



Annex J

Trip Generation Calculations

Volume 3, Appendix 27.1: Transport Assessment

Outer Dowsing Offshore Wind Environmental Statement

GoBe Consultants Ltd

SLR Project No.: 410.V05356.00013

1 March 2024

Description	Dimensions			Quantity	Number	Total	Units	External Vehicle Moves (In and Out)					Total Vehs				
	L	W	H					All	Low Loader	Tipper 10m3	Flat Bed	6m3 Concrete		Crew Vans/cars/Day			
1 Temporary Construction Compounds								72	72								
Assumptions: Primary TCC (300m x 150m), Secondary TCC (80m x 60m)																	
Duration								960	960	Days							
Delivery of Plant								6	432								
Primary TCC								18			864						
Excavation- Topsoil								300	150	0.3	13500	18	243000	m3			
Stockpiled- Topsoil								300	150	0.3	13500	18	243000	m3			
Imported Formation Material								300	150	0.3	13500	18	243000	m3	60750		
Secondary TCC								80	60		54						
Excavation- Topsoil								80	60	0.3	1440	54	77760	m3			
Stockpiled- Topsoil								80	60	0.3	1440	54	77760	m3			
Imported Formation Material								80	60	0.3	1440	54	77760	m3	19440		
Trenchless Works TCC								150	30		400						
Excavation- Topsoil								150	30	0.3	1350	400	540000	m3			
Stockpiled- Topsoil								150	30	0.3	1350	400	540000	m3			
Imported Formation Material								150	30	0.3	1350	400	540000	m3	135000		
Trenching Remediation (TR)																	
Removal of Formation Material (from all TCC's)											860760	m3		215190			
Reinstatement of Topsoil											860760	m3					
Site Cabins (2 cabins per TCC: L=10m, W=3m)								2	472	944	each						
Misc (Drainage/Signs/Fencing) (1 flat bed per TCC)								1	472	472	each	1888			944		
Average Staff Vehicles per Day								6	960	5760	Vehicles					11520	
Total											0	2752	430380	944	0	11520	445596
2 Landfall (CC/PM)																	
Assumptions:																	
Duration (60 days setup, 90 days drilling, 90 days reinstatement)								480	480	Days							
Landfall TCC (90,000m2)								90000	1	1	m2						
Excavation- Topsoil								300	300	0.3	27000	1	27000	m3			
Stockpiled- Topsoil								300	300	0.3	27000	1	27000	m3			
Imported Formation Material								300	300	0.3	27000	1	27000	m3	6750		
Delivery of Plant											10	10					
Site Cabins (8 cabins for Landfall TCC)								8	8	8	each						
Misc (Drainage/Signs/Fencing) (1 flat bed per TCC)								4	4	4	each				8		
Landfall HDD																	
HDD Entry Pit (Area = 200m2)																	
Excavation								20	10	6	1200	1	1200	m3			
HDD Exit Pit (6 No., Area = 1000m2)																	
Excavation								40	25	5	5000	1	5000	m3			
HDD Cable Ducts (6 No., 2km length, 1.2m dia.)																	
HDD Removed material								2000	Area = 1.13m2	2260	6	13560	m3				
T/B (6 No., Area = 207m2)																	
Excavation								23	9	6	1242	6	7452	m3			
Average Staff Vehicles per Day								16	480	7680	Vehicles					15360	
Total											0	36	6750	8	0	15360	22154
3 HV Cable Trench Installation																	
Assumptions: 4 No. cable trench, 5m wide (at top), 1.5m wide (at bottom) 3m deep x 80km long, 1.5m of stabilised backfill per trench																	
