1 | 5.0E-02 | - | 0.1 | 0.1 | H39 | Hooton |
| Mn | LT | 0.15 | H1 | 1.6E-03 | 1.1 | - | 7.3E-03 | 4.9 | H40 | Hooton |
| | 1 hr max | 1500 | H1 | 0.1 | 6.6E-03 | - | 0.1 | 7.4E-03 | H39 | Hooton |
| Ni | LT | 0.02 | EU | 1.6E-03 | 8.1 | - | 2.3E-03 | 11.5 | H40 | Hooton |
| V | LT | 5 | H1 | 1.6E-03 | 3.3E-02 | - | 4.9E-03 | 0.1 | H40 | Hooton |
| | 1 hr max | 1 | H1 | 0.1 | 9.9 | - | 0.1 | 10.6 | H39 | Hooton |
| $NH_3$ | LT | 180 | H1 | 7.3E-04 | 4.1E-04 | - | 1.4 | 0.8 | H22 | Hooton |
| | 1 hr max | 2500 | H1 | 2.0 | 0.1 | - | 4.2 | 0.2 | H39 | Hooton |
| PCB | LT | 0.2 | H1 | 1.6E-05 | 8.1E-03 | - | 8.0E-05 | 4.0E-02 | H40 | Hooton |
| | 1 hr max | 6 | H1 | 9.9E-04 | 1.7E-02 | - | 1.1E-03 | 1.9E-02 | H39 | Hooton |
| Dioxin & Furan | LT | - | - | 6.3E-08 | - | - | 9.0E-08 | - | H41 | Charlton |

## Table 5.45. Oakleaf Farm Site Impact on AQMA locations with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.3 | 0.7 | 1.0E-02 | 32.2 | 80.5 | AQMA12 | Beddington |
| | 1 hr 99.79 | 200 | EU | 2.8 | 1.4 | - | 66.6 | 33.3 | AQMA12 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 2.5E-02 | 0.1 | 1.3E-03 | 15.6 | 39.0 | AQMA12 | Hooton |
| | 24h 90.41 | 50 | EU | 0.1 | 0.2 | - | 31.2 | 62.4 | AQMA12 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 2.5E-02 | 0.1 | 8.6E-04 | 10.1 | 40.3 | AQMA12 | Hooton |

### Table 5.46. Oakleaf Farm Site Impact on AQMA locations with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 8.7E-03 | 2.2E-02 | 0.0E+00 | 41.8 | **104.5** | AQMA10 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.3 | 0.1 | - | 83.9 | 41.9 | AQMA10 | Wealden |
| $PM_{10}$ | LT | 40 | EU | 2.0E-03 | 5.1E-03 | 4.0E-06 | 15.7 | 39.2 | AQMA11 | Hooton |
| | 24h 90.41 | 50 | EU | 7.7E-03 | 1.5E-02 | - | 31.4 | 62.8 | AQMA11 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 1.5E-03 | 5.9E-03 | 1.9E-06 | 10.3 | 41.3 | AQMA13 | Hooton |

### Table 5.47. Oakleaf Farm Human and AQMA Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 6 |
| Hooton Gasification | 126 |
| Wealden EfW | 9 |
| Charlton Pyrolysis and GE | 23 |

### Table 5.48. Oakleaf Farm Ecological Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 0 |
| Hooton Gasification | 208 |
| Wealden EfW | 0 |
| Charlton Pyrolysis and GE | 8 |

## Table 5.49. Oakleaf Farm Site Impact on Ecological Receptors with Maximum PCs from Combustion Processes

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| Wim1 | 0.018 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.3 | 0.2 | 69.9 | Hooton | 2.6E-03 | 0.3 | 1.0 | 97.3 | Hooton |
| Win1 | 0.028 | 0.3 | 0.00 | 23.2 | **232.3** | Hooton | 0.002 | 1.4 | 0.00 | 1.7 | **1170.4** | Hooton | 0.001 | 0.2 | 0.2 | 26.5 | Hooton | 4.2E-03 | 0.1 | 0.8 | 28.0 | Hooton |
| Win2 | 0.025 | 0.2 | 0.00 | 23.2 | **232.2** | Hooton | 0.002 | 1.2 | 0.00 | 1.7 | **1170.3** | Hooton | 0.001 | 0.1 | 0.2 | 26.5 | Hooton | 3.7E-03 | 0.1 | 0.8 | 28.0 | Hooton |
| Win3 | 0.024 | 0.2 | 0.00 | 23.2 | **232.2** | Hooton | 0.002 | 1.2 | 0.00 | 1.7 | **1170.2** | Hooton | 0.001 | 0.1 | 0.2 | 26.5 | Hooton | 3.6E-03 | 0.1 | 0.8 | 28.0 | Hooton |
| Mol1 | 0.007 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 9.8E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol2 | 0.007 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.1 | 0.2 | 40.4 | Hooton | 9.9E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol3 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.3E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol4 | 0.005 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.2E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol5 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.9E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Wim2 | 0.019 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 69.9 | Hooton | 2.9E-03 | 0.3 | 1.0 | 97.4 | Hooton |
| Wim3 | 0.019 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 69.9 | Hooton | 2.9E-03 | 0.3 | 1.0 | 97.4 | Hooton |
| Wim4 | 0.020 | 0.2 | 0.00 | 16.0 | **159.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.1 | **177.8** | Hooton | 0.001 | 0.4 | 0.2 | 69.9 | Hooton | 3.0E-03 | 0.3 | 1.0 | 97.4 | Hooton |
| Mol6 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 9.2E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol7 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 9.4E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol8 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.8E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol9 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.9E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol10 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.6E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol11 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.4E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol12 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.5E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol13 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.5E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol14 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 8.7E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| Mol15 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.000 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 0.000 | 0.0 | 0.2 | 40.4 | Hooton | 9.0E-04 | 0.1 | 0.9 | 94.3 | Hooton |
| TBH1 | 0.008 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.2** | Hooton | 0.000 | 0.2 | 0.2 | 94.9 | Hooton | 1.1E-03 | 0.1 | 0.7 | 68.8 | Hooton |
| TBH2 | 0.011 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.3** | Hooton | 0.001 | 0.2 | 0.2 | 95.0 | Hooton | 1.7E-03 | 0.2 | 0.9 | 86.6 | Hooton |
| TBH3 | 0.012 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.3** | Hooton | 0.001 | 0.2 | 0.2 | 95.0 | Hooton | 1.8E-03 | 0.2 | 0.9 | 86.6 | Hooton |
| TBH4 | 0.029 | 0.3 | 0.00 | 13.4 | **134.0** | Hooton | 0.002 | 0.6 | 0.00 | 1.0 | **299.7** | Hooton | 0.001 | 0.6 | 0.2 | 95.4 | Hooton | 4.4E-03 | 0.4 | 0.8 | 84.0 | Hooton |

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| TBH5 | 0.008 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.2** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.2E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH6 | 0.009 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.3** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.3E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH7 | 0.014 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 2.1E-03 | 0.2 | 0.8 | 83.8 | Hooton |
| TBH8 | 0.015 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.3 | 0.00 | 1.0 | **299.4** | Hooton | 0.001 | 0.3 | 0.2 | 95.1 | Hooton | 2.2E-03 | 0.2 | 0.8 | 83.8 | Hooton |
| TBH9 | 0.008 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.2** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.2E-03 | 0.1 | 0.7 | 68.8 | Hooton |
| TBH10 | 0.008 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.2** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.2E-03 | 0.1 | 0.7 | 68.8 | Hooton |
| TBH11 | 0.009 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.3** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.3E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH12 | 0.009 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.3** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.3E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH13 | 0.008 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.2** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.2E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH14 | 0.008 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.3** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.3E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH15 | 0.008 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.3** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.3E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH16 | 0.009 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.3** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.3E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH17 | 0.009 | 0.1 | 0.00 | 13.4 | **133.8** | Hooton | 0.001 | 0.2 | 0.00 | 1.0 | **299.3** | Hooton | 0.000 | 0.2 | 0.2 | 95.0 | Hooton | 1.3E-03 | 0.1 | 1.0 | 97.9 | Hooton |
| TBH18 | 0.027 | 0.3 | 0.00 | 13.4 | **134.0** | Hooton | 0.002 | 0.6 | 0.00 | 1.0 | **299.7** | Hooton | 0.001 | 0.6 | 0.2 | 95.4 | Hooton | 4.1E-03 | 0.4 | 0.8 | 84.0 | Hooton |
| TBH19 | 0.024 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.5 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 3.7E-03 | 0.4 | 0.8 | 84.0 | Hooton |
| TBH20 | 0.024 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.5 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 3.7E-03 | 0.4 | 0.8 | 84.0 | Hooton |
| TBH21 | 0.027 | 0.3 | 0.00 | 13.4 | **134.0** | Hooton | 0.002 | 0.6 | 0.00 | 1.0 | **299.7** | Hooton | 0.001 | 0.6 | 0.2 | 95.4 | Hooton | 4.1E-03 | 0.4 | 0.8 | 84.0 | Hooton |
| SWL1 | 0.018 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.001 | 0.6 | 0.00 | 1.2 | **525.2** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 2.7E-03 | 0.1 | 0.9 | 28.4 | Hooton |
| SWL2 | 0.031 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.002 | 1.0 | 0.00 | 1.2 | **525.6** | Hooton | 0.001 | 0.2 | 0.2 | 23.1 | Hooton | 4.6E-03 | 0.2 | 0.9 | 29.0 | Hooton |
| SWL3 | 0.083 | 0.4 | 0.00 | 16.4 | 81.9 | Charlton | 0.006 | 2.7 | 0.00 | 1.2 | **527.4** | Charlton | 0.014 | 1.6 | 0.2 | 24.6 | Charlton | 9.0E-03 | 0.3 | 1.1 | 37.8 | Charlton |
| SWL4 | 0.111 | 0.6 | 0.00 | 16.4 | 82.1 | Charlton | 0.008 | 3.6 | 0.00 | 1.2 | **528.3** | Charlton | 0.017 | 1.9 | 0.2 | 24.9 | Charlton | 1.3E-02 | 0.4 | 1.1 | 38.0 | Charlton |
| SWL5 | 0.107 | 0.5 | 0.06 | 16.5 | 82.3 | Hooton | 0.008 | 3.4 | 0.00 | 1.2 | **530.1** | Hooton | 0.005 | 0.5 | 0.2 | 23.5 | Hooton | 1.6E-02 | 0.5 | 1.1 | 38.1 | Hooton |
| SWL6 | 0.034 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.002 | 1.1 | 0.00 | 1.2 | **525.8** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 5.2E-03 | 0.2 | 1.1 | 35.4 | Hooton |
| SWL7 | 0.022 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.002 | 0.7 | 0.00 | 1.2 | **525.4** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 3.3E-03 | 0.1 | 0.9 | 28.9 | Hooton |
| SWL8 | 0.029 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.002 | 0.9 | 0.00 | 1.2 | **525.6** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 4.3E-03 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric1 | 0.020 | 0.2 | 0.00 | 26.4 | **264.2** | Hooton | 0.001 | 1.0 | 0.00 | 1.9 | **1332.0** | Hooton | 0.001 | 0.1 | 0.2 | 27.7 | Hooton | 3.0E-03 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric2 | 0.024 | 0.2 | 0.00 | 26.4 | **264.2** | Hooton | 0.002 | 1.2 | 0.00 | 1.9 | **1332.2** | Hooton | 0.001 | 0.2 | 0.2 | 27.8 | Hooton | 3.7E-03 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric3 | 0.019 | 0.2 | 0.00 | 26.4 | **264.2** | Hooton | 0.001 | 0.9 | 0.00 | 1.9 | **1331.9** | Hooton | 0.001 | 0.1 | 0.2 | 27.7 | Hooton | 2.8E-03 | 0.1 | 1.1 | 35.3 | Hooton |

For Oakleaf Farm, at Human receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.5µg/m$^3$ at receptor H41, West of the Site, though at this location the LT PEC is, at 22.4µg/m$^3$, only 56.1% of the annual mean objective. This PC is attributed to the Charlton Pyrolysis and GE scenario, which is WC for LT $NO_2$. PCs contributing to exceedances of stated objectives include for the annual mean AQS objective of 0.00025µg/m$^3$ for PAH and the H1 objective of 0.0002µg/m$^3$ for CR VI, though these are considered over-estimates and on detailed assessment of the facilities would likely be compliant with the EAL. The road PCs at these locations are small, with the largest being for $NO_2$ at 1.0E-1µg/m$^3$. The majority of the WC PCs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PCs for ST $NO_2$; Wealden EfW for PAH; and the WC PCs for ST $NO_2$, $SO_2$, Benzene and Dioxins come from the Charlton Pyrolysis and GE scenario. All maximum PCs are at locations in the near vicinity of the site, receptors H37, 39, 40 and 41.

At Human receptors with maximum PECs, maximum PECs for $PM_{10,}$ $PM_{2.5}$, $SO_2$ and $NH_3$ however come from further afield, where background concentrations are notably higher, for example $NH_3$ has a maximum LT PEC of 1.4µg/m$^3$ (0.8% of the objective) at H22, nearer to the Earlswood STW site. Maximum PM PECs are seen along the M3, nearer to the Lyne Lane and Trumps Farm sites. Other notable differences are for $SO_2$, the Hooton Gasification scenario provides maximum PECs at receptor 15.

At AQMA receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.3µg/m$^3$ at AQMA12, North of the Site, though at this location the LT PEC is, at 32.2µg/m$^3$, 80.5% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for $NO_2$. The road PCs at these locations are small, with the largest being for $NO_2$ at 1.0E-2µg/m$^3$. The majority of the WC PCs are attributed to the Hooton Gasification scenario, though Beddington ERF provides WC PCs for $NO_2$. All maximum PCs are at the AQMA nearest to the site, AQMA 12.

At AQMA receptors with maximum PECs, the PECs for $NO_2$, $PM_{10}$, and $PM_{2.5}$ come from further afield, where monitored/background concentrations are markedly higher, for example $NO_2$ has a maximum LT PEC of 41.8µg/m$^3$ (an exceedance of the objective) at AQMA 10, nearer to the Earlswood STW site. This PEC was also derived from a monitored concentration in 2015, the most recent available, so is now likely to be reduced. For $PM_{10}$, the maximum LT PEC was at AQMA 11, which is along the M25 in Chertsey. The road PCs at these locations are small, with the largest being for $PM_{10}$ at 4.0E-6µg/m$^3$. The majority of the WC PECs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PECs for LT $NO_2$ and Wealden EfW for ST $NO_2$.

For Ecological receptors, for nutrient nitrogen deposition, PCs are small, the maximum being 0.111keq ha$^{-1}$ y$^{-1}$ at SWL4, 0.6% of the $CL_{min}$. However, PEDRs are in exceedance of the $CL_{min}$ at all sites except those representing the South West London Waterbodies SPA due to high background deposition rates. Oakleaf Farm is expected to create negligible road PCs to nitrogen deposition, except at SWL3, 4 and 5. For Nitric acid, there is a similar story, where PCs are low (maximum again being at SWL4, 3.6% of the $CL_{min}$), but at each site all PEDRs are in exceedance of the $CL_{min}$. Oakleaf Farm is expected to create negligible road PCs to nitric acid deposition, except at SWL3, 4 and 5. For sulphuric acid, PCs are again low (the maximum being at SWL4 with 0.017keq ha$^{-1}$ y$^{-1}$, 1.9% of the $CL_{min}$) though for this parameter background deposition rates are lower, so PEDRs are in all cases below the $CL_{min}$, the maximum at 95.4%. For $NH_3$, PCs are also low (the maximum being 1.6E-2µg/m$^3$ at SWL5), and PECs all fall below the Critical Level, though only marginally at some locations. For example at TBH5, 6 and 11-17, the PEC is 97.9% of the CL. For all ecological receptors and parameters, maximum PCs come from the Hooton Gasification scenario, except at SWL3 and 4, where the Charlton Pyrolysis and GE scenario contributes the WC. Overall, the South West London Waterbodies SPA experiences the highest PCs from the Oakleaf Farm site, with the Hooton Gasification scenario the least desirable in terms of its ecological impact.

By way of a summarising comparison, at Human and AQMA receptors, the worst case impact on any given pollutant PC or PEC comes, in a majority of cases, from the Hooton Gasification scenario, with Charlton Pyrolysis and GE second, Wealden EfW third and Beddington ERF fourth. At Ecological receptors, WC PCs are almost exclusively under the Hooton Gasification scenario, though some are provided by Charlton Pyrolysis and GE. As EAL exceedances are limited to those discussed, each waste management process is considered acceptable for potential application at the Oakleaf Farm Site, subject to detailed consideration.

