

APPENDIX 6.11.2 GREENHOUSE GAS CALCULATION INPUTS

Table 1 General information

LCA timeline	60	years	BS EN 15978
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Table 2 WLCA results

	Plot N3 kg CO ₂ e	Plot N4 kg CO ₂ e	Plot N5 kg CO ₂ e
A1-A3 Product Stage	3,923,589.16	11,550,250	17,210,000
A4 Transportation to site	327,383.59	1,013,066	1,497,657
A5 Site operations	436,463.82	1,266,829	1,952,022
B1 Use Phase	222,485.45	194,588.7	1,651,248
B2 Maintenance	73,020	230,310	340,048
B3 Repair	18,255	57,577.5	85,120
B4 Material replacement-materials	3,343,320.56	9,179,182	14,094,059
B6 Operational Energy Use - Regulated	1,055,088	2,500,102	4,913,283
B6 Operational Energy Use - Unregulated	1,453,638.72	4,479,669	6,798,267
B7 operational Water use	20,508.85	75,253.42	90,618.68
C1 Deconstruction/demolition	24,826.8	78,305.4	115,763.2
C2 Waste transportation	37,077.37	96,370.15	143,370.5
C3 Waste processing	194,209.77	536,784.3	931,143.1
C4 Waste disposal	384.03	1,507.963	3,344.84
Total kg CO₂e	10,978,362.12	30,842,364	49,099,485

Table 3 Assumptions and conversion factors used for GHG emissions associated with operational transport for the proposed development

Assumed mode of transport	Assumed Distance travelled (km)	Source of assumed distance travelled	Annual trips	Number of trips over 60-year lifecycle	Carbon factor (total kgCO ₂ e per km)	Lifetime GHG emissions (tCO ₂ e)
Cars	13.1	Nimblefins Average Car Journeys in the UK NimbleFins	37,230	2,233,800	Average car, unknown fuel 0.166910	4,847
HGVs	108	Department for Transport Domestic Road Freight Statistics, United Kingdom: 2018 (publishing.service.gov.uk)	2,920	175,200	All HGVs, average laden 0.872960	16,518
LGVs	108	Department for Transport Domestic Road Freight Statistics, United Kingdom: 2018 (publishing.service.gov.uk)	40,880	2,452,800	Van - Average (up to 3.5 tonnes) - unknown fuel type 0.249340	660,051