Assumption: Assume 1m3 of material removed from site per 2m3 of excavated material																	
Assumption: Remove HDD Length from Cable Trench Length																	
Duration: (520 days / 24 months)								960	960	Days							
Onshore ECC								80000									
Trench Excavation								70000	3.25	3	682500	4	2730000	m3			
Cable Volume (diameter of 180mm)								70000	0.18	0.18	1781	12	21375	m3			
Imported Cable Bedding (1.5m of material)								70000	3.25	1.5	341250	4	1343625	m3	335906		
Total Material removed from site													1365000	m3	341250		
Haul Road and Cable Access																	
Excavation of topsoils								70000	6.8	0.3	142800	1	142800	m3			
Imported Formation Material (crushed rock)								70000	6.8	0.6	285600	1	285600	m3	71400		
Removal of Formation Material (crushed rock)								70000	6.8	0.6	285600	1	285600	m3	71400		
Reinstatement of Topsoil								70000	6.8	0.3	142800	1	142800	m3			
Joint Bays																	
Excavation								26	9	2.5	585	700	409500	m3			
Removal of Excavated material								26	9	2.5	585	700	204750	m3	51188		
Link Boxes																	
Excavation								4	4.5	2.5	45	700	31500	m3			
Removal of Excavated material								4	4.5	2.5	45	700	15750	m3	3938		
Road crossings (27 road crossings across minor roads, 4 No. cable trenches per crossing)																	
Excavation								6	3.25	3	59	108	6318	m3	1580		
Bedding material								6	3.25	1.5	29	108	3159	m3	790		
Road material (formation material, type 1, Tarmac, etc.)								6	3.25	1.5	29	108	3159	m3	790		
HDD (200 HDD Crossings, 4 No. Cable trenches per crossing)											200						
Average Crossing length = 50m, See HDD sheet for details											50						
Drilled Material								50	0.5	0.5	13	800	10000	m3			
Drilling rigs and associated equipment											200				1600	2500	6400
Total Length of HDD								50			200		10000	m			
Trenching Remediation (TR)																	
Included within different sections of the spreadsheet, this section summarises vehicle movements associated with TR																	
Land Remediation / Landscaping																	
Grass Seeding								4	140	560	Vehicles					560	
Hedge / Tree Re-planting								4	140	560	Vehicles					560	
Average Staff Vehicles per Day								20	960	19200	Vehicles					38400	
Total											0	1600	880740	6400	0	38400	927140
4 HV Cable Installation																	
Assumptions: Assumed to be undertaken at the same time as HV Cable Trench Installation																	
Duration								960	960	Days							
180mm HV Cable (assume 100kg per m of cable)								80000			12	96000	Tons	9600			
Plant (Assume 4 extra pieces of plant to roll out the cables)								4	72	288	Vehicles	576					
Average Staff Vehicles per Day								2	960	1920	Vehicles					3840	
Total											0	576	0	9600	0	3840	14016
Total for each item																	
Totals								0	4928	1311120	16944	0	53760	1386752			
Summary:								Totals									
All								0	4928	1311120	16944	0	53760	702667			
Low Loader																	
Tipper 10m3																	
Flat Bed																	
6m3 Concrete																	
Crew Vans/cars/Day																	
Car/LGVs								13.5%									