# Lambs Business Park

Taking the results from the meteorological year and proxy facility for the which worst case emissions for each pollutant are predicted, results are presented for the Lambs Business Park site at Human receptors for the locations which experience both the maximum pollutant PC and PEC in Table 5.50 and Table 5.51, at AQMAs in Table 5.52 and Table 5.53 and for deposition rates at ecological receptors in Table 5.56. Colour coded tables provide a qualitative colour coded comparison of the relative impacts of each proxy facility at this SWLP site, using the count of the occasions a facility provides the worst case results for a given pollutant and the associated averaging period in the results tables. These are given at Human and AQMA receptors in Table 5.54, and at ecological receptors in Table 5.55. Percentages in **bold** are exceeding the relevant EAL.

### Table 5.50. Lambs Business Park Site Impact on Human Receptors with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.7 | 1.7 | 2.0E-02 | 11.1 | 27.8 | H42 | Beddington |
| | 1 hr 99.79 | 200 | EU | 5.4 | 2.7 | - | 26.2 | 13.1 | H42 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 0.1 | 0.1 | 3.8E-03 | 13.1 | 32.6 | H42 | Hooton |
| | 24h 90.41 | 50 | EU | 0.2 | 0.4 | - | 26.2 | 52.4 | H42 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 0.1 | 0.2 | 2.4E-03 | 8.5 | 34.0 | H42 | Hooton |
| $SO_2$ | LT | 50 | WHO | 0.4 | 0.9 | - | 3.7 | 7.4 | H42 | Charlton |
| | 15m 99.9 | 266 | UKAQS | 6.8 | 2.6 | - | 13.4 | 5.0 | H42 | Charlton |
| | 1 hr 99.73 | 350 | EU | 6.0 | 1.7 | - | 12.5 | 3.6 | H42 | Charlton |
| | 24h 99.18 | 125 | EU | 2.1 | 1.7 | - | 8.7 | 6.9 | H42 | Charlton |
| Benzene | LT | 16.25 | UKAQS | 0.9 | 5.4 | - | 1.1 | 7.0 | H42 | Charlton |
| | LT | 5 | EU | 0.9 | 17.7 | - | 1.1 | 22.9 | H42 | Charlton |
| CO | 8hr max | 10000 | EU | 6.0 | 0.1 | - | 254.6 | 2.5 | H42 | Hooton |
| HCl | 1 hr max | 750 | H1 | 1.4 | 0.2 | - | 2.2 | 0.3 | H42 | Hooton |
| HF | Month Mn | 16 | H1 | 0.1 | 0.9 | - | 2.6 | 16.5 | H42 | Hooton |
| | 1 hr max | 160 | H1 | 0.1 | 0.1 | - | 5.1 | 3.2 | H42 | Hooton |
| PAH as B[a]P | LT | 0.001 | EU | 2.5E-05 | 2.5 | - | 2.6E-04 | 25.5 | H42 | Wealden |
| | LT | 0.00025 | UKAQS | 2.5E-05 | 10.0 | - | 2.6E-04 | **102.0** | H42 | Wealden |
| Pb | LT | 0.5 | EU | 2.6E-04 | 0.1 | - | 1.1E-02 | 2.3 | H42 | Hooton |
| | LT | 0.25 | UKAQS | 2.6E-04 | 0.1 | - | 1.1E-02 | 4.5 | H42 | Hooton |
| Hg | LT | 0.25 | H1 | 2.6E-04 | 0.1 | - | 2.5E-03 | 1.0 | H42 | Hooton |
| | 1 hr max | 7.5 | H1 | 7.0E-03 | 0.1 | - | 1.1E-02 | 0.2 | H42 | Hooton |
| Sb | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 4.2E-03 | 0.1 | H42 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 4.7E-02 | - | 0.1 | 4.9E-02 | H42 | Hooton |
| As | LT | 0.006 | EU | 2.6E-03 | 44.1 | - | 3.4E-03 | 57.1 | H42 | Hooton |
| | LT | 0.003 | H1 | 2.6E-03 | 88.2 | - | 3.4E-03 | **114.2** | H42 | Hooton |
| Cd | LT | 0.005 | EU | 2.6E-04 | 5.3 | - | 5.1E-04 | 10.3 | H42 | Hooton |
| Cr | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 4.4E-03 | 0.1 | H42 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 4.7E-02 | - | 0.1 | 4.9E-02 | H42 | Hooton |
| Cr VI | LT | 0.0002 | H1 | 2.6E-04 | **132** | - | 2.1E-03 | **1032.2** | H42 | Hooton |
| Cu | LT | 10 | H1 | 2.6E-03 | 2.6E-02 | - | 2.0E-02 | 0.2 | H42 | Hooton |
| | 1 hr max | 200 | H1 | 0.1 | 3.5E-02 | - | 0.1 | 0.1 | H42 | Hooton |
| Mn | LT | 0.15 | H1 | 2.6E-03 | 1.8 | - | 8.3E-03 | 5.6 | H42 | Hooton |
| | 1 hr max | 1500 | H1 | 0.1 | 4.7E-03 | - | 0.1 | 5.4E-03 | H42 | Hooton |
| Ni | LT | 0.02 | EU | 2.6E-03 | 13.2 | - | 3.3E-03 | 16.5 | H42 | Hooton |
| V | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 5.9E-03 | 0.1 | H42 | Hooton |
| | 1 hr max | 1 | H1 | 0.1 | 7.0 | - | 0.1 | 7.6 | H42 | Hooton |
| $NH_3$ | LT | 180 | H1 | 0.1 | 2.9E-02 | - | 1.2 | 0.7 | H42 | Hooton |
| | 1 hr max | 2500 | H1 | 1.4 | 0.1 | - | 3.7 | 0.1 | H42 | Hooton |
| PCB | LT | 0.2 | H1 | 2.6E-05 | 1.3E-02 | - | 9.0E-05 | 4.5E-02 | H42 | Hooton |
| | 1 hr max | 6 | H1 | 7.0E-04 | 1.2E-02 | - | 8.3E-04 | 1.4E-02 | H42 | Hooton |
| Dioxin & Furan | LT | - | - | 4.2E-08 | - | - | 6.9E-08 | - | H42 | Charlton |

## Table 5.51. Lambs Business Park Site Impact on Human Receptors with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 4.4E-03 | 1.1E-02 | 0.0E+00 | 30.9 | 77.2 | H40 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.2 | 0.1 | - | 61.9 | 31.0 | H40 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 3.6E-04 | 9.1E-04 | 0.0E+00 | 16.1 | 40.3 | H29 | Hooton |
| | 24h 90.41 | 50 | EU | 1.5E-03 | 2.9E-03 | - | 32.2 | 64.4 | H27 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 3.6E-04 | 1.5E-03 | 0.0E+00 | 10.5 | 41.9 | H29 | Hooton |
| $SO_2$ | LT | 50 | WHO | 3.0E-03 | 6.0E-03 | - | 9.6 | 19.3 | H15 | Hooton |
| | 15m 99.9 | 266 | UKAQS | 0.6 | 0.2 | - | 19.8 | 7.5 | H15 | Hooton |
| | 1 hr 99.73 | 350 | EU | 0.3 | 0.1 | - | 19.5 | 5.6 | H15 | Hooton |
| | 24h 99.18 | 125 | EU | 0.1 | 5.0E-02 | - | 19.3 | 15.5 | H15 | Hooton |
| Benzene | LT | 16.25 | UKAQS | 0.9 | 5.4 | - | 1.1 | 7.0 | H42 | Charlton |
| | LT | 5 | EU | 0.9 | 17.7 | - | 1.1 | 22.9 | H42 | Charlton |
| CO | 8hr max | 10000 | EU | 0.2 | 1.7E-03 | - | 421.9 | 4.2 | H40 | Beddington |
| HCl | 1 hr max | 750 | H1 | 1.4 | 0.2 | - | 2.2 | 0.3 | H42 | Hooton |
| HF | Month Mn | 16 | H1 | 0.1 | 0.9 | - | 2.6 | 16.5 | H42 | Hooton |
| | 1 hr max | 160 | H1 | 0.1 | 0.1 | - | 5.1 | 3.2 | H42 | Hooton |
| PAH as B[a]P | LT | 0.001 | EU | 2.5E-05 | 2.5 | - | 2.6E-04 | 25.5 | H42 | Wealden |
| | LT | 0.00025 | UKAQS | 2.5E-05 | 10.0 | - | 2.6E-04 | **102.0** | H42 | Wealden |
| Pb | LT | 0.5 | EU | 2.6E-04 | 0.1 | - | 1.1E-02 | 2.3 | H42 | Hooton |
| | LT | 0.25 | UKAQS | 2.6E-04 | 0.1 | - | 1.1E-02 | 4.5 | H42 | Hooton |
| Hg | LT | 0.25 | H1 | 2.6E-04 | 0.1 | - | 2.5E-03 | 1.0 | H42 | Hooton |
| | 1 hr max | 7.5 | H1 | 7.0E-03 | 0.1 | - | 1.1E-02 | 0.2 | H42 | Hooton |
| Sb | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 4.2E-03 | 0.1 | H42 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 4.7E-02 | - | 0.1 | 4.9E-02 | H42 | Hooton |
| As | LT | 0.006 | EU | 2.6E-03 | 44.1 | - | 3.4E-03 | 57.1 | H42 | Hooton |
| | LT | 0.003 | H1 | 2.6E-03 | 88.2 | - | 3.4E-03 | **114.2** | H42 | Hooton |
| Cd | LT | 0.005 | EU | 2.6E-04 | 5.3 | - | 5.1E-04 | 10.3 | H42 | Hooton |
| Cr | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 4.4E-03 | 0.1 | H42 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 4.7E-02 | - | 0.1 | 4.9E-02 | H42 | Hooton |
| Cr VI | LT | 0.0002 | H1 | 2.6E-04 | **132** | - | 2.1E-03 | **1032.2** | H42 | Hooton |
| Cu | LT | 10 | H1 | 2.6E-03 | 2.6E-02 | - | 2.0E-02 | 0.2 | H42 | Hooton |
| | 1 hr max | 200 | H1 | 0.1 | 3.5E-02 | - | 0.1 | 0.1 | H42 | Hooton |
| Mn | LT | 0.15 | H1 | 2.6E-03 | 1.8 | - | 8.3E-03 | 5.6 | H42 | Hooton |
| | 1 hr max | 1500 | H1 | 0.1 | 4.7E-03 | - | 0.1 | 5.4E-03 | H42 | Hooton |
| Ni | LT | 0.02 | EU | 2.6E-03 | 13.2 | - | 3.3E-03 | 16.5 | H42 | Hooton |
| V | LT | 5 | H1 | 2.6E-03 | 0.1 | - | 5.9E-03 | 0.1 | H42 | Hooton |
| | 1 hr max | 1 | H1 | 0.1 | 7.0 | - | 0.1 | 7.6 | H42 | Hooton |
| $NH_3$ | LT | 180 | H1 | 3.3E-03 | 1.8E-03 | - | 1.4 | 0.8 | H23 | Hooton |
| | 1 hr max | 2500 | H1 | 1.4 | 0.1 | - | 3.7 | 0.1 | H42 | Hooton |
| PCB | LT | 0.2 | H1 | 2.6E-05 | 1.3E-02 | - | 9.0E-05 | 4.5E-02 | H42 | Hooton |
| | 1 hr max | 6 | H1 | 7.0E-04 | 1.2E-02 | - | 8.3E-04 | 1.4E-02 | H42 | Hooton |
| Dioxin & Furan | LT | - | - | 4.2E-08 | - | - | 6.9E-08 | - | H42 | Charlton |

## Table 5.52. Lambs Business Park Site Impact on AQMA locations with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 4.6E-02 | 0.1 | 0.0E+00 | 20.0 | 50.1 | AQMA8 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.8 | 0.4 | - | 40.8 | 20.4 | AQMA8 | Wealden |
| $PM_{10}$ | LT | 40 | EU | 5.1E-03 | 1.3E-02 | 0.0E+00 | 13.9 | 34.7 | AQMA8 | Hooton |
| | 24h 90.41 | 50 | EU | 2.3E-02 | 4.6E-02 | - | 27.8 | 55.6 | AQMA8 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 5.1E-03 | 2.0E-02 | 0.0E+00 | 9.4 | 37.8 | AQMA8 | Hooton |

## Table 5.53. Lambs Business Park Site Impact on AQMA locations with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 1.5E-02 | 3.7E-02 | 0.0E+00 | 41.8 | **104.5** | AQMA10 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.6 | 0.3 | - | 84.2 | 42.1 | AQMA10 | Wealden |
| $PM_{10}$ | LT | 40 | EU | 4.0E-04 | 1.0E-03 | 0.0E+00 | 15.7 | 39.2 | AQMA11 | Hooton |
| | 24h 90.41 | 50 | EU | 1.6E-03 | 3.2E-03 | - | 31.4 | 62.7 | AQMA11 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 3.7E-04 | 1.5E-03 | 0.0E+00 | 10.3 | 41.3 | AQMA5 | Hooton |

## Table 5.54. Lambs Business Park Human and AQMA Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 8 |
| Hooton Gasification | 127 |
| Wealden EfW | 10 |
| Charlton Pyrolysis and GE | 19 |

## Table 5.55. Lambs Business Park Ecological Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 2 |
| Hooton Gasification | 214 |
| Wealden EfW | 0 |
| Charlton Pyrolysis and GE | 0 |

