

MANILLA WASTEWATER TREATMENT PLANT - YEARLY SUMMARY FOR 2015/16

LICENCE PERIOD: 1st Feb 2015 - 31st Jan 2016

POINT 1 NOTE: Monitoring Frequency - Quarterly

| Pollutant | Units | 90th Percentile Concentration Limit | Monitoring Frequency | Number of Samples | Minimum Value | Maximum Value | Mean | Median | Exceedances (Yes / No) |
|------------------|-----------|-------------------------------------|----------------------|-------------------|---------------|---------------|------|--------|------------------------|
| TSS | mg/L | 30 | Quarterly | 4 | 3 | 7 | 5.0 | - | No |
| BOD | mg/L | 20 | Quarterly | 4 | <2 | 4 | 3.0 | - | No |
| Calcium | mg/L | - | Quarterly | 4 | 12.0 | 26.9 | 20.9 | - | - |
| Conductivity | uS/cm | - | Quarterly | 4 | 750 | 830 | 773 | - | - |
| Faecal Coliforms | CFU/100mL | - | Quarterly | 4 | <2 | 8 | 6 | - | - |
| Magnesium | mg/L | - | Quarterly | 4 | 11.4 | 19.0 | 15.4 | - | - |
| Nitrite | mg/L | - | Quarterly | 4 | <0.1 | 0.2 | 0.1 | - | - |
| Nitrate | mg/L | - | Quarterly | 4 | 0.2 | 1.8 | 1.0 | - | - |
| Ammonia | mg/L | - | Quarterly | 4 | 0.5 | 2.5 | 1.4 | - | - |
| Oil and Grease | mg/L | - | 6 Monthly | 3 | <5 | 9 | 6 | - | - |
| OC/OP | ug/L | - | Yearly | 2 | <PQL | <PQL | <PQL | - | - |
| pH | pH Units | - | Quarterly | 4 | 7.9 | 8.4 | 8.1 | - | - |
| Total Phosphorus | mg/L | - | Quarterly | 4 | 0.76 | 1.16 | 0.96 | - | - |
| Potassium | mg/L | - | Quarterly | 4 | 19 | 23 | 20.8 | - | - |
| Sodium | mg/L | - | Quarterly | 4 | 89 | 146 | 110 | - | - |
| SAR | | - | Quarterly | 4 | 3.22 | 6.79 | 4.61 | - | - |
| TKN | mg/L | - | Quarterly | 4 | 2.6 | 4.2 | 3.33 | - | - |

POINT 2 NOTE: Monitoring Frequency - Yearly

| Pollutant | Units | 90th Percentile Concentration Limit | Monitoring Frequency | Number of Samples | Minimum Value | Maximum Value | Mean | Median | Exceedances (Yes / No) |
|---------------|-------|-------------------------------------|----------------------|-------------------|---------------|---------------|------|--------|------------------------|
| CEC | cm/kg | - | Yearly | 1 | 10.8 | 10.8 | 10.8 | 10.8 | - |
| Chloride | mg/kg | - | Yearly | 1 | 60 | 60 | 60 | 60 | - |
| Conductivity | uS/cm | - | Yearly | 1 | 84 | 84 | 84 | 84 | - |
| Ex. Calcium | mg/kg | - | Yearly | 1 | 6.2 | 6.2 | 6.2 | 6.2 | - |
| Ex. Magnesium | mg/kg | - | Yearly | 1 | 2.9 | 2.9 | 2.9 | 2.9 | - |
| Ex. Potassium | mg/kg | - | Yearly | 1 | 1.0 | 1.0 | 1.0 | 1.0 | - |

| | | | | | | | | | |
|-------------------|----------|---|----------|---|------|------|------|------|---|
| Ex. Sodium | mg/kg | - | Yearly | 1 | 0.5 | 0.5 | 0.5 | 0.5 | - |
| Extractable Phos. | mg/kg | - | Yearly | 1 | 562 | 562 | 562 | 562 | - |
| Moisture Content | % | - | 3 Yearly | 1 | 15.4 | 15.4 | 15.4 | 15.4 | - |
| Nitrate | mg/kg | - | Yearly | 1 | 2.7 | 2.7 | 2.7 | 2.7 | - |
| Ammonia | mg/kg | - | Yearly | 1 | <20 | <20 | <20 | <20 | - |
| Total Nitrogen | mg/kg | - | 3 Yearly | - | - | - | - | - | - |
| pH | pH Units | - | Yearly | 1 | 7.7 | 7.7 | 7.7 | 7.7 | - |
| Total Phosphorus | mg/kg | - | 3 Yearly | - | - | - | - | - | - |
| PSC | mg/kg | - | 3 Yearly | - | - | - | - | - | - |
| SHC | mm/week | - | 3 Yearly | - | - | - | - | - | - |
| SAR | | - | Yearly | 1 | 1.98 | 1.98 | 1.98 | 1.98 | - |

POINT 3,4,5,6 NOTE: Monitoring Frequency - Quarterly

| Pollutant | Units | 90th Percentile Concentration Limit | Monitoring Frequency | Number of Samples | Minimum Value | Maximum Value | Mean | Median | Exceedances (Yes / No) |
|----------------------|----------|-------------------------------------|----------------------|-------------------|---------------|---------------|------|--------|------------------------|
| Conductivity | uS/cm | - | Quarterly | 0 | DRY | DRY | DRY | DRY | - |
| Nitrate | mg/L | - | Yearly | 0 | DRY | DRY | DRY | DRY | - |
| Ammonia | mg/L | - | Yearly | 0 | DRY | DRY | DRY | DRY | - |
| Total Nitrogen | mg/L | - | Yearly | 0 | DRY | DRY | DRY | DRY | - |
| Orthophosphate | mg/L | - | Yearly | 0 | DRY | DRY | DRY | DRY | - |
| pH | pH Units | - | Quarterly | 0 | DRY | DRY | DRY | DRY | - |
| Total Phosphorus | mg/L | - | Yearly | 0 | DRY | DRY | DRY | DRY | - |
| Standing Water Level | m | - | Quarterly | 0 | DRY | DRY | DRY | DRY | - |

POINT 7 NOTE: Monitoring Frequency - Each Overflow Event

| Pollutant | Units | 90th Percentile Concentration Limit | Monitoring Frequency | Number of Samples | Minimum Value | Maximum Value | Mean | Median | Exceedances (Yes / No) |
|------------------|-------|-------------------------------------|----------------------|-------------------|---------------|---------------|------|--------|------------------------|
| BOD | mg/L | - | As above | 4 | <2 | 3 | 2.7 | 3.0 | - |
| Total Nitrogen | mg/L | - | As above | 4 | 3.8 | 4.3 | 4.0 | 4.0 | - |
| Oil and Grease | mg/L | - | As above | 4 | <5 | 6 | <5 | <5 | - |
| Total Phosphorus | mg/L | - | As above | 4 | 1.02 | 1.29 | 1.12 | 1.09 | - |
| TSS | mg/L | - | As above | 4 | 2 | 5 | 3.3 | 3.0 | - |