Activity	Dimensions				Quantity	Number	Total	Units	External Vehicle Movements (In and Out)												Total Units	Month																	
	L	W	H	D					1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1. Site Preparation (CCPM)																																							
Assumptions: 80' x 80' site.																																							
Duration					20	20	Days																																
Excavation	80	80	0.3	1500	1	1500	m ³																																
Delivery of Place					4	4	Items																																
Excavate Topsoil	80	80	0.3	1500	1	1500	m ³																																
Site Clean-Up (excav. & fill)	80	80	0.3	1500	1	1500	m ³																																
Importation/Exportation Material (Type 1)	80	80	0.3	1500	1	1500	m ³																																
Site Clean-Up (excav. & fill)	80	80	0.3	1500	1	1500	m ³																																
Excavate Car Park	75	16	0.3	360	1	360	m ³																																
Importation/Exportation Material (Type 1)	75	16	0.3	360	1	360	m ³																																
Mix (Drainage/Sign/Finishing)					4	4	Items																																
Average Staff Vehicles per Day					8	80	Vehicles																																
TOTAL								0	24	100	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Access Road Construction (CCPM)																																							
Assumptions: 400m from nearest road network, width 5m, depth 0.4m.																																							
Duration					30	30	Days																																
Excavation	400	5	0.4	800	1	800	m ³																																
Delivery of Place					4	4	Items																																
Excavation (Topsoil)	400	5	0.4	800	1	800	m ³																																
Site Clean-Up (excav. & fill)	400	5	0.4	800	1	800	m ³																																
Concrete Road	400	5	0.4	800	1	800	m ³																																
Mix (Drainage/Sign/Finishing)	Assume 4 flat beds				4	4	Items																																
Average Staff Vehicles per Day					8	80	Vehicles																																
TOTAL								0	8	200	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3. Retention Construction (CCPM)																																							
Assumptions: 70% of plot area is gravel, 30% is foundations/roads (above W-100'0.7)																																							
Duration	428	135	0.3	43,824	1	43,824	Days																																
Excavation - CUT (Assumed Flat)	428	135	0.3	43,824	1	43,824	m ³																																
Excavation - CUT (Assumed Flat)	428	135	0.3	43,824	1	43,824	m ³																																
General Fill - Imported - Capable (FILL)	428	234.5	0.25	27,656	1	27,656	m ³																																
General Fill - Imported - Capable (FILL)	428	234.5	0.45	45,270	1	45,270	m ³																																
General Fill - Imported - Type 1 (FILL)	428	234.5	0.21	28,487	1	28,487	m ³																																
General Fill - Imported (20mm stone)	428	234.5	0.25	27,656	1	27,656	m ³																																
Average Staff Vehicles per Day					20	100	Vehicles																																
TOTAL								0	0	21555	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4. Mixed Drains and Services (CCPM)																																							
Assumptions: Cable ducts, buried services/roads, oil interceptor.																																							
Duration					100	100	Days																																
Excavation	10,000	0.6	0.2	10,000	1	10,000	m ³																																
Delivery of Place					4	4	Items																																
Backfill/Grout bedding	10,000	0.6	0.2	10,000	1	10,000	m ³																																
Underground cables/trenches excavation	600	0.6	0.4	720	1	720	m ³																																
Underground cables/trenches excavation	Assume trenches situated at 20' flat bed 1.4 flat bed 1.4 flat bed 1.4 flat bed 1.4				36	36	Items																																
Oil Interceptor	12	4	4	102	2	102	Items																																
Excavation	10	1	0.25	7.5	2	15	m ³																																
Type 1	10	1	0.25	7.5	2	15	m ³																																
Concrete	10	1	0.25	7.5	2	15	m ³																																
Concrete steel reinforcement (A305 mesh)	10	1	2	40	2	80	m ³																																
Timber/Misc					12	12	Items																																
Average Staff Vehicles per Day					15	150	Vehicles																																
TOTAL								4	8	304	38	6	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
5. Retention Foundations (CCPM)																																							
Assumptions: 250 Nos. Foundations at average volume of 4m ³ .																																							
Duration					60	60	Days																																
Excavation and Prep	1	2	0.5	1.0	250	250	m ³																																
Excavation	1	2	0.5	1.0	250	250	m ³																																
Type 1	1	2	0.25	0.5	250	125	m ³																																
Concrete	1	2	0.5	1.0	250	250	m ³																																
Manhandling 60k	1.5	1	0.5																																				