## Table 5.56. Lambs Business Park Site Impact on Ecological Receptors with Maximum PCs from Combustion Processes

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| Wim1 | 0.010 | 0.1 | 0.00 | 16.0 | **159.7** | Bed. | 7.4E-04 | 0.1 | 0.00 | 1.1 | **177.7** | Bed. | 2.7E-04 | 0.1 | 0.2 | 69.7 | Hooton | 9.1E-04 | 9.1E-02 | 1.0 | 97.2 | Hooton |
| Win1 | 0.002 | 0.0 | 0.00 | 23.2 | **232.0** | Hooton | 1.6E-04 | 0.1 | 0.00 | 1.7 | **1169.1** | Hooton | 9.7E-05 | 0.0 | 0.2 | 26.4 | Hooton | 3.3E-04 | 1.1E-02 | 0.8 | 27.9 | Hooton |
| Win2 | 0.002 | 0.0 | 0.00 | 23.2 | **232.0** | Hooton | 1.6E-04 | 0.1 | 0.00 | 1.7 | **1169.1** | Hooton | 1.0E-04 | 0.0 | 0.2 | 26.4 | Hooton | 3.4E-04 | 1.1E-02 | 0.8 | 27.9 | Hooton |
| Win3 | 0.002 | 0.0 | 0.00 | 23.2 | **232.0** | Hooton | 1.6E-04 | 0.1 | 0.00 | 1.7 | **1169.1** | Hooton | 9.9E-05 | 0.0 | 0.2 | 26.4 | Hooton | 3.4E-04 | 1.1E-02 | 0.8 | 27.9 | Hooton |
| Mol1 | 0.004 | 0.0 | 0.00 | 24.5 | **244.8** | Hooton | 2.9E-04 | 0.2 | 0.00 | 1.8 | **1232.6** | Hooton | 1.8E-04 | 0.0 | 0.2 | 40.4 | Hooton | 6.1E-04 | 6.1E-02 | 0.9 | 94.3 | Hooton |
| Mol2 | 0.004 | 0.0 | 0.00 | 24.5 | **244.8** | Hooton | 2.9E-04 | 0.2 | 0.00 | 1.8 | **1232.6** | Hooton | 1.8E-04 | 0.0 | 0.2 | 40.4 | Hooton | 6.1E-04 | 6.1E-02 | 0.9 | 94.3 | Hooton |
| Mol3 | 0.009 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 6.1E-04 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 3.8E-04 | 0.1 | 0.2 | 40.4 | Hooton | 1.3E-03 | 1.3E-01 | 0.9 | 94.4 | Hooton |
| Mol4 | 0.008 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 5.8E-04 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 3.6E-04 | 0.1 | 0.2 | 40.4 | Hooton | 1.2E-03 | 1.2E-01 | 0.9 | 94.3 | Hooton |
| Mol5 | 0.005 | 0.0 | 0.00 | 24.5 | **244.8** | Hooton | 3.4E-04 | 0.2 | 0.00 | 1.8 | **1232.6** | Hooton | 2.1E-04 | 0.0 | 0.2 | 40.4 | Hooton | 7.1E-04 | 7.1E-02 | 0.9 | 94.3 | Hooton |
| Wim2 | 0.006 | 0.1 | 0.00 | 16.0 | **159.7** | Hooton | 4.2E-04 | 0.1 | 0.00 | 1.1 | **177.6** | Hooton | 2.6E-04 | 0.1 | 0.2 | 69.7 | Hooton | 8.9E-04 | 8.9E-02 | 1.0 | 97.2 | Hooton |
| Wim3 | 0.006 | 0.1 | 0.00 | 16.0 | **159.7** | Hooton | 4.2E-04 | 0.1 | 0.00 | 1.1 | **177.6** | Hooton | 2.6E-04 | 0.1 | 0.2 | 69.7 | Hooton | 8.8E-04 | 8.8E-02 | 1.0 | 97.1 | Hooton |
| Wim4 | 0.006 | 0.1 | 0.00 | 16.0 | **159.7** | Hooton | 4.3E-04 | 0.1 | 0.00 | 1.1 | **177.6** | Hooton | 2.7E-04 | 0.1 | 0.2 | 69.7 | Hooton | 9.0E-04 | 9.0E-02 | 1.0 | 97.2 | Hooton |
| Mol6 | 0.005 | 0.0 | 0.00 | 24.5 | **244.8** | Hooton | 3.2E-04 | 0.2 | 0.00 | 1.8 | **1232.6** | Hooton | 2.0E-04 | 0.0 | 0.2 | 40.4 | Hooton | 6.8E-04 | 6.8E-02 | 0.9 | 94.3 | Hooton |
| Mol7 | 0.004 | 0.0 | 0.00 | 24.5 | **244.8** | Hooton | 3.1E-04 | 0.2 | 0.00 | 1.8 | **1232.6** | Hooton | 2.0E-04 | 0.0 | 0.2 | 40.4 | Hooton | 6.6E-04 | 6.6E-02 | 0.9 | 94.3 | Hooton |
| Mol8 | 0.005 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 3.6E-04 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 2.3E-04 | 0.0 | 0.2 | 40.4 | Hooton | 7.7E-04 | 7.7E-02 | 0.9 | 94.3 | Hooton |
| Mol9 | 0.005 | 0.0 | 0.00 | 24.5 | **244.8** | Hooton | 3.6E-04 | 0.3 | 0.00 | 1.8 | **1232.6** | Hooton | 2.2E-04 | 0.0 | 0.2 | 40.4 | Hooton | 7.5E-04 | 7.5E-02 | 0.9 | 94.3 | Hooton |
| Mol10 | 0.005 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 3.9E-04 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 2.4E-04 | 0.0 | 0.2 | 40.4 | Hooton | 8.1E-04 | 8.1E-02 | 0.9 | 94.3 | Hooton |
| Mol11 | 0.007 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 5.2E-04 | 0.4 | 0.00 | 1.8 | **1232.8** | Hooton | 3.2E-04 | 0.1 | 0.2 | 40.4 | Hooton | 1.1E-03 | 1.1E-01 | 0.9 | 94.3 | Hooton |
| Mol12 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 4.5E-04 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 2.8E-04 | 0.0 | 0.2 | 40.4 | Hooton | 9.5E-04 | 9.5E-02 | 0.9 | 94.3 | Hooton |
| Mol13 | 0.006 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 4.0E-04 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 2.5E-04 | 0.0 | 0.2 | 40.4 | Hooton | 8.4E-04 | 8.4E-02 | 0.9 | 94.3 | Hooton |
| Mol14 | 0.005 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 3.8E-04 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 2.4E-04 | 0.0 | 0.2 | 40.4 | Hooton | 8.0E-04 | 8.0E-02 | 0.9 | 94.3 | Hooton |
| Mol15 | 0.005 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 3.8E-04 | 0.3 | 0.00 | 1.8 | **1232.7** | Hooton | 2.4E-04 | 0.0 | 0.2 | 40.4 | Hooton | 8.0E-04 | 8.0E-02 | 0.9 | 94.3 | Hooton |
| TBH1 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.2E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.4E-04 | 0.1 | 0.2 | 94.9 | Hooton | 4.6E-04 | 4.6E-02 | 0.7 | 68.8 | Hooton |
| TBH2 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.7E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.1E-04 | 0.1 | 0.2 | 94.8 | Hooton | 3.6E-04 | 3.6E-02 | 0.9 | 86.5 | Hooton |
| TBH3 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.7E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.1E-04 | 0.1 | 0.2 | 94.8 | Hooton | 3.6E-04 | 3.6E-02 | 0.9 | 86.5 | Hooton |
| TBH4 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.6E-04 | 0.0 | 0.00 | 1.0 | **299.1** | Hooton | 9.8E-05 | 0.0 | 0.2 | 94.8 | Hooton | 3.3E-04 | 3.3E-02 | 0.8 | 83.6 | Hooton |

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| TBH5 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.2E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.4E-04 | 0.1 | 0.2 | 94.9 | Hooton | 4.6E-04 | 4.6E-02 | 1.0 | 97.8 | Hooton |
| TBH6 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.0E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.3E-04 | 4.3E-02 | 1.0 | 97.8 | Hooton |
| TBH7 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.4E-04 | 0.0 | 0.00 | 1.0 | **299.1** | Hooton | 8.6E-05 | 0.0 | 0.2 | 94.8 | Hooton | 2.9E-04 | 2.9E-02 | 0.8 | 83.6 | Hooton |
| TBH8 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.4E-04 | 0.0 | 0.00 | 1.0 | **299.1** | Hooton | 8.6E-05 | 0.0 | 0.2 | 94.8 | Hooton | 2.9E-04 | 2.9E-02 | 0.8 | 83.6 | Hooton |
| TBH9 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.1E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.5E-04 | 4.5E-02 | 0.7 | 68.8 | Hooton |
| TBH10 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.1E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.5E-04 | 4.5E-02 | 0.7 | 68.8 | Hooton |
| TBH11 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.1E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.5E-04 | 4.5E-02 | 1.0 | 97.8 | Hooton |
| TBH12 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.1E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.5E-04 | 4.5E-02 | 1.0 | 97.8 | Hooton |
| TBH13 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.1E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.4E-04 | 4.4E-02 | 1.0 | 97.8 | Hooton |
| TBH14 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.1E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.4E-04 | 4.4E-02 | 1.0 | 97.8 | Hooton |
| TBH15 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.2E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.9 | Hooton | 4.6E-04 | 4.6E-02 | 1.0 | 97.8 | Hooton |
| TBH16 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.1E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.4E-04 | 4.4E-02 | 1.0 | 97.8 | Hooton |
| TBH17 | 0.003 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 2.1E-04 | 0.1 | 0.00 | 1.0 | **299.1** | Hooton | 1.3E-04 | 0.1 | 0.2 | 94.8 | Hooton | 4.4E-04 | 4.4E-02 | 1.0 | 97.8 | Hooton |
| TBH18 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.6E-04 | 0.0 | 0.00 | 1.0 | **299.1** | Hooton | 9.8E-05 | 0.0 | 0.2 | 94.8 | Hooton | 3.3E-04 | 3.3E-02 | 0.8 | 83.6 | Hooton |
| TBH19 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.5E-04 | 0.0 | 0.00 | 1.0 | **299.1** | Hooton | 9.5E-05 | 0.0 | 0.2 | 94.8 | Hooton | 3.2E-04 | 3.2E-02 | 0.8 | 83.6 | Hooton |
| TBH20 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.5E-04 | 0.0 | 0.00 | 1.0 | **299.1** | Hooton | 9.5E-05 | 0.0 | 0.2 | 94.8 | Hooton | 3.2E-04 | 3.2E-02 | 0.8 | 83.6 | Hooton |
| TBH21 | 0.002 | 0.0 | 0.00 | 13.4 | **133.7** | Hooton | 1.6E-04 | 0.0 | 0.00 | 1.0 | **299.1** | Hooton | 9.8E-05 | 0.0 | 0.2 | 94.8 | Hooton | 3.3E-04 | 3.3E-02 | 0.8 | 83.6 | Hooton |
| SWL1 | 0.004 | 0.0 | 0.00 | 16.3 | 81.5 | Hooton | 2.5E-04 | 0.1 | 0.00 | 1.2 | **524.8** | Hooton | 1.6E-04 | 0.0 | 0.2 | 23.0 | Hooton | 5.3E-04 | 1.8E-02 | 0.9 | 28.4 | Hooton |
| SWL2 | 0.002 | 0.0 | 0.00 | 16.3 | 81.5 | Hooton | 1.8E-04 | 0.1 | 0.00 | 1.2 | **524.7** | Hooton | 1.1E-04 | 0.0 | 0.2 | 23.0 | Hooton | 3.7E-04 | 1.2E-02 | 0.9 | 28.8 | Hooton |
| SWL3 | 0.003 | 0.0 | 0.00 | 16.3 | 81.5 | Hooton | 1.9E-04 | 0.1 | 0.00 | 1.2 | **524.7** | Hooton | 1.2E-04 | 0.0 | 0.2 | 23.0 | Hooton | 4.0E-04 | 1.3E-02 | 1.1 | 37.6 | Hooton |
| SWL4 | 0.003 | 0.0 | 0.00 | 16.3 | 81.5 | Hooton | 1.9E-04 | 0.1 | 0.00 | 1.2 | **524.7** | Hooton | 1.2E-04 | 0.0 | 0.2 | 23.0 | Hooton | 4.0E-04 | 1.3E-02 | 1.1 | 37.6 | Hooton |
| SWL5 | 0.003 | 0.0 | 0.00 | 16.3 | 81.5 | Hooton | 1.8E-04 | 0.1 | 0.00 | 1.2 | **524.7** | Hooton | 1.1E-04 | 0.0 | 0.2 | 23.0 | Hooton | 3.9E-04 | 1.3E-02 | 1.1 | 37.6 | Hooton |
| SWL6 | 0.003 | 0.0 | 0.00 | 16.3 | 81.5 | Hooton | 2.4E-04 | 0.1 | 0.00 | 1.2 | **524.8** | Hooton | 1.5E-04 | 0.0 | 0.2 | 23.0 | Hooton | 5.1E-04 | 1.7E-02 | 1.1 | 35.2 | Hooton |
| SWL7 | 0.003 | 0.0 | 0.00 | 16.3 | 81.5 | Hooton | 1.8E-04 | 0.1 | 0.00 | 1.2 | **524.7** | Hooton | 1.2E-04 | 0.0 | 0.2 | 23.0 | Hooton | 3.9E-04 | 1.3E-02 | 0.9 | 28.8 | Hooton |
| SWL8 | 0.003 | 0.0 | 0.00 | 16.3 | 81.5 | Hooton | 2.5E-04 | 0.1 | 0.00 | 1.2 | **524.8** | Hooton | 1.5E-04 | 0.0 | 0.2 | 23.0 | Hooton | 5.2E-04 | 1.7E-02 | 1.1 | 35.2 | Hooton |
| Ric1 | 0.005 | 0.0 | 0.00 | 26.4 | **264.0** | Hooton | 3.5E-04 | 0.2 | 0.00 | 1.9 | **1331.2** | Hooton | 2.2E-04 | 0.0 | 0.2 | 27.7 | Hooton | 7.4E-04 | 2.5E-02 | 1.1 | 35.2 | Hooton |
| Ric2 | 0.005 | 0.0 | 0.00 | 26.4 | **264.0** | Hooton | 3.3E-04 | 0.2 | 0.00 | 1.9 | **1331.2** | Hooton | 2.1E-04 | 0.0 | 0.2 | 27.7 | Hooton | 7.0E-04 | 2.3E-02 | 1.1 | 35.2 | Hooton |
| Ric3 | 0.005 | 0.1 | 0.00 | 26.4 | **264.1** | Hooton | 3.6E-04 | 0.3 | 0.00 | 1.9 | **1331.2** | Hooton | 2.3E-04 | 0.0 | 0.2 | 27.7 | Hooton | 7.7E-04 | 2.6E-02 | 1.1 | 35.2 | Hooton |

For Lambs Business Park, at Human receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.7µg/$m^3$ at receptor H42, North of the Site, though at this rural location the LT PEC is, at 11.1µg/$m^3$, only 27.8% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for $NO_2$. PCs contributing to exceedances of stated objectives include for the annual mean AQS objective of 0.00025µg/$m^3$ for PAH, 0.003µg/$m^3$ for As and the H1 objective of 0.0002µg/$m^3$ for CR VI, though these are considered over-estimates and on detailed assessment of the facilities would likely be compliant with the EAL. The road PCs at these locations are small, with the largest being for $NO_2$ at 2.0E-2µg/$m^3$. The majority of the WC PCs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PCs for $NO_2$; Wealden EfW for PAH; and the WC PCs for $SO_2$, Benzene and Dioxins come from the Charlton Pyrolysis and GE scenario. All maximum PCs are at a location in the near vicinity of the site, receptors H42.

At Human receptors with maximum PECs, the profile of the WC locations and facilities are similar, with exceedances in the same pollutants and proxy scenarios. Maximum PECs for $NO_2$, $PM_{10}$, $PM_{2.5}$, $SO_2$, CO and $NH_3$ however come from further afield, where background concentrations are notably higher, for example $NO_2$ has a maximum LT PEC of 30.9µg/$m^3$ (77.2% of the objective) at H40, nearer to the Oakleaf Farm site, which is influenced by Heathrow airport. Maximum PM PECs are seen along the M3, nearer to the Lyne Lane and Trumps Farm sites. One other notable difference is that for CO, the Beddington ERF scenario provides maximum PEC, again at receptor H40.

At AQMA receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 4.6E-2µg/$m^3$ at AQMA8, South West of the Site, though at this location the LT PEC is, at 20.0µg/$m^3$, only 50.1% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for LT $NO_2$. The road PCs at these locations are negligible. The majority of the WC PCs are attributed to the Hooton Gasification scenario, though Beddington ERF provides WC PCs for LT $NO_2$ and Wealden EfW for ST $NO_2$. All maximum PCs are at the two AQMAs nearest the site AQMAs 8 and 10.

At AQMA receptors with maximum PECs, the profile of the WC locations and facilities are similar, but with exceptions. PECs for $PM_{10}$ and $PM_{2.5}$ notably come from further afield, where background concentrations are higher. For $PM_{10}$, the maximum LT PEC was at AQMA 11, which is along the M25 in Chertsey. The road PCs at these locations are negligible. The majority of the WC PECs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PECs for LT $NO_2$ and Wealden EfW for ST $NO_2$.

For Ecological receptors, for nutrient nitrogen deposition, PCs are small, the maximum being 0.010keq $ha^{-1}$ $y^{-1}$ at Wim1, 0.1% of the $CL_{min}$. However, PEDRs are in exceedance of the $CL_{min}$ at all sites except those representing the South West London Waterbodies SPA due to high background deposition rates. Lambs Business Park is expected to create negligible road PCs to nitrogen deposition. For Nitric acid, there is a similar story, where PCs are low (maximum again being at Wim1, which at 7.4E-4keq $ha^{-1}$ $y^{-1}$ is 0.1% of the $CL_{min}$), but at each site all PEDRs are in exceedance of the $CL_{min}$. Lambs Business Park is expected to create negligible road PCs to nitric acid deposition. For sulphuric acid, PCs are again low (the maximum being at Mol3 with 3.8E-4keq $ha^{-1}$ $y^{-1}$, 0.1% of the $CL_{min}$) though for this parameter background deposition rates are lower, so PEDRs are in all cases below the $CL_{min}$, the maximum at 94.9%. For $NH_3$, PCs are also low (the maximum again being at Mol3 with 1.3E-3µg/$m^3$), and PECs all fall below the Critical Level, though only marginally at some locations. For example at TBH5, 6 and 11-17, the PEC is 97.8% of the CL. For all ecological receptors and parameters, maximum PCs come from the Hooton Gasification scenario, with one exception, at Wim1, where the nitrogen depositions are attributed to the Beddington ERF scenario. Overall, the Wimbledon Common and Mole Gap to Reigate Escarpment SACs experience the highest PCs from the Lambs Business Park site, with the Hooton Gasification scenario the least desirable in terms of its ecological impact.

By way of a summarising comparison, at Human and AQMA receptors, the worst case impact on any given pollutant PC or PEC comes, in a majority of cases, from the Hooton Gasification scenario, with Charlton Pyrolysis and GE second, Wealden EfW third and Beddington ERF fourth. At Ecological receptors, WC PCs are almost exclusively under the Hooton Gasification scenario, though two are provided by Beddington ERF. As EAL exceedances are limited to those discussed, each waste management process is considered acceptable for potential application at the Lambs Business Park Site, subject to detailed consideration.

# Martyrs Lane

Taking the results from the meteorological year and proxy facility for the which worst case emissions for each pollutant are predicted, results are presented for the Martyrs Lane site at Human receptors for the locations which experience both the maximum pollutant PC and PEC in Table 5.57 and Table 5.58, at AQMAs in Table 5.59 and Table 5.60 and for deposition rates at ecological receptors in Table 5.63. Colour coded tables provide a qualitative colour coded comparison of the relative impacts of each proxy facility at this SWLP site, using the count of the occasions a facility provides the worst case results for a given pollutant and the associated averaging period in the results tables. These are given at Human and AQMA receptors in Table 5.61, and at ecological receptors in Table 5.62. Percentages in **bold** are exceeding the relevant EAL.

