

APPENDIX 3 – PLANT ODOUR EMISSIONS (BEFORE AND AFTER WORKS)

Odour Sources	Before Upgrade	After Stage 1 Upgrade	After Stage 2 Upgrade	Comments <i>(*St 1 and St 2 denotes Odour Control stages 1 and 2)</i>
Preliminary treatment	8,400	4,600	2,840	<ul style="list-style-type: none"> • Close inlet pit (St 1*) • Seal cover joints (St 1) • Replace covers (St 2) • Increase suction (St 2) • Ducts to scrubbers (St 2)
Primary treatment	20,000	16,000	4,850	<ul style="list-style-type: none"> • Seal cover joints (St 1) • Increase suction (St 2) • Ducts to scrubbers (St 2)
Bioselectors	88,000	9,610	9,710	<ul style="list-style-type: none"> • Full covers (St 1) • Ducts to new scrubber (St 2) • New 2-stage scrubber (St 1)
Aerobic tanks	76,000	83,990	86,210	
Effluent storage	3,550	3,550	3,550	<ul style="list-style-type: none"> • No works proposed.
Tanker Receiving (under normal operating conditions)	4,400	2,000	2,000	<ul style="list-style-type: none"> • Improved sealing (St 1) • Upgrade scrubber (St 2)
Sludge thickeners	3,100	1,060 +500	1,210 +750	<ul style="list-style-type: none"> • New ventilation (St 1) • Additional equipment DAFs & storage tanks St1&2
Sludge digesters	22,300	5,830	5,830	<ul style="list-style-type: none"> • New ventilation (St 1 &2)
Biofilter outlet	22,300	0	0	<ul style="list-style-type: none"> • Decommission (St 1) • New scrubber (St 1)
Sludge storage	2,000	1,140	1,140	<ul style="list-style-type: none"> • Improved sealing (St 1)
Sludge dewatering	7,000	3,180	3,260	<ul style="list-style-type: none"> • New ventilation (St 1)
Biosolids bin and loading	3,050	1,610	1,660	<ul style="list-style-type: none"> • New enclosed bins (St 1) • New ventilation (St 1&2) • Termination of open truck loading (St 1)
Odour bed	140	0	0	<ul style="list-style-type: none"> • Decommission (St 1)
Energy recovery and gas engines	6,000	5,400	5,540	<ul style="list-style-type: none"> • Improved digester gas treatment (St 1)
Waste gas burner	7,460	3,320	3,410	<ul style="list-style-type: none"> • New burner (St 1 & 2)
Subtotal – ground level	277,100	141,790	131,960	52% reduction in odour emissions at ground level
Inlet scrubber (low stack)	20,000	0	0	<ul style="list-style-type: none"> • Replaced by new scrubbers and tall stack. (24,450 odour emission - new stack will not contribute to odour emissions impact on the immediate surrounding neighbourhood at ground level due to improved dispersion.)
Subtotal ground level and low stack emission	297,100	141,790	131,960	52%(Stage 1) and 56% (Stage 2) reduction in ground level emissions