### Table 5.57. Martyrs Lane Site Impact on Human Receptors with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.7 | 1.8 | 1.0E-02 | 12.6 | 31.6 | H50 | Beddington |
| | 1 hr 99.79 | 200 | EU | 6.0 | 3.0 | - | 33.7 | 16.9 | H46 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 0.1 | 0.1 | 2.4E-03 | 13.0 | 32.4 | H49 | Hooton |
| | 24h 90.41 | 50 | EU | 0.2 | 0.4 | - | 26.0 | 52.0 | H49 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 0.1 | 0.2 | 1.5E-03 | 8.8 | 35.2 | H49 | Hooton |
| $SO_2$ | LT | 50 | WHO | 0.5 | 1.0 | - | 3.7 | 7.4 | H50 | Charlton |
| | 15m 99.9 | 266 | UKAQS | 9.4 | 3.5 | - | 15.7 | 5.9 | H46 | Charlton |
| | 1 hr 99.73 | 350 | EU | 7.8 | 2.2 | - | 14.2 | 4.0 | H46 | Charlton |
| | 24h 99.18 | 125 | EU | 3.3 | 2.6 | - | 9.8 | 7.8 | H52 | Charlton |
| Benzene | LT | 16.25 | UKAQS | 1.0 | 6.1 | - | 1.4 | 8.8 | H50 | Charlton |
| | LT | 5 | EU | 1.0 | 19.8 | - | 1.4 | 28.7 | H50 | Charlton |
| CO | 8hr max | 10000 | EU | 8.2 | 0.1 | - | 344.2 | 3.4 | H46 | Hooton |
| HCl | 1 hr max | 750 | H1 | 1.6 | 0.2 | - | 2.4 | 0.3 | H46 | Hooton |
| HF | Month Mn | 16 | H1 | 0.2 | 1.0 | - | 2.7 | 16.7 | H46 | Hooton |
| | 1 hr max | 160 | H1 | 0.2 | 0.1 | - | 5.2 | 3.2 | H46 | Hooton |
| PAH as B[a]P | LT | 0.001 | EU | 3.7E-05 | 3.7 | - | 2.7E-04 | 26.7 | H49 | Wealden |
| | LT | 0.00025 | UKAQS | 3.7E-05 | 14.9 | - | 2.7E-04 | **106.9** | H49 | Wealden |
| Pb | LT | 0.5 | EU | 2.7E-04 | 0.1 | - | 1.1E-02 | 2.3 | H49 | Hooton |
| | LT | 0.25 | UKAQS | 2.7E-04 | 0.1 | - | 1.1E-02 | 4.5 | H49 | Hooton |
| Hg | LT | 0.25 | H1 | 2.7E-04 | 0.1 | - | 2.5E-03 | 1.0 | H49 | Hooton |
| | 1 hr max | 7.5 | H1 | 8.2E-03 | 0.1 | - | 1.3E-02 | 0.2 | H46 | Hooton |
| Sb | LT | 5 | H1 | 2.7E-03 | 0.1 | - | 4.3E-03 | 0.1 | H49 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H46 | Hooton |
| As | LT | 0.006 | EU | 2.7E-03 | 45.4 | - | 3.5E-03 | 58.4 | H49 | Hooton |
| | LT | 0.003 | H1 | 2.7E-03 | 90.9 | - | 3.5E-03 | **116.9** | H49 | Hooton |
| Cd | LT | 0.005 | EU | 2.7E-04 | 5.5 | - | 5.2E-04 | 10.5 | H49 | Hooton |
| Cr | LT | 5 | H1 | 2.7E-03 | 0.1 | - | 4.5E-03 | 0.1 | H49 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H46 | Hooton |
| Cr VI | LT | 0.0002 | H1 | 2.7E-04 | **136** | - | 2.1E-03 | **1036.3** | H49 | Hooton |
| Cu | LT | 10 | H1 | 2.7E-03 | 2.7E-02 | - | 2.0E-02 | 0.2 | H49 | Hooton |
| | 1 hr max | 200 | H1 | 0.1 | 0.0 | - | 0.1 | 0.1 | H46 | Hooton |
| Mn | LT | 0.15 | H1 | 2.7E-03 | 1.8 | - | 8.4E-03 | 5.6 | H49 | Hooton |
| | 1 hr max | 1500 | H1 | 0.1 | 0.0 | - | 0.1 | 0.01 | H46 | Hooton |
| Ni | LT | 0.02 | EU | 2.7E-03 | 13.6 | - | 3.4E-03 | 16.9 | H49 | Hooton |
| V | LT | 5 | H1 | 2.7E-03 | 0.1 | - | 6.0E-03 | 0.1 | H49 | Hooton |
| | 1 hr max | 1 | H1 | 0.1 | 8.2 | - | 0.1 | 8.9 | H46 | Hooton |
| $NH_3$ | LT | 180 | H1 | 0.1 | 0.0 | - | 0.9 | 0.5 | H49 | Hooton |
| | 1 hr max | 2500 | H1 | 1.6 | 0.1 | - | 3.4 | 0.1 | H46 | Hooton |
| PCB | LT | 0.2 | H1 | 2.7E-05 | 1.4E-02 | - | 9.1E-05 | 0.0 | H49 | Hooton |
| | 1 hr max | 6 | H1 | 8.2E-04 | 1.4E-02 | - | 9.5E-04 | 0.02 | H46 | Hooton |
| Dioxin & Furan | LT | - | - | 4.7E-08 | - | - | 7.4E-08 | - | H50 | Charlton |

## Table 5.58. Martyrs Lane Site Impact on Human Receptors with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 3.1E-02 | 0.1 | 0.0E+00 | 30.9 | 77.3 | H40 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.5 | 0.2 | - | 62.2 | 31.1 | H40 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 7.2E-03 | 1.8E-02 | 0.0E+00 | 16.1 | 40.3 | H29 | Hooton |
| | 24h 90.41 | 50 | EU | 2.6E-02 | 0.1 | - | 32.2 | 64.5 | H29 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 7.2E-03 | 2.9E-02 | 0.0E+00 | 10.5 | 41.9 | H29 | Hooton |
| $SO_2$ | LT | 50 | WHO | 1.7E-02 | 3.5E-02 | - | 9.7 | 19.3 | H15 | Hooton |
| | 15m 99.9 | 266 | UKAQS | 1.6 | 0.6 | - | 20.8 | 7.8 | H15 | Hooton |
| | 1 hr 99.73 | 350 | EU | 0.7 | 0.2 | - | 20.0 | 5.7 | H15 | Hooton |
| | 24h 99.18 | 125 | EU | 0.1 | 0.1 | - | 19.4 | 15.5 | H15 | Hooton |
| Benzene | LT | 16.25 | UKAQS | 1.0 | 6.1 | - | 1.4 | 8.8 | H50 | Charlton |
| | LT | 5 | EU | 1.0 | 19.8 | - | 1.4 | 28.7 | H50 | Charlton |
| CO | 8hr max | 10000 | EU | 0.5 | 4.7E-03 | - | 422.2 | 4.2 | H40 | Beddington |
| HCl | 1 hr max | 750 | H1 | 1.6 | 0.2 | - | 2.4 | 0.3 | H46 | Hooton |
| HF | Month Mn | 16 | H1 | 0.2 | 1.0 | - | 2.7 | 16.7 | H46 | Hooton |
| | 1 hr max | 160 | H1 | 0.2 | 0.1 | - | 5.2 | 3.2 | H46 | Hooton |
| PAH as B[a]P | LT | 0.001 | EU | 3.7E-05 | 3.7 | - | 2.7E-04 | 26.7 | H49 | Wealden |
| | LT | 0.00025 | UKAQS | 3.7E-05 | 14.9 | - | 2.7E-04 | **106.9** | H49 | Wealden |
| Pb | LT | 0.5 | EU | 2.7E-04 | 0.1 | - | 1.1E-02 | 2.3 | H49 | Hooton |
| | LT | 0.25 | UKAQS | 2.7E-04 | 0.1 | - | 1.1E-02 | 4.5 | H49 | Hooton |
| Hg | LT | 0.25 | H1 | 2.7E-04 | 0.1 | - | 2.5E-03 | 1.0 | H49 | Hooton |
| | 1 hr max | 7.5 | H1 | 8.2E-03 | 0.1 | - | 1.3E-02 | 0.2 | H46 | Hooton |
| Sb | LT | 5 | H1 | 2.7E-03 | 0.1 | - | 4.3E-03 | 0.1 | H49 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H46 | Hooton |
| As | LT | 0.006 | EU | 2.7E-03 | 45.4 | - | 3.5E-03 | 58.4 | H49 | Hooton |
| | LT | 0.003 | H1 | 2.7E-03 | 90.9 | - | 3.5E-03 | **116.9** | H49 | Hooton |
| Cd | LT | 0.005 | EU | 2.7E-04 | 5.5 | - | 5.2E-04 | 10.5 | H49 | Hooton |
| Cr | LT | 5 | H1 | 2.7E-03 | 0.1 | - | 4.5E-03 | 0.1 | H49 | Hooton |
| | 1 hr max | 150 | H1 | 0.1 | 0.1 | - | 0.1 | 0.1 | H46 | Hooton |
| Cr VI | LT | 0.0002 | H1 | 2.7E-04 | **136** | - | 2.1E-03 | **1036.3** | H49 | Hooton |
| Cu | LT | 10 | H1 | 2.7E-03 | 2.7E-02 | - | 2.0E-02 | 0.2 | H49 | Hooton |
| | 1 hr max | 200 | H1 | 0.1 | 4.1E-02 | - | 0.1 | 0.1 | H46 | Hooton |
| Mn | LT | 0.15 | H1 | 2.7E-03 | 1.8 | - | 8.4E-03 | 5.6 | H49 | Hooton |
| | 1 hr max | 1500 | H1 | 0.1 | 5.5E-03 | - | 0.1 | 6.2E-03 | H46 | Hooton |
| Ni | LT | 0.02 | EU | 2.7E-03 | 13.6 | - | 3.4E-03 | 16.9 | H49 | Hooton |
| V | LT | 5 | H1 | 2.7E-03 | 0.1 | - | 6.0E-03 | 0.1 | H49 | Hooton |
| | 1 hr max | 1 | H1 | 0.1 | 8.2 | - | 0.1 | 8.9 | H46 | Hooton |
| $NH_3$ | LT | 180 | H1 | 1.7E-03 | 9.2E-04 | - | 1.4 | 0.8 | H22 | Hooton |
| | 1 hr max | 2500 | H1 | 1.6 | 0.1 | - | 3.4 | 0.1 | H46 | Hooton |
| PCB | LT | 0.2 | H1 | 2.7E-05 | 1.4E-02 | - | 9.1E-05 | 4.6E-02 | H49 | Hooton |
| | 1 hr max | 6 | H1 | 8.2E-04 | 1.4E-02 | - | 9.5E-04 | 1.6E-02 | H46 | Hooton |
| Dioxin & Furan | LT | - | - | 4.7E-08 | - | - | 7.4E-08 | - | H50 | Charlton |

## Table 5.59. Martyrs Lane Site Impact on AQMA locations with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 0.2 | 0.6 | 0.0E+00 | 24.2 | 60.6 | AQMA11 | Beddington |
| | 1 hr 99.79 | 200 | EU | 1.7 | 0.8 | - | 74.1 | 37.0 | AQMA13 | Beddington |
| $PM_{10}$ | LT | 40 | EU | 2.3E-02 | 0.1 | 4.9E-03 | 15.7 | 39.3 | AQMA11 | Hooton |
| | 24h 90.41 | 50 | EU | 0.1 | 0.1 | - | 31.4 | 62.9 | AQMA11 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 2.3E-02 | 0.1 | 3.3E-03 | 10.2 | 40.9 | AQMA11 | Hooton |

### Table 5.60. Martyrs Lane Site Impact on AQMA locations with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 1.4E-02 | 3.5E-02 | 4.0E-02 | 41.9 | **104.6** | AQMA10 | Beddington |
| | 1 hr 99.79 | 200 | EU | 0.3 | 0.2 | - | 83.9 | 42.0 | AQMA10 | Hooton |
| $PM_{10}$ | LT | 40 | EU | 2.3E-02 | 0.1 | 4.9E-03 | 15.7 | 39.3 | AQMA11 | Hooton |
| | 24h 90.41 | 50 | EU | 0.1 | 0.1 | - | 31.4 | 62.9 | AQMA11 | Hooton |
| $PM_{2.5}$ | LT | 25 | EU | 1.1E-02 | 4.5E-02 | 2.8E-03 | 10.3 | 41.4 | AQMA13 | Hooton |

### Table 5.61. Martyrs Lane Human and AQMA Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 9 |
| Hooton Gasification | 128 |
| Wealden EfW | 8 |
| Charlton Pyrolysis and GE | 19 |

### Table 5.62. Martyrs Lane Ecological Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 0 |
| Hooton Gasification | 214 |
| Wealden EfW | 0 |
| Charlton Pyrolysis and GE | 2 |

## Table 5.63. Martyrs Lane Site Impact on Ecological Receptors with Maximum PCs from Combustion Processes

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| Wim1 | 0.013 | 0.1 | 0.00 | 16.0 | **159.7** | Hooton | 0.001 | 0.1 | 0.00 | 1.1 | **177.7** | Hooton | 0.001 | 0.3 | 0.2 | 69.8 | Hooton | 0.002 | 0.2 | 1.0 | 97.3 | Hooton |
| Win1 | 0.020 | 0.2 | 0.00 | 23.2 | **232.2** | Hooton | 0.001 | 1.0 | 0.00 | 1.7 | **1170.0** | Hooton | 0.001 | 0.1 | 0.2 | 26.5 | Hooton | 0.003 | 0.1 | 0.8 | 28.0 | Hooton |
| Win2 | 0.017 | 0.2 | 0.00 | 23.2 | **232.2** | Hooton | 0.001 | 0.9 | 0.00 | 1.7 | **1169.9** | Hooton | 0.001 | 0.1 | 0.2 | 26.5 | Hooton | 0.003 | 0.1 | 0.8 | 28.0 | Hooton |
| Win3 | 0.017 | 0.2 | 0.00 | 23.2 | **232.2** | Hooton | 0.001 | 0.9 | 0.00 | 1.7 | **1169.9** | Hooton | 0.001 | 0.1 | 0.2 | 26.5 | Hooton | 0.003 | 0.1 | 0.8 | 28.0 | Hooton |
| Mol1 | 0.018 | 0.2 | 0.00 | 24.5 | **245.0** | Hooton | 0.001 | 0.9 | 0.00 | 1.8 | **1233.3** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.003 | 0.3 | 0.9 | 94.5 | Hooton |
| Mol2 | 0.019 | 0.2 | 0.00 | 24.5 | **245.0** | Hooton | 0.001 | 1.0 | 0.00 | 1.8 | **1233.4** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.003 | 0.3 | 0.9 | 94.5 | Hooton |
| Mol3 | 0.014 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.7 | 0.00 | 1.8 | **1233.1** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol4 | 0.014 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.7 | 0.00 | 1.8 | **1233.1** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol5 | 0.014 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.7 | 0.00 | 1.8 | **1233.1** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.4 | Hooton |
| Wim2 | 0.013 | 0.1 | 0.00 | 16.0 | **159.7** | Hooton | 0.001 | 0.1 | 0.00 | 1.1 | **177.7** | Hooton | 0.001 | 0.2 | 0.2 | 69.8 | Hooton | 0.002 | 0.2 | 1.0 | 97.3 | Hooton |
| Wim3 | 0.013 | 0.1 | 0.00 | 16.0 | **159.7** | Hooton | 0.001 | 0.1 | 0.00 | 1.1 | **177.7** | Hooton | 0.001 | 0.2 | 0.2 | 69.8 | Hooton | 0.002 | 0.2 | 1.0 | 97.3 | Hooton |
| Wim4 | 0.012 | 0.1 | 0.00 | 16.0 | **159.7** | Hooton | 0.001 | 0.1 | 0.00 | 1.1 | **177.7** | Hooton | 0.001 | 0.2 | 0.2 | 69.8 | Hooton | 0.002 | 0.2 | 1.0 | 97.2 | Hooton |
| Mol6 | 0.015 | 0.2 | 0.00 | 24.5 | **245.0** | Hooton | 0.001 | 0.8 | 0.00 | 1.8 | **1233.2** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.5 | Hooton |
| Mol7 | 0.017 | 0.2 | 0.00 | 24.5 | **245.0** | Hooton | 0.001 | 0.9 | 0.00 | 1.8 | **1233.2** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.003 | 0.3 | 0.9 | 94.5 | Hooton |
| Mol8 | 0.014 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.7 | 0.00 | 1.8 | **1233.1** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol9 | 0.014 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.7 | 0.00 | 1.8 | **1233.1** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol10 | 0.013 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.6 | 0.00 | 1.8 | **1233.0** | Hooton | 0.001 | 0.1 | 0.2 | 40.4 | Hooton | 0.002 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol11 | 0.014 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.7 | 0.00 | 1.8 | **1233.1** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.4 | Hooton |
| Mol12 | 0.015 | 0.1 | 0.00 | 24.5 | **244.9** | Hooton | 0.001 | 0.7 | 0.00 | 1.8 | **1233.1** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.5 | Hooton |
| Mol13 | 0.015 | 0.2 | 0.00 | 24.5 | **245.0** | Hooton | 0.001 | 0.8 | 0.00 | 1.8 | **1233.2** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.5 | Hooton |
| Mol14 | 0.016 | 0.2 | 0.00 | 24.5 | **245.0** | Hooton | 0.001 | 0.8 | 0.00 | 1.8 | **1233.2** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.002 | 0.2 | 0.9 | 94.5 | Hooton |
| Mol15 | 0.017 | 0.2 | 0.00 | 24.5 | **245.0** | Hooton | 0.001 | 0.9 | 0.00 | 1.8 | **1233.2** | Hooton | 0.001 | 0.1 | 0.2 | 40.5 | Hooton | 0.003 | 0.3 | 0.9 | 94.5 | Hooton |
| TBH1 | 0.026 | 0.3 | 0.00 | 13.4 | **134.0** | Hooton | 0.002 | 0.6 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 0.004 | 0.4 | 0.7 | 69.1 | Hooton |
| TBH2 | 0.176 | 1.8 | 0.06 | 13.6 | **136.1** | Hooton | 0.013 | 3.9 | 0.00 | 1.0 | **304.4** | Hooton | 0.012 | 5.7 | 0.2 | 100.5 | Charlton | 0.027 | 2.7 | 0.9 | 89.1 | Hooton |
| TBH3 | 0.149 | 1.5 | 0.06 | 13.6 | **135.8** | Hooton | 0.011 | 3.3 | 0.00 | 1.0 | **303.7** | Hooton | 0.010 | 4.5 | 0.2 | 99.3 | Charlton | 0.022 | 2.2 | 0.9 | 88.7 | Hooton |
| TBH4 | 0.024 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.5 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 0.004 | 0.4 | 0.8 | 84.0 | Hooton |

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| TBH5 | 0.038 | 0.4 | 0.00 | 13.4 | **134.1** | Hooton | 0.003 | 0.8 | 0.00 | 1.0 | **299.9** | Hooton | 0.002 | 0.8 | 0.2 | 95.6 | Hooton | 0.006 | 0.6 | 1.0 | 98.3 | Hooton |
| TBH6 | 0.052 | 0.5 | 0.00 | 13.4 | **134.2** | Hooton | 0.004 | 1.2 | 0.00 | 1.0 | **300.2** | Hooton | 0.002 | 1.1 | 0.2 | 95.9 | Hooton | 0.008 | 0.8 | 1.0 | 98.6 | Hooton |
| TBH7 | 0.019 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.5** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 0.003 | 0.3 | 0.8 | 83.9 | Hooton |
| TBH8 | 0.019 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.5** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 0.003 | 0.3 | 0.8 | 83.9 | Hooton |
| TBH9 | 0.031 | 0.3 | 0.00 | 13.4 | **134.0** | Hooton | 0.002 | 0.7 | 0.00 | 1.0 | **299.8** | Hooton | 0.001 | 0.7 | 0.2 | 95.4 | Hooton | 0.005 | 0.5 | 0.7 | 69.2 | Hooton |
| TBH10 | 0.031 | 0.3 | 0.00 | 13.4 | **134.0** | Hooton | 0.002 | 0.7 | 0.00 | 1.0 | **299.8** | Hooton | 0.001 | 0.7 | 0.2 | 95.4 | Hooton | 0.005 | 0.5 | 0.7 | 69.2 | Hooton |
| TBH11 | 0.046 | 0.5 | 0.00 | 13.4 | **134.2** | Hooton | 0.003 | 1.0 | 0.00 | 1.0 | **300.1** | Hooton | 0.002 | 1.0 | 0.2 | 95.7 | Hooton | 0.007 | 0.7 | 1.0 | 98.5 | Hooton |
| TBH12 | 0.045 | 0.4 | 0.00 | 13.4 | **134.1** | Hooton | 0.003 | 1.0 | 0.00 | 1.0 | **300.1** | Hooton | 0.002 | 0.9 | 0.2 | 95.7 | Hooton | 0.007 | 0.7 | 1.0 | 98.4 | Hooton |
| TBH13 | 0.040 | 0.4 | 0.00 | 13.4 | **134.1** | Hooton | 0.003 | 0.9 | 0.00 | 1.0 | **300.0** | Hooton | 0.002 | 0.8 | 0.2 | 95.6 | Hooton | 0.006 | 0.6 | 1.0 | 98.4 | Hooton |
| TBH14 | 0.042 | 0.4 | 0.00 | 13.4 | **134.1** | Hooton | 0.003 | 0.9 | 0.00 | 1.0 | **300.0** | Hooton | 0.002 | 0.9 | 0.2 | 95.7 | Hooton | 0.006 | 0.6 | 1.0 | 98.4 | Hooton |
| TBH15 | 0.042 | 0.4 | 0.00 | 13.4 | **134.1** | Hooton | 0.003 | 0.9 | 0.00 | 1.0 | **300.0** | Hooton | 0.002 | 0.9 | 0.2 | 95.7 | Hooton | 0.006 | 0.6 | 1.0 | 98.4 | Hooton |
| TBH16 | 0.048 | 0.5 | 0.00 | 13.4 | **134.2** | Hooton | 0.003 | 1.1 | 0.00 | 1.0 | **300.1** | Hooton | 0.002 | 1.0 | 0.2 | 95.8 | Hooton | 0.007 | 0.7 | 1.0 | 98.5 | Hooton |
| TBH17 | 0.050 | 0.5 | 0.00 | 13.4 | **134.2** | Hooton | 0.004 | 1.1 | 0.00 | 1.0 | **300.2** | Hooton | 0.002 | 1.1 | 0.2 | 95.8 | Hooton | 0.008 | 0.8 | 1.0 | 98.5 | Hooton |
| TBH18 | 0.025 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.5 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 0.004 | 0.4 | 0.8 | 84.0 | Hooton |
| TBH19 | 0.019 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.5** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 0.003 | 0.3 | 0.8 | 83.9 | Hooton |
| TBH20 | 0.018 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.001 | 0.4 | 0.00 | 1.0 | **299.5** | Hooton | 0.001 | 0.4 | 0.2 | 95.2 | Hooton | 0.003 | 0.3 | 0.8 | 83.9 | Hooton |
| TBH21 | 0.025 | 0.2 | 0.00 | 13.4 | **133.9** | Hooton | 0.002 | 0.5 | 0.00 | 1.0 | **299.6** | Hooton | 0.001 | 0.5 | 0.2 | 95.3 | Hooton | 0.004 | 0.4 | 0.8 | 84.0 | Hooton |
| SWL1 | 0.028 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.002 | 0.9 | 0.00 | 1.2 | **525.6** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 0.004 | 0.1 | 0.9 | 28.5 | Hooton |
| SWL2 | 0.047 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.5 | 0.00 | 1.2 | **526.2** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 0.007 | 0.2 | 0.9 | 29.0 | Hooton |
| SWL3 | 0.022 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.002 | 0.7 | 0.00 | 1.2 | **525.4** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 0.003 | 0.1 | 1.1 | 37.7 | Hooton |
| SWL4 | 0.022 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.002 | 0.7 | 0.00 | 1.2 | **525.4** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 0.003 | 0.1 | 1.1 | 37.7 | Hooton |
| SWL5 | 0.023 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.002 | 0.7 | 0.00 | 1.2 | **525.4** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 0.003 | 0.1 | 1.1 | 37.7 | Hooton |
| SWL6 | 0.029 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.002 | 0.9 | 0.00 | 1.2 | **525.6** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 0.004 | 0.1 | 1.1 | 35.3 | Hooton |
| SWL7 | 0.046 | 0.2 | 0.00 | 16.3 | 81.7 | Hooton | 0.003 | 1.5 | 0.00 | 1.2 | **526.1** | Hooton | 0.002 | 0.2 | 0.2 | 23.2 | Hooton | 0.007 | 0.2 | 0.9 | 29.0 | Hooton |
| SWL8 | 0.027 | 0.1 | 0.00 | 16.3 | 81.6 | Hooton | 0.002 | 0.9 | 0.00 | 1.2 | **525.5** | Hooton | 0.001 | 0.1 | 0.2 | 23.1 | Hooton | 0.004 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric1 | 0.016 | 0.2 | 0.00 | 26.4 | **264.2** | Hooton | 0.001 | 0.8 | 0.00 | 1.9 | **1331.8** | Hooton | 0.001 | 0.1 | 0.2 | 27.7 | Hooton | 0.002 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric2 | 0.015 | 0.2 | 0.00 | 26.4 | **264.2** | Hooton | 0.001 | 0.8 | 0.00 | 1.9 | **1331.8** | Hooton | 0.001 | 0.1 | 0.2 | 27.7 | Hooton | 0.002 | 0.1 | 1.1 | 35.3 | Hooton |
| Ric3 | 0.016 | 0.2 | 0.00 | 26.4 | **264.2** | Hooton | 0.001 | 0.8 | 0.00 | 1.9 | **1331.8** | Hooton | 0.001 | 0.1 | 0.2 | 27.7 | Hooton | 0.002 | 0.1 | 1.1 | 35.3 | Hooton |

For Martyrs Lane, at Human receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.7µg/m$^3$ at receptor H50, North East of the Site, though at this rural location the LT PEC is, at 12.6µg/m$^3$, only 31.6% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for $NO_2$. PCs contributing to exceedances of stated objectives include for the annual mean AQS objective of 0.00025µg/m$^3$ for PAH, and the H1 objectives of 0.003µg/m$^3$ for As and 0.0002µg/m$^3$ for CR VI, though these are considered over-estimates and on detailed assessment of the facilities would likely be compliant with the EAL. The road PCs at these locations are small, with the largest being for $NO_2$ at 1.0E-2µg/m$^3$. The majority of the WC PCs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PCs for $NO_2$; Wealden EfW for PAH; and the WC PCs for $SO_2$, Benzene and Dioxins come from the Charlton Pyrolysis and GE scenario. All maximum PCs are at locations in the near vicinity of the site, receptors H46, 49 or 50.

At Human receptors with maximum PECs, the profile of the WC locations and facilities are similar, with exceedances in the same pollutants and proxy scenarios. Maximum PECs for $NO_2$, $PM_{10}$, $PM_{2.5}$, $SO_2$, CO and $NH_3$ however come from further afield, where background concentrations are notably higher, for example $NO_2$ has a maximum LT PEC of 30.9µg/m$^3$ (77.3% of the objective) at H40, nearer to the Oakleaf Farm site, which is influenced by Heathrow airport. Maximum PM PECs are seen along the M3, nearer to the Lyne Lane and Trumps Farm sites. One other notable difference is that for CO, the Beddington ERF scenario provides maximum PEC, again at receptor H40.

At AQMA receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.2µg/m$^3$ at AQMA11, North East of the Site, though at this location the LT PEC is, at 24.2µg/m$^3$, only 60.6% of the annual mean objective. This PC is attributed to the Beddington ERF scenario, which is WC for $NO_2$. The road PCs at these locations are small, with the largest being for $PM_{10}$ at 4.9E-3µg/m$^3$. The majority of the WC PCs are attributed to the Hooton Gasification scenario, though Beddington ERF provides WC PCs for $NO_2$. All maximum PCs are at the AQMAs nearest to the site, AQMAs11 or 13.

At AQMA receptors with maximum PECs, the profile of the WC locations and facilities are similar, but PECs for $NO_2$ come from further afield, where monitored concentrations are markedly higher. $NO_2$ has a maximum LT PEC of 41.9µg/m$^3$ (an exceedance of the objective) at AQMA 10, nearer to the Earlswood STW site. This PEC was also derived from a monitored concentration in 2015, the most recent available, so is now likely to be reduced. The road PCs at these locations are small, with the largest being for $NO_2$ at 4.0E-2µg/m$^3$. The majority of the WC PECs are attributed to the Hooton Gasification scenario; though Beddington ERF provides WC PECs for LT $NO_2$.

For Ecological receptors, for nutrient nitrogen deposition, PCs are small, the maximum being 0.176keq ha$^{-1}$ y$^{-1}$ at TBH2, 1.8% of the $CL_{min}$. However, PEDRs are in exceedance of the $CL_{min}$ at all sites except those representing the South West London Waterbodies SPA due to high background deposition rates. Martyrs Lane is expected to create negligible road PCs to nitrogen deposition, except at TBH2 and 3. For Nitric acid, there is a similar story, where PCs are low (maximum again being at TBH2, 3.9% of the $CL_{min}$), but at each site all PEDRs are in exceedance of the $CL_{min}$. Martyrs Lane is expected to create negligible road PCs to nitric acid deposition, except at TBH 2 and 3. For sulphuric acid, PCs are again low (the maximum being at SWL1 with 0.012keq ha$^{-1}$ y$^{-1}$, 5.7% of the $CL_{min}$) though for this parameter background deposition rates are lower, so PEDRs are in all cases below the $CL_{min}$, the maximum at 95.9%. For $NH_3$, PCs are also low (the maximum being 0.027µg/m$^3$ at TBH2), and PECs all fall below the Critical Level, though only marginally at some locations. For example at TBH6, the PEC is 98.6% of the CL. For all ecological receptors and parameters, maximum PCs come from the Hooton Gasification scenario. Overall, the Thames Basin Heath SPA experiences the highest PCs from the Martyrs Lane site, with the Hooton Gasification scenario the least desirable in terms of its ecological impact.

By way of a summarising comparison, at Human and AQMA receptors, the worst case impact on any given pollutant PC or PEC comes, in a majority of cases, from the Hooton Gasification scenario, with Charlton Pyrolysis and GE second, third and Wealden EfW fourth. At Ecological receptors, WC PCs are almost exclusively under the Hooton Gasification scenario, though two are provided by Charlton Pyrolysis and GE. As EAL exceedances are limited to those discussed, each waste management process is considered acceptable for potential application at the Leatherhead STW Site, subject to detailed consideration.

# All Sites

Taking the results from the meteorological year and proxy facility for the which worst case emissions for each pollutant are predicted, results are presented for the cumulative contributions of all the proposed SWLP sites in operation simultaneously, by way of a Worst Case representation, at Human receptors for the locations which experience both the maximum pollutant PC and PEC in Table 5.64 and Table 5.65, at AQMAs in Table 5.66 and Table 5.67 and for deposition rates at ecological receptors in Table 5.70. Tables provide a qualitative colour coded comparison of the relative impacts of each proxy facility at all SWLP sites, using the count of the occasions a facility provides the worst case results for a given pollutant and the associated averaging period in the results tables. These are given at Human and AQMA receptors in Table 5.68, and at ecological receptors in Table 5.69. Percentages in **bold** are exceeding the relevant EAL. This is a hypothetic scenario, as it wouldn't be possible for all the assumptions applied to occur concurrently.

### Table 5.64. All Sites Worst Case Impact on Human Receptors with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| $NO_2$ | LT | 40 | EU | 1.1 | 2.8 | 1.0E-02 | 18.6 | 46.6 | H32 | ALL |
| | 1 hr 99.79 | 200 | EU | 11.1 | 5.6 | - | 58.4 | 29.2 | H30 | ALL |
| $PM_{10}$ | LT | 40 | EU | 0.1 | 0.2 | 1.6E-03 | 13.8 | 34.5 | H32 | ALL |
| | 24h 90.41 | 50 | EU | 0.3 | 0.7 | - | 27.7 | 55.4 | H32 | ALL |
| $PM_{2.5}$ | LT | 25 | EU | 0.1 | 0.4 | 1.1E-03 | 9.2 | 36.8 | H32 | ALL |
| $SO_2$ | LT | 50 | WHO | 0.8 | 1.6 | - | 4.2 | 8.3 | H25 | ALL |
| | 15m 99.9 | 266 | UKAQS | 27.4 | 10.3 | - | 36.7 | 13.8 | H7 | ALL |
| | 1 hr 99.73 | 350 | EU | 17.7 | 5.1 | - | 27.0 | 7.7 | H7 | ALL |
| | 24h 99.18 | 125 | EU | 6.3 | 5.1 | - | 16.2 | 13.0 | H39 | ALL |
| Benzene | LT | 16.25 | UKAQS | 1.7 | 10.3 | - | 2.0 | 12.5 | H25 | ALL |
| | LT | 5 | EU | 1.7 | 33.3 | - | 2.0 | 40.6 | H25 | ALL |
| CO | 8hr max | 10000 | EU | 13.4 | 0.1 | - | 374.5 | 3.7 | H1 | ALL |
| HCl | 1 hr max | 750 | H1 | 4.4 | 0.6 | - | 5.2 | 0.7 | H29 | ALL |
| HF | Month Mn | 16 | H1 | 0.4 | 2.7 | - | 2.9 | 18.3 | H29 | ALL |
| | 1 hr max | 160 | H1 | 0.4 | 0.3 | - | 5.4 | 3.4 | H29 | ALL |
| PAH as B[a]P | LT | 0.001 | EU | 6.2E-05 | 6.2 | - | 2.9E-04 | 29.2 | H32 | ALL |
| | LT | 0.00025 | UKAQS | 6.2E-05 | 24.6 | - | 2.9E-04 | **116.6** | H32 | ALL |
| Pb | LT | 0.5 | EU | 4.6E-04 | 0.1 | - | 1.1E-02 | 2.3 | H32 | ALL |
| | LT | 0.25 | UKAQS | 4.6E-04 | 0.2 | - | 1.1E-02 | 4.6 | H32 | ALL |
| Hg | LT | 0.25 | H1 | 4.6E-04 | 0.2 | - | 2.7E-03 | 1.1 | H32 | ALL |
| | 1 hr max | 7.5 | H1 | 2.2E-02 | 0.3 | - | 2.6E-02 | 0.3 | H29 | ALL |
| Sb | LT | 5 | H1 | 4.6E-03 | 0.1 | - | 6.2E-03 | 0.1 | H32 | ALL |
| | 1 hr max | 150 | H1 | 0.2 | 0.1 | - | 0.2 | 0.1 | H29 | ALL |
| As | LT | 0.006 | EU | 4.6E-03 | 77.3 | - | 5.4E-03 | 90.3 | H32 | ALL |
| | LT | 0.003 | H1 | 4.6E-03 | 154.5 | - | 5.4E-03 | **180.5** | H32 | ALL |
| Cd | LT | 0.005 | EU | 4.6E-04 | 9.3 | - | 7.1E-04 | 14.3 | H32 | ALL |
| Cr | LT | 5 | H1 | 4.6E-03 | 0.1 | - | 6.4E-03 | 0.1 | H32 | ALL |
| | 1 hr max | 150 | H1 | 0.2 | 0.1 | - | 0.2 | 0.1 | H29 | ALL |
| Cr VI | LT | 0.0002 | H1 | 4.6E-04 | **232** | - | 2.3E-03 | **1131.8** | H32 | ALL |
| Cu | LT | 10 | H1 | 4.6E-03 | 4.6E-02 | - | 2.2E-02 | 0.2 | H32 | ALL |
| | 1 hr max | 200 | H1 | 0.2 | 0.1 | - | 0.3 | 0.1 | H29 | ALL |
| Mn | LT | 0.15 | H1 | 4.6E-03 | 3.1 | - | 1.0E-02 | 6.9 | H32 | ALL |
| | 1 hr max | 1500 | H1 | 0.2 | 1.5E-02 | - | 0.2 | 1.5E-02 | H29 | ALL |
| Ni | LT | 0.02 | EU | 4.6E-03 | 23.2 | - | 5.3E-03 | 26.5 | H32 | ALL |
| V | LT | 5 | H1 | 4.6E-03 | 0.1 | - | 7.9E-03 | 0.2 | H32 | ALL |
| | 1 hr max | 1 | H1 | 0.2 | 21.8 | - | 0.2 | 22.5 | H29 | ALL |
| $NH_3$ | LT | 180 | H1 | 0.1 | 0.1 | - | 1.0 | 0.5 | H32 | ALL |
| | 1 hr max | 2500 | H1 | 4.4 | 0.2 | - | 6.1 | 0.2 | H29 | ALL |
| PCB | LT | 0.2 | H1 | 4.6E-05 | 2.3E-02 | - | 1.1E-04 | 0.1 | H32 | ALL |
| | 1 hr max | 6 | H1 | 2.2E-03 | 3.6E-02 | - | 2.3E-03 | 3.8E-02 | H29 | ALL |

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| **Dioxin & Furan** | LT | - | - | 8.0E-08 | - | - | 1.1E-07 | - | H25 | ALL |

## Table 5.65. All Sites Worst Case Impact on Human Receptors with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| **$NO_2$** | LT | 40 | EU | 0.6 | 1.6 | 1.0E-02 | 31.5 | 78.8 | H40 | ALL |
| | 1 hr 99.79 | 200 | EU | 8.3 | 4.1 | - | 70.0 | 35.0 | H40 | ALL |
| **$PM_{10}$** | LT | 40 | EU | 0.1 | 0.2 | 7.5E-03 | 16.2 | 40.5 | H27 | ALL |
| | 24h 90.41 | 50 | EU | 0.3 | 0.5 | - | 32.5 | 64.9 | H27 | ALL |
| **$PM_{2.5}$** | LT | 25 | EU | 0.1 | 0.3 | 5.0E-03 | 10.5 | 42.2 | H27 | ALL |
| **$SO_2$** | LT | 50 | WHO | 0.6 | 1.2 | - | 10.2 | 20.5 | H15 | ALL |
| | 15m 99.9 | 266 | UKAQS | 27.4 | 10.3 | - | 36.7 | 13.8 | H7 | ALL |
| | 1 hr 99.73 | 350 | EU | 10.7 | 3.1 | - | 30.0 | 8.6 | H15 | ALL |
| | 24h 99.18 | 125 | EU | 3.4 | 2.7 | - | 22.6 | 18.1 | H15 | ALL |
| **Benzene** | LT | 16.25 | UKAQS | 1.7 | 10.3 | - | 2.0 | 12.5 | H25 | ALL |
| | LT | 5 | EU | 1.7 | 33.3 | - | 2.0 | 40.6 | H25 | ALL |
| **CO** | 8hr max | 10000 | EU | 7.3 | 0.1 | - | 429.1 | 4.3 | H40 | ALL |
| **HCl** | 1 hr max | 750 | H1 | 4.4 | 0.6 | - | 5.2 | 0.7 | H29 | ALL |
| **HF** | Month Mn | 16 | H1 | 0.4 | 2.7 | - | 2.9 | 18.3 | H29 | ALL |
| | 1 hr max | 160 | H1 | 0.4 | 0.3 | - | 5.4 | 3.4 | H29 | ALL |
| **PAH as B[a]P** | LT | 0.001 | EU | 6.2E-05 | 6.2 | - | 2.9E-04 | 29.2 | H32 | ALL |
| | LT | 0.00025 | UKAQS | 6.2E-05 | 24.6 | - | 2.9E-04 | **116.6** | H32 | ALL |
| **Pb** | LT | 0.5 | EU | 4.6E-04 | 0.1 | - | 1.1E-02 | 2.3 | H32 | ALL |
| | LT | 0.25 | UKAQS | 4.6E-04 | 0.2 | - | 1.1E-02 | 4.6 | H32 | ALL |
| **Hg** | LT | 0.25 | H1 | 4.6E-04 | 0.2 | - | 2.7E-03 | 1.1 | H32 | ALL |
| | 1 hr max | 7.5 | H1 | 2.2E-02 | 0.3 | - | 2.6E-02 | 0.3 | H29 | ALL |
| **Sb** | LT | 5 | H1 | 4.6E-03 | 0.1 | - | 6.2E-03 | 0.1 | H32 | ALL |
| | 1 hr max | 150 | H1 | 0.2 | 0.1 | - | 0.2 | 0.1 | H29 | ALL |
| **As** | LT | 0.006 | EU | 4.6E-03 | 77.3 | - | 5.4E-03 | 90.3 | H32 | ALL |
| | LT | 0.003 | H1 | 4.6E-03 | 154.5 | - | 5.4E-03 | **180.5** | H32 | ALL |
| **Cd** | LT | 0.005 | EU | 4.6E-04 | 9.3 | - | 7.1E-04 | 14.3 | H32 | ALL |
| **Cr** | LT | 5 | H1 | 4.6E-03 | 0.1 | - | 6.4E-03 | 0.1 | H32 | ALL |
| | 1 hr max | 150 | H1 | 0.2 | 0.1 | - | 0.2 | 0.1 | H29 | ALL |
| **Cr VI** | LT | 0.0002 | H1 | 4.6E-04 | **232** | - | 2.3E-03 | **1131.8** | H32 | ALL |
| **Cu** | LT | 10 | H1 | 4.6E-03 | 4.6E-02 | - | 2.2E-02 | 0.2 | H32 | ALL |
| | 1 hr max | 200 | H1 | 0.2 | 0.1 | - | 0.3 | 0.1 | H29 | ALL |
| **Mn** | LT | 0.15 | H1 | 4.6E-03 | 3.1 | - | 1.0E-02 | 6.9 | H32 | ALL |
| | 1 hr max | 1500 | H1 | 0.2 | 1.5E-02 | - | 0.2 | 1.5E-02 | H29 | ALL |
| **Ni** | LT | 0.02 | EU | 4.6E-03 | 23.2 | - | 5.3E-03 | 26.5 | H32 | ALL |
| **V** | LT | 5 | H1 | 4.6E-03 | 0.1 | - | 7.9E-03 | 0.2 | H32 | ALL |
| | 1 hr max | 1 | H1 | 0.2 | 21.8 | - | 0.2 | 22.5 | H29 | ALL |
| **$NH_3$** | LT | 180 | H1 | 0.1 | 3.1E-02 | - | 1.4 | 0.8 | H24 | ALL |
| | 1 hr max | 2500 | H1 | 4.4 | 0.2 | - | 6.1 | 0.2 | H29 | ALL |
| **PCB** | LT | 0.2 | H1 | 4.6E-05 | 2.3E-02 | - | 1.1E-04 | 5.5E-02 | H32 | ALL |
| | 1 hr max | 6 | H1 | 2.2E-03 | 3.6E-02 | - | 2.3E-03 | 3.8E-02 | H29 | ALL |
| **Dioxin & Furan** | LT | - | - | 8.0E-08 | - | - | 1.1E-07 | - | H25 | ALL |

## Table 5.66. All Sites Worst Case Impact on AQMA locations with Maximum Pollutant PCs from Combustion Processes

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| **$NO_2$** | LT | 40 | EU | 0.5 | 1.3 | 5.0E-02 | 27.2 | 67.9 | AQMA4 | ALL |
| | 1 hr 99.79 | 200 | EU | 7.0 | 3.5 | - | 55.0 | 27.5 | AQMA11 | ALL |
| **$PM_{10}$** | LT | 40 | EU | 0.1 | 0.1 | 3.2E-03 | 14.9 | 37.3 | AQMA4 | ALL |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 24h 90.41 | 50 | EU | 0.2 | 0.3 | - | 29.9 | 59.8 | AQMA4 | ALL |
| **$PM_{2.5}$** | LT | 25 | EU | 0.1 | 0.2 | 2.1E-03 | 9.9 | 39.6 | AQMA4 | ALL |

### Table 5.67. All Sites Worst Case Impact on AQMA locations with Maximum Pollutant PECs

| Pollutant | Av. Period | EAL | Source | PC | PC %EAL | Road PC | PEC | PEC %EAL | Receptor | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| **$NO_2$** | LT | 40 | EU | 0.4 | 0.9 | 3.0E-01 | 42.5 | **106.2** | AQMA10 | ALL |
| | 1 hr 99.79 | 200 | EU | 5.1 | 2.6 | - | 88.7 | 44.4 | AQMA10 | ALL |
| **$PM_{10}$** | LT | 40 | EU | 4.7E-02 | 0.1 | 1.5E-02 | 15.7 | 39.4 | AQMA11 | ALL |
| | 24h 90.41 | 50 | EU | 0.2 | 0.3 | - | 31.5 | 63.1 | AQMA11 | ALL |
| **$PM_{2.5}$** | LT | 25 | EU | 3.1E-02 | 0.1 | 5.7E-03 | 10.4 | 41.5 | AQMA13 | ALL |

### Table 5.68. All Sites Considered Human and AQMA Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 174 |
| Hooton Gasification | 1070 |
| Wealden EfW | 75 |
| Charlton Pyrolysis and GE | 185 |

### Table 5.69. All Sites Considered Ecological Receptor Impact Appraisal

| Facility | Count Pollutant WC impact |
|---|---|
| Beddington ERF | 20 |
| Hooton Gasification | 1913 |
| Wealden EfW | 0 |
| Charlton Pyrolysis and GE | 11 |

## Table 5.70. All Sites Worst Case Impact on Ecological Receptors with Maximum PCs from Combustion Processes

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| Wim1 | 0.178 | 1.8 | 0.00 | 16.1 | **161.4** | All | 0.013 | 2.0 | 0.00 | 1.2 | **179.5** | All | 0.007 | 2.9 | 0.2 | 72.4 | All | 0.02 | 2.2 | 1.0 | 99.3 | All |
| Win1 | 0.172 | 1.7 | 0.00 | 23.4 | **233.7** | All | 0.012 | 8.7 | 0.00 | 1.7 | **1177.7** | All | 0.007 | 0.9 | 0.2 | 27.3 | All | 0.02 | 0.8 | 0.9 | 28.7 | All |
| Win2 | 0.163 | 1.6 | 0.00 | 23.4 | **233.6** | All | 0.012 | 8.2 | 0.00 | 1.7 | **1177.2** | All | 0.007 | 0.9 | 0.2 | 27.2 | All | 0.02 | 0.8 | 0.9 | 28.6 | All |
| Win3 | 0.163 | 1.6 | 0.00 | 23.4 | **233.6** | All | 0.012 | 8.2 | 0.00 | 1.7 | **1177.2** | All | 0.007 | 0.9 | 0.2 | 27.2 | All | 0.02 | 0.8 | 0.9 | 28.6 | All |
| Mol1 | 0.151 | 1.5 | 0.00 | 24.6 | **246.3** | All | 0.011 | 7.6 | 0.00 | 1.8 | **1240.0** | All | 0.006 | 1.1 | 0.2 | 41.5 | All | 0.02 | 2.1 | 1.0 | 96.3 | All |
| Mol2 | 0.153 | 1.5 | 0.00 | 24.6 | **246.3** | All | 0.011 | 7.7 | 0.00 | 1.8 | **1240.1** | All | 0.006 | 1.1 | 0.2 | 41.5 | All | 0.02 | 2.2 | 1.0 | 96.4 | All |
| Mol3 | 0.144 | 1.4 | 0.06 | 24.7 | **246.8** | All | 0.010 | 7.2 | 0.00 | 1.8 | **1242.7** | All | 0.006 | 1.1 | 0.2 | 41.4 | All | 0.02 | 2.0 | 1.0 | 96.3 | All |
| Mol4 | 0.140 | 1.4 | 0.06 | 24.7 | **246.8** | All | 0.010 | 7.1 | 0.00 | 1.8 | **1242.5** | All | 0.006 | 1.0 | 0.2 | 41.4 | All | 0.02 | 2.0 | 1.0 | 96.2 | All |
| Mol5 | 0.119 | 1.2 | 0.00 | 24.6 | **246.0** | All | 0.009 | 6.0 | 0.00 | 1.8 | **1238.4** | All | 0.005 | 0.9 | 0.2 | 41.2 | All | 0.02 | 1.7 | 1.0 | 95.9 | All |
| Wim2 | 0.152 | 1.5 | 0.00 | 16.1 | **161.1** | All | 0.011 | 1.7 | 0.00 | 1.2 | **179.3** | All | 0.006 | 2.8 | 0.2 | 72.4 | All | 0.02 | 2.2 | 1.0 | 99.2 | All |
| Wim3 | 0.155 | 1.6 | 0.00 | 16.1 | **161.2** | All | 0.011 | 1.7 | 0.00 | 1.2 | **179.3** | All | 0.007 | 2.8 | 0.2 | 72.4 | All | 0.02 | 2.2 | 1.0 | 99.3 | All |
| Wim4 | 0.149 | 1.5 | 0.00 | 16.1 | **161.1** | All | 0.011 | 1.7 | 0.00 | 1.2 | **179.2** | All | 0.006 | 2.7 | 0.2 | 72.3 | All | 0.02 | 2.1 | 1.0 | 99.2 | All |
| Mol6 | 0.127 | 1.3 | 0.00 | 24.6 | **246.1** | All | 0.009 | 6.4 | 0.00 | 1.8 | **1238.8** | All | 0.005 | 0.9 | 0.2 | 41.3 | All | 0.02 | 1.8 | 1.0 | 96.0 | All |
| Mol7 | 0.136 | 1.4 | 0.00 | 24.6 | **246.2** | All | 0.010 | 6.9 | 0.00 | 1.8 | **1239.2** | All | 0.006 | 1.0 | 0.2 | 41.4 | All | 0.02 | 1.9 | 1.0 | 96.2 | All |
| Mol8 | 0.113 | 1.1 | 0.00 | 24.6 | **245.9** | All | 0.008 | 5.7 | 0.00 | 1.8 | **1238.1** | All | 0.005 | 0.8 | 0.2 | 41.2 | All | 0.02 | 1.6 | 1.0 | 95.8 | All |
| Mol9 | 0.116 | 1.2 | 0.00 | 24.6 | **246.0** | All | 0.008 | 5.8 | 0.00 | 1.8 | **1238.2** | All | 0.005 | 0.9 | 0.2 | 41.2 | All | 0.02 | 1.6 | 1.0 | 95.9 | All |
| Mol10 | 0.106 | 1.1 | 0.00 | 24.6 | **245.9** | All | 0.008 | 5.3 | 0.00 | 1.8 | **1237.7** | All | 0.004 | 0.8 | 0.2 | 41.1 | All | 0.02 | 1.5 | 1.0 | 95.7 | All |
| Mol11 | 0.134 | 1.3 | 0.00 | 24.6 | **246.1** | All | 0.010 | 6.7 | 0.00 | 1.8 | **1239.1** | All | 0.006 | 1.0 | 0.2 | 41.3 | All | 0.02 | 1.9 | 1.0 | 96.1 | All |
| Mol12 | 0.126 | 1.3 | 0.00 | 24.6 | **246.1** | All | 0.009 | 6.4 | 0.00 | 1.8 | **1238.7** | All | 0.005 | 0.9 | 0.2 | 41.3 | All | 0.02 | 1.8 | 1.0 | 96.0 | All |
| Mol13 | 0.122 | 1.2 | 0.00 | 24.6 | **246.0** | All | 0.009 | 6.1 | 0.00 | 1.8 | **1238.5** | All | 0.005 | 0.9 | 0.2 | 41.3 | All | 0.02 | 1.7 | 1.0 | 96.0 | All |
| Mol14 | 0.129 | 1.3 | 0.00 | 24.6 | **246.1** | All | 0.009 | 6.5 | 0.00 | 1.8 | **1238.9** | All | 0.005 | 0.9 | 0.2 | 41.3 | All | 0.02 | 1.8 | 1.0 | 96.1 | All |
| Mol15 | 0.137 | 1.4 | 0.00 | 24.6 | **246.2** | All | 0.010 | 6.9 | 0.00 | 1.8 | **1239.3** | All | 0.006 | 1.0 | 0.2 | 41.4 | All | 0.02 | 2.0 | 1.0 | 96.2 | All |
| TBH1 | 0.195 | 2.0 | 0.00 | 13.6 | **135.7** | All | 0.014 | 4.3 | 0.00 | 1.0 | **303.4** | All | 0.008 | 3.9 | 0.2 | 98.7 | All | 0.03 | 2.7 | 0.7 | 71.5 | All |
| TBH2 | 0.329 | 3.3 | 0.06 | 13.8 | **137.6** | All | 0.023 | 7.3 | 0.00 | 1.0 | **307.8** | All | 0.017 | 8.3 | 0.2 | **103.0** | All | 0.04 | 4.5 | 0.9 | 90.9 | All |
| TBH3 | 0.297 | 3.0 | 0.06 | 13.7 | **137.3** | All | 0.021 | 6.6 | 0.00 | 1.0 | **307.0** | All | 0.015 | 7.0 | 0.2 | **101.8** | All | 0.04 | 4.1 | 0.9 | 90.5 | All |
| TBH4 | 0.260 | 2.6 | 0.01 | 13.6 | **136.4** | All | 0.019 | 5.8 | 0.00 | 1.0 | **305.0** | All | 0.011 | 5.0 | 0.2 | 99.8 | All | 0.04 | 3.6 | 0.9 | 87.2 | All |

| Receptor | Nutrient N Dep | | | | | | N Acid | | | | | | S Acid | | | | | | $NH_3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | Road PC (keq ha-1 y-1) | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | PC (keq ha-1 y-1) | PC % CL Min | PEDR (keq ha-1 y-1) | PEDR % CL Min | Facility | LT PC | LT PC % CL | LT PEC | LT PEC % CL | Facility |
| TBH5 | 0.189 | 1.9 | 0.08 | 13.6 | **136.4** | All | 0.014 | 4.2 | 0.01 | 1.0 | **305.0** | All | 0.008 | 3.7 | 0.2 | 98.5 | All | 0.03 | 2.7 | 1.0 | **100.4** | All |
| TBH6 | 0.216 | 2.2 | 0.01 | 13.6 | **135.9** | All | 0.015 | 4.8 | 0.00 | 1.0 | **304.0** | All | 0.009 | 4.3 | 0.2 | 99.0 | All | 0.03 | 3.0 | 1.0 | **100.8** | All |
| TBH7 | 0.110 | 1.1 | 0.15 | 13.6 | **136.3** | All | 0.008 | 2.4 | 0.01 | 1.0 | **304.9** | All | 0.005 | 2.2 | 0.2 | 97.0 | All | 0.02 | 1.6 | 0.9 | 85.2 | All |
| TBH8 | 0.113 | 1.1 | 0.15 | 13.6 | **136.4** | All | 0.008 | 2.5 | 0.01 | 1.0 | **305.0** | All | 0.005 | 2.3 | 0.2 | 97.1 | All | 0.02 | 1.6 | 0.9 | 85.2 | All |
| TBH9 | 0.161 | 1.6 | 0.00 | 13.5 | **135.3** | All | 0.012 | 3.6 | 0.00 | 1.0 | **302.7** | All | 0.007 | 3.2 | 0.2 | 98.0 | All | 0.02 | 2.3 | 0.7 | 71.0 | All |
| TBH10 | 0.159 | 1.6 | 0.00 | 13.5 | **135.3** | All | 0.011 | 3.5 | 0.00 | 1.0 | **302.6** | All | 0.007 | 3.1 | 0.2 | 97.9 | All | 0.02 | 2.2 | 0.7 | 71.0 | All |
| TBH11 | 0.206 | 2.1 | 0.08 | 13.7 | **136.5** | All | 0.015 | 4.6 | 0.01 | 1.0 | **305.4** | All | 0.009 | 4.1 | 0.2 | 98.9 | All | 0.03 | 2.9 | 1.0 | **100.7** | All |
| TBH12 | 0.205 | 2.0 | 0.08 | 13.7 | **136.5** | All | 0.015 | 4.6 | 0.01 | 1.0 | **305.3** | All | 0.009 | 4.0 | 0.2 | 98.8 | All | 0.03 | 2.9 | 1.0 | **100.7** | All |
| TBH13 | 0.201 | 2.0 | 0.00 | 13.6 | **135.7** | All | 0.014 | 4.5 | 0.00 | 1.0 | **303.5** | All | 0.008 | 4.0 | 0.2 | 98.8 | All | 0.03 | 2.8 | 1.0 | **100.6** | All |
| TBH14 | 0.201 | 2.0 | 0.00 | 13.6 | **135.7** | All | 0.014 | 4.5 | 0.00 | 1.0 | **303.5** | All | 0.008 | 4.0 | 0.2 | 98.8 | All | 0.03 | 2.8 | 1.0 | **100.6** | All |
| TBH15 | 0.198 | 2.0 | 0.08 | 13.6 | **136.5** | All | 0.014 | 4.4 | 0.01 | 1.0 | **305.2** | All | 0.008 | 3.9 | 0.2 | 98.7 | All | 0.03 | 2.8 | 1.0 | **100.6** | All |
| TBH16 | 0.210 | 2.1 | 0.08 | 13.7 | **136.6** | All | 0.015 | 4.7 | 0.01 | 1.0 | **305.5** | All | 0.009 | 4.1 | 0.2 | 98.9 | All | 0.03 | 3.0 | 1.0 | **100.7** | All |
| TBH17 | 0.213 | 2.1 | 0.08 | 13.7 | **136.6** | All | 0.015 | 4.7 | 0.01 | 1.0 | **305.5** | All | 0.009 | 4.2 | 0.2 | 99.0 | All | 0.03 | 3.0 | 1.0 | **100.8** | All |
| TBH18 | 0.295 | 2.9 | 0.13 | 13.8 | **137.9** | All | 0.021 | 6.6 | 0.01 | 1.0 | **308.5** | All | 0.012 | 5.7 | 0.2 | **100.5** | All | 0.04 | 4.1 | 0.9 | 87.7 | All |
| TBH19 | 0.208 | 2.1 | 0.13 | 13.7 | **137.1** | All | 0.015 | 4.6 | 0.01 | 1.0 | **306.6** | All | 0.009 | 4.1 | 0.2 | 98.9 | All | 0.03 | 2.9 | 0.9 | 86.5 | All |
| TBH20 | 0.207 | 2.1 | 0.15 | 13.7 | **137.3** | All | 0.015 | 4.6 | 0.01 | 1.0 | **307.1** | All | 0.009 | 4.1 | 0.2 | 98.8 | All | 0.03 | 2.9 | 0.9 | 86.5 | All |
| TBH21 | 0.314 | 3.1 | 0.15 | 13.8 | **138.4** | All | 0.022 | 7.0 | 0.01 | 1.0 | **309.5** | All | 0.013 | 6.0 | 0.2 | **100.8** | All | 0.04 | 4.3 | 0.9 | 87.9 | All |
| SWL1 | 0.302 | 1.5 | 0.00 | 16.6 | 83.0 | All | 0.022 | 9.7 | 0.00 | 1.2 | **534.3** | All | 0.013 | 1.4 | 0.2 | 24.4 | All | 0.04 | 1.4 | 0.9 | 29.8 | All |
| SWL2 | 0.658 | 3.3 | 0.29 | 17.2 | 86.2 | All | 0.047 | 21.1 | 0.02 | 1.2 | **555.1** | All | 0.026 | 3.0 | 0.2 | 26.0 | All | 0.09 | 2.9 | 1.0 | 31.8 | All |
| SWL3 | 0.273 | 1.4 | 0.01 | 16.6 | 82.9 | All | 0.019 | 8.7 | 0.00 | 1.2 | **533.6** | All | 0.022 | 2.5 | 0.2 | 25.5 | All | 0.04 | 1.2 | 1.2 | 38.7 | All |
| SWL4 | 0.297 | 1.5 | 0.01 | 16.6 | 83.0 | All | 0.021 | 9.5 | 0.00 | 1.2 | **534.4** | All | 0.024 | 2.8 | 0.2 | 25.8 | All | 0.04 | 1.3 | 1.2 | 38.8 | All |
| SWL5 | 0.280 | 1.4 | 0.06 | 16.6 | 83.2 | All | 0.020 | 9.0 | 0.00 | 1.2 | **535.6** | All | 0.011 | 1.3 | 0.2 | 24.3 | All | 0.04 | 1.3 | 1.2 | 38.8 | All |
| SWL6 | 0.242 | 1.2 | 0.00 | 16.5 | 82.7 | All | 0.017 | 7.8 | 0.00 | 1.2 | **532.4** | All | 0.010 | 1.2 | 0.2 | 24.2 | All | 0.03 | 1.2 | 1.1 | 36.3 | All |
| SWL7 | 0.443 | 2.2 | 0.14 | 16.9 | 84.4 | All | 0.032 | 14.2 | 0.01 | 1.2 | **543.2** | All | 0.018 | 2.1 | 0.2 | 25.1 | All | 0.06 | 2.1 | 0.9 | 30.9 | All |
| SWL8 | 0.265 | 1.3 | 0.00 | 16.6 | 82.8 | All | 0.019 | 8.5 | 0.00 | 1.2 | **533.2** | All | 0.011 | 1.3 | 0.2 | 24.3 | All | 0.04 | 1.3 | 1.1 | 36.5 | All |
| Ric1 | 0.194 | 1.9 | 0.00 | 26.6 | **265.9** | All | 0.014 | 9.8 | 0.00 | 1.9 | **1340.7** | All | 0.008 | 1.1 | 0.2 | 28.8 | All | 0.03 | 0.9 | 1.1 | 36.1 | All |
| Ric2 | 0.183 | 1.8 | 0.00 | 26.6 | **265.8** | All | 0.013 | 9.2 | 0.00 | 1.9 | **1340.2** | All | 0.008 | 1.1 | 0.2 | 28.7 | All | 0.03 | 0.9 | 1.1 | 36.1 | All |
| Ric3 | 0.187 | 1.9 | 0.00 | 26.6 | **265.9** | All | 0.013 | 9.4 | 0.00 | 1.9 | **1340.4** | All | 0.008 | 1.1 | 0.2 | 28.7 | All | 0.03 | 0.9 | 1.1 | 36.1 | All |

For the Worst-Case scenario, with all sites in simultaneous operation, at Human receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 1.1µg/m$^3$ at receptor H32, between the Lyne Lane and Trumps Farm Sites, though at this location the LT PEC is, at 18.6µg/m$^3$, only 46.6% of the annual mean objective. PCs contributing to exceedances of stated objectives include for the annual mean AQS objective of 0.00025µg/m$^3$ for PAH and the H1 objective of 0.003µg/m$^3$ for As and 0.0002µg/m$^3$ for CR VI, though these are considered over-estimates and on detailed assessment of the facilities would likely be compliant with the EAL. The road PCs at these locations are small, with the largest being for $NO_2$ at 1.0E-2µg/m$^3$. The majority of the WC locations are within the vicinity of the Lyne Lane and Trumps Farm Sites, which is not unsurprising considering these are the two in closest proximity, not to mention the influence of the M3 nearby.

At Human receptors with maximum PECs, the profile of the WC locations is similar, with exceedances in the same pollutants and proxy scenarios. Maximum PECs for $NO_2$, $PM_{10}$ and $PM_{2.5}$ come where background concentrations are notably higher, for example $NO_2$ has a maximum LT PEC of 31.5µg/m$^3$ (78.8% of the objective) at H40, nearer to the Oakleaf Farm site, which is influenced by Heathrow airport. When all nine SWLP sites operate simultaneously, Human receptors along the M3 corridor experience a larger increase in the concentrations of pollutants than would occur from sites in singular operation and that this is due to the in combination emissions from Lyne Lane and Trumps Farm in particular. This indicates that at the planning stage these two sites should be considered cumulatively.

At AQMA receptors which experience the maximum PCs for each pollutant, the maximum predicted annual mean $NO_2$ PC is 0.5µg/m$^3$ at AQMA4, North East of the Weylands STW Site, though at this location the LT PEC is, at 27.2µg/m$^3$, only 67.9% of the annual mean objective. The road PCs at these locations are small, with the largest being for $NO_2$ at 5.0E-2µg/m$^3$. AQMAs 4 and 11 experience the WC PCs with all sites in operation.

At AQMA receptors with maximum PECs, $NO_2$ has a maximum LT PEC of 42.5µg/m$^3$ (an exceedance of the objective) at AQMA 10, near to the Earlswood STW site. This PEC was also derived from a monitored concentration in 2015, the most recent available, so is now likely to be reduced. For $PM_{10}$, maximum LT PEC of 15.7µg/m$^3$ is at AQMA11, along the M25. The road PCs at these locations are small, with the largest being for $NO_2$ at 3.0E-1µg/m$^3$.

For Ecological receptors, for nutrient nitrogen deposition, even with all sites in operation, PCs are small, the maximum being 0.658keq ha$^{-1}$ y$^{-1}$ at SWL2, 3.3% of the $CL_{min}$. However, PEDRs are in exceedance of the $CL_{min}$ at all sites except those representing the South West London Waterbodies SPA due to high background deposition rates. The Worst-Case scenario, with all sites in simultaneous operation, is expected to create maximum road PCs to nitrogen deposition of 0.29keq ha$^{-1}$ y$^{-1}$ at SWL2. For Nitric acid, there is a similar story, where PCs are low (maximum again being at SWL2, at 21.1% of the $CL_{min}$), but at each site all PEDRs are in exceedance of the $CL_{min}$. The Worst-Case scenario, with all sites in simultaneous operation, is expected to create maximum road PCs to nitric acid deposition of 0.02keq ha$^{-1}$ y$^{-1}$. For sulphuric acid, PCs are again low (the maximum being at SWL1 with 0.026keq ha$^{-1}$ y$^{-1}$, 3% of the $CL_{min}$) though for this parameter background deposition rates are lower. PEDRs are in a majority of cases below the $CL_{min}$, but in the Worst-Case some exceed, including at TBH2, 3, 18 and 21. For $NH_3$, PCs are also low (the maximum being 0.09µg/m$^3$ at SWL2), though in the WC some PECs are above the Critical Level, namely TBH5, 6 and 11 and 17. Overall, the South West London Waterbodies SPA experiences the highest PCs from the Worst-Case scenario, with all sites in simultaneous operation.

By way of a summarising comparison, at Human and AQMA receptors, across the nine site scenarios, the WC impact on any given pollutant PC or PEC comes, in a majority of cases, from the Hooton Gasification scenario, with Charlton Pyrolysis and GE second, Beddington ERF third and Wealden EfW fourth. At Ecological receptors, WC PCs are almost exclusively under the Hooton Gasification scenario, though some are provided by Beddington ERF and Charlton Pyrolysis and GE.

Under the worst case scenario, as EAL exceedances are limited to those discussed, each waste management process is considered acceptable for potential application at any given SWLP Site, subject to detailed consideration. Marginal exceedances of ecological PEDRs are attributable to this scenario, though as stated, this is an extreme worst case so under detailed consideration this is likely to be below this threshold.

# 6. Conclusions

## Modelling Results

AECOM Infrastructure & Environment Ltd has been commissioned by Surrey County Council (SCC) to conduct an Air Quality Impact Assessment (AQIA) of nine sites proposed as being eligible for waste related development in the draft Surrey Waste Local Plan (SWLP)[41], to further assess their suitability for various types of waste management facility. These nine sites have been selected as offering opportunities for the development of waste management facilities, and multiple waste management facility types are considered at each of these locations. Impacts both from combustion plant and anticipated road traffic on local Human, AQMA and Ecological receptors are accordingly assessed.

The impacts unsurprisingly vary according to location and facility, though various themes emerge. Considering the type of facility to employ, at each SWLP site, the Hooton Gasification scenario provided the majority of the worst case PCs, particularly for ecological receptors. It is fair to say that this type of facility would be least desirable in terms of the impact on ecological designations. However, this can vary by pollutant. For example, Beddington ERF provides a majority of the WC PCs for annual mean $NO_2$, the pollutant against which the vast majority of the AQMAs in the county are declared. This could lend itself to the decision to avoid locating a facility adjacent to any AQMAs, or that specific $NO_x$ abatement/mitigation measures are employed with this type of facility. One method, which has been employed under the assessment of some of the other proxy facilities, would be to reduce the $NO_x$ ELV from the IED 200mg/m$^3$, to 100mg/m$^3$, which would reduce base load emissions. The Wealden EfW scenario provides fewest WC PCs, and principally only for PAHs, though this is to an extent an artefact of the ELV applied to this pollutant in the original assessment, which was higher than for the other proxy sites. The Charlton Pyrolysis and GE scenario provides WC PCs for other pollutants, including Benzene, $SO_2$ and Dioxins, though these are generally not pollutants of concern in the UK. It should be noted that this assessment is constrained by the data provided, and it was not possible to assess the above facilities at varying throughputs, which would have had an impact on the overall pollutant concentrations modelled. Charlton Pyrolysis and GE, for example, is a facility with a markedly lower annual tpa throughput than the other proxies. Of the waste management scenarios assessed, there are not considered to be any restrictions on the type of facilities that can be employed at any given SWLP site, as summarised in Table 6.1, subject to the appropriate abatement and ELVs.

**Table 6.1. Waste Management Facility Acceptability at Each SWLP Site**

| SWLP Site | Waste Management Type | | | |
|---|---|---|---|---|
| | ERF | Gasification | EfW | Pyrolysis and GE (AD) |
| Weylands STW | Acceptable | Acceptable | Acceptable | Acceptable |
| Slyfield Industrial Estate | Acceptable | Acceptable | Acceptable | Acceptable |
| Leatherhead STW | Acceptable | Acceptable | Acceptable | Acceptable |
| Earlswood STW | Acceptable | Acceptable | Acceptable | Acceptable |
| Lyne Lane | Acceptable | Acceptable | Acceptable | Acceptable |
| Trumps Farm | Acceptable | Acceptable | Acceptable | Acceptable |
| Oakleaf Farm | Acceptable | Acceptable | Acceptable | Acceptable |
| Lambs Business Park | Acceptable | Acceptable | Acceptable | Acceptable |
| Martyrs Lane | Acceptable | Acceptable | Acceptable | Acceptable |

Considering the relative efficacy of the SWLP shortlisted locations, this is again dependant on the metric evaluated. Taking annual mean $NO_2$ as the principal pollutant of concern in the UK in regards to human health at present, then Leatherhead STW provides the highest PC at Human receptors. Though at AQMAs, which are arguably of greater concern as these are locations already highlighted

[41] https://www.surreycc.gov.uk/environment-housing-and-planning/minerals-and-waste-policies-and-plans/surrey-waste-plan-adopted-plan/waste-plan-issues-and-options-consultation

as having existing issues, this is in fact the Weylands STW, which is in closer proximity to a larger number of AQMAs. However, it is apparent that under the constraints of this assessment, that the Lambs Business Park location is perhaps of least impact, primarily as it is more rural in character than some of the other sites. One other way of ascribing this is to look at the worst case scenario, in which all sites are assumed to emit their worst case facilities and PCs simultaneously. In this scenario, a majority of the worst case human receptors are along the M3, where Lyne Lane and Trumps Farm would operate within close proximity, so this should perhaps be considered under full implementation of the SWLP. In terms of Ecological receptors, the WC PCs are usually at South West London Waterbodies (though these are not in fact sensitive to Nitrogen deposition) or Thames Basin Heath sites, which could indicate this should be considered under the implementation of sites to the North West of the County, where these designations are situated. This assessment will go on to inform the HRA assessments for these designations as well, in which further consideration to these points will be given.

It is also important to note that this study has not been able to consider the practicalities of how the design or operational procedures for the example facilities might be optimised to enable the use of any site, instead a generic site layout and orientation has been applied at all sites. The modelling has been of a screening type and should any of the sites be selected for any of these activities the emissions would need to be modelled afresh and in greater detail, particularly for road traffic emissions, than was appropriate for this study. That said, this document may be referred to provide an indication of potential impacts under any given scenario.

# SWLP Draft Wording

A review of the draft SWLP as it currently stands deems the wording relating to air quality to be generally acceptable. One minor amendment is recommended, in paragraph 8.9.32, where “Applications for Energy from Waste or similar technologies should demonstrate the facility will not have an adverse air quality *effect*” would be more appropriately described as “an adverse air quality *impact*”. Paragraph 8.9.13 states “For proposals that would be likely to impact on air quality through dust, fumes or significant traffic generation, the developer should provide an assessment of the impact of pollutants in relation to surrounding sensitive receptors using suitable methodology and significance descriptors”. It may be appropriate for SCC to include a description of what it considers a *“suitable methodology”* so that the consideration of the SWLP site applications is consistent and to save time in the consultation process.

# Summary

To summarise, the following conclusions may be drawn from this assessment:

- Subject to more detailed consideration, there are not concluded to be any restrictions on the types of waste management facilities that can be employed at any of the sites targeted under the SWLP;
- The Hooton Gasification scenario generally provides WC PCs for a majority of pollutants at all SWLP sites;
- The Hooton Gasification scenario is almost exclusively the most polluting type of facility in terms of the impacts on the Ecologically designated sites considered;
- The Beddington ERF scenario is generally WC for $NO_2$, so a lower ELV or $NO_x$ mitigation should be considered when deploying this type of a facility close to existing AQMA declarations;
- The Wealden EfW scenario provides fewest WC PCs at the receptors assessed;
- Leatherhead and Weylands STW sites are the SWLP sites where the greatest annual mean $NO_2$ PCs are experienced by nearby receptors;
- Lambs Business Park is considered to have the least impact, considering its more rural location;

- If considering the simultaneous operation of all the SWLP sites, the close proximity of some of the locations in the North West of the County (Lyne Lane, Trumps Farm, Oakleaf Farm and Martyrs Lane) may lead to cumulative impacts, particularly at locations along the M3 corridor, and at South West London Waterbodies and Thames Basin Heath SPAs. These applications should therefore be considered in conjunction;

- This assessment cannot, because of the inherent uncertainties in the approach, be considered a robust assessment of any one of the SWLP sites in isolation, rather it is intended to provide a holistic 'screening' overview of the SWLP across the County; and

- The draft wording of the SWLP in relation to air quality is generally considered acceptable, with one suggested minor amendment, and the potential for consideration to be given to providing guidance to developers on the impact assessment of each individual SWLP site application.

# Appendix A Ecology Designated Sites for Consideration at Screening

## Table A.1. Ecology Screening Table (extracted from HRA Background Paper 1: Surrey WLP Sites & European Designated Sites, credit SCC)

| Designation of International Designations | Site of Special Scientific Interest | SWLP Site 1 Oakleaf Farm, Blackwell Wood | SWLP Site 2 Triangle Farm, Longcross | SWLP Site 3 Lyne Lane, Chertsey | SWLP Site 4 Weybrook Tip, Horsham | SWLP Site 5 Slyfield Ind., Guildford | SWLP Site 6 Martyrs Lane, Woking | SWLP Site 7 Leatherhead STW, Leatherhead | SWLP Site 8 Earlswood STW, Redhill | SWLP Site 9 Lambs Business Park, South Godstone |
|---|---|---|---|---|---|---|---|---|---|---|
| **Special Protection Areas** | | | | | | | | | | |
| Ashdown Forest SPA | Ashdown Forest SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| South West London Waterbodies SPA & Ramsar Site | Knight & Bessborough Reservoirs SSSI | 5.28 km SE | >10km | 9.86 km E | 1.97 km N | >10km | >10km | >10km | >10km | >10km |
| | Hamwith Park Reservoir SSSI | 7.65 km SE | >10km | >10km | 4.16 km N | >10km | >10km | >10km | >10km | >10km |
| | Staines Moor SSSI | 0.02 km S | 7.14 km NE | 5.20 km SE | 9.41 km NW | >10km | >10km | >10km | >10km | >10km |
| | Thorpe Park No 1 Gravel Pits SSSI | 5.58 km S | 3.08 km NE | 0.85 km NE | 6.54 km W | >10km | 6.28 km N | >10km | >10km | >10km |
| | Wraysbury & Hythe End Gravel Pits SSSI | 1.87 km SW | 6.70 km N | 5.42 km NW | >10km | >10km | >10km | >10km | >10km | >10km |
| | Wraysbury No 1 Gravel Pit SSSI | 5.45 km W | 7.75 km N | 6.85 km NW | >10km | >10km | >10km | >10km | >10km | >10km |
| | Wraysbury Reservoir SSSI | 1.23 km W | 7.52 km N | 5.93 km N | >10km | >10km | >10km | >10km | >10km | >10km |
| Thames Basin Heaths SPA | Ash to Brookwood Heaths SSSI | >10km | >10km | >10km | >10km | 8.68 km NW | 7.88 km NW | >10km | >10km | >10km |
| | Bourley & Long Valley SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Brentmoor SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Broadmoor to Bagshot Woods & Heaths | >10km | 8.91 km W | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Castle Bottom to Yateley & Hawley Commons SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Chobham Common SSSI | >10km | 1.41 km SW | 5.62 km SW | >10km | >10km | 5.19 km NW | >10km | >10km | >10km |
| | Colony Bog & Bagshot Heath SSSI | >10km | 7.90 km SW | 9.28 km SW | >10km | 7.22 km NW | 7.80 km W | >10km | >10km | >10km |
| | Ockham & Wisley Commons SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Thursley, Hankley & Frensham Commons SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Whitmoor Common SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| **Special Protection Areas** | | | | | | | | | | |
| Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) SPA | Thursley, Hankley & Frensham Commons SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| Wealden Heaths Phase II SPA | Bramshott & Ludshott Commons SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Pound & Kingsley Commons SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Devil's Punch Bowl SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| | Woolmer Forest SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| **Special Areas of Conservation** | | | | | | | | | | |
| Ashdown Forest SAC | Ashdown Forest SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| Thursley Common SAC | Thursley Common SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| Mole Gap to Reigate Escarpment SAC | Mole Gap to Reigate Escarpment SSSI | >10km | >10km | >10km | >10km | >10km | >10km | 2.90km S | 3.68km N | 6.36 km NW |
| Richmond Park SAC | Richmond Park SSSI | >10km | >10km | >10km | 7.01 km NE | >10km | >10km | >10km | >10km | >10km |
| Shortheath Common SAC | Shortheath Common SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| The Mens SAC | The Mens SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| Thursley, Ash, Pirbright & Chobham SAC | Ash to Brookwood Heaths SSSI | >10km | >10km | >10km | >10km | 4.89 km NW | 7.33 km SW | >10km | >10km | >10km |
| | Chobham Common SSSI | >10km | 1.41 km SW | 3.62 km SW | >10km | >10km | 3.19 km NW | >10km | >10km | >10km |
| | Colony Bog & Bagshot Heath SSSI | >10km | 7.00 km SW | 8.26 km SW | >10km | 7.21 km NW | 7.68 km W | >10km | >10km | >10km |
| | Thursley, Hankley & Frensham Commons SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |
| Wimbledon Common SAC | Wimbledon Common SSSI | >10km | >10km | >10km | 9.97 km NE | >10km | >10km | >10km | >10km | >10km |
| Windsor Forest & Great Park SAC | Windsor Forest & Great Park SSSI | 5.98 km W | 3.01 km NW | 3.98 km NW | >10km | >10km | 8.05 km NW | >10km | >10km | >10km |
| Woolmer Forest SAC | Woolmer Forest SSSI | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km | >10km |

Note: The direction shorthand in this table indicates the location of the SSSI relative to the proposed allocated site

# Appendix B Traffic Assessment

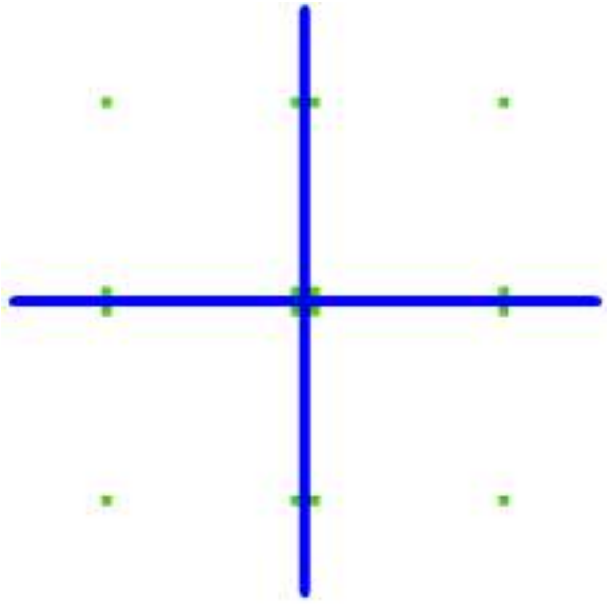
### Table A.2. Total Traffic Generated by Proxy Site

| Site | HGVs | LGVs | per hour HGV | per hour LGV |
|---|---|---|---|---|
| Beddington ERF | 58 | 608 | 2.4 | 25.3 |
| Hooton Gasification | 290 | 120 | 12.1 | 5.0 |
| Wealden EfW | 246 | 28 | 10.3 | 1.2 |
| Charlton Pyrolysis and GE | 180 | 28 | 7.5 | 1.2 |

For human and ecological receptors, the traffic data in Table A.2 are assigned to the proxy road and receptor networks in Figure A.1 and Table A.3 as per Table A.4. An emission/concentration is then assigned to the relevant receptor, based on the 'best fit' with the real world distance and orientation from the road, as per Table A.5. This provides the road contribution.

For AQMA receptors, if relevant to the SWLP site in question, the traffic data in Table A.2 are assigned to the nearest road to the local authority diffusion tube, as described in Table A.6.

### Figure A.1. Proxy Road and Receptor Network



### Table A.3. Proxy Receptor Grid Orientation (examples from Earlswood STW (10m width) and Lyne Lane (32m Width))

| Receptor name | X(m) | Y(m) | X(m) | Y(m) | Distance from North-South link (m) | Distance from East-West link (m) | Compass Orientation | Z(m) |
|---|---|---|---|---|---|---|---|---|
| | *Earlswood STW* | | *Lyne Lane* | | | | | |
| 1 | 500190 | 167690 | 500179 | 167679 | 5 | 5 | SW | 1.5 |
| 2 | 500190 | 167710 | 500179 | 167721 | 5 | 5 | NW | 1.5 |