Cell Ref.	ATC Ref.	Location	2019 / 2022 / 2023						2022 Baseline						2027 Baseline						Traffic and Transport						
			Total Traffic			HGVs			Total Traffic			HGVs			Total Traffic			HGVs			Total Traffic	ODW	Personnel	% Increase Total Traffic			
			24 Hour (7 day)	18 Hour (Weekday)	HGV %	24 Hour (7 day)	18 Hour (Weekday)	HGV %	24 Hour (7 day)	18 Hour (Weekday)	HGV %	24 Hour (7 day)	18 Hour (Weekday)	HGV %	24 Hour (7 day)	18 Hour (Weekday)	HGV %	24 Hour (7 day)	18 Hour (Weekday)	HGV %							
1	8	B.1449 Thirty Road	3389	4360	116	134	3.4%	3.1%	3389	4360	116	134	3.4%	3.1%	3329	4440	120	140	3.4%	3.1%	195	174	21	374	294	5.9%	150.3%
2	7	B.1450 Long Lane	2616	2616	86	104	3.4%	4.0%	2616	2616	86	104	3.4%	4.0%	2507	2724	91	108	3.6%	4.0%	195	174	21	374	294	5.9%	150.3%
3	6	A.104	7168	7384	236	278	3.3%	3.7%	7168	7384	236	278	3.3%	3.7%	7464	7844	246	289	3.3%	3.7%	195	174	21	374	294	5.9%	150.3%
4	5	A. AS2 (Hoggetops)	3987	4085	86	97	2.2%	2.4%	3987	4085	86	97	2.2%	2.4%	4151	4254	80	101	2.2%	2.4%	195	174	21	374	294	5.9%	150.3%
5	9	A. AS2 between Marsh Lane and Skogness	4021	4021	124	124	3.0%	3.0%	4021	4021	124	124	3.0%	3.0%	3963	4208	117	129	2.9%	3.0%	195	174	21	374	294	5.9%	150.3%
6	80	B. Lisoft Lane	77	76	7	6	9.1%	6.6%	77	76	7	6	9.1%	6.6%	80	79	7	5	9.1%	6.6%	31	23	8	111	80	38.9%	328.9%
7	10	T. Snotby High Lane	1496	1989	35	33	2.3%	2.1%	1496	1989	35	33	2.3%	2.1%	1556	1652	36	34	2.3%	2.1%	56	46	10	1632	82	3.6%	132.1%
8	11	A. AS2 (Hoggetops)	1063	1143	20	26	2.0%	2.3%	1063	1143	20	26	2.0%	2.3%	1105	1189	21	27	1.9%	2.3%	81	69	12	1186	90	7.3%	345.0%
9	12	B. Marsh Lane (between ECC and AS2)	4697	4698	105	118	2.1%	2.5%	4697	4698	105	118	2.1%	2.5%	5094	4886	110	123	2.1%	2.5%	3	0	5	5096	110	0.1%	0.0%
10	12	B. Marsh Lane (between ECC and A158)	4897	4698	105	118	2.1%	2.5%	4897	4698	105	118	2.1%	2.5%	5094	4886	110	123	2.1%	2.5%	163	145	18	5257	255	3.2%	137.9%
11	14	B. A158 Skogness Road (east of ECC)	13005	13348	300	337	2.3%	2.8%	13005	13348	300	337	2.3%	2.8%	13542	13899	313	351	2.3%	2.8%	147	147	0	13899	460	1.1%	48.0%
12	14	B. A158 Skogness Road (west of ECC)	13005	13348	300	337	2.3%	2.8%	13005	13348	300	337	2.3%	2.8%	13542	13899	313	351	2.3%	2.8%	163	145	18	5257	255	3.2%	137.9%
13	15	B. AS2 (north of Low Road)	8027	8171	170	193	2.1%	2.4%	8027	8171	170	193	2.1%	2.4%	8359	8508	177	201	2.1%	2.4%	219	147	72	8577	324	2.6%	86.0%
14	15	B. AS2 (south of Low Road)	8027	8171	170	193	2.1%	2.4%	8027	8171	170	193	2.1%	2.4%	8359	8508	177	201	2.1%	2.4%	244	147	97	8602	324	2.9%	85.0%
15	53	B. AS2 (Hoggetops)	4835	4923	191	225	3.9%	4.6%	4835	4923	191	225	3.9%	4.6%	5035	5127	199	234	3.9%	4.6%	198	87	111	5322	286	3.9%	45.0%
16	17	AS2 (Wrange)	6355	6519	278	327	4.4%	5.0%	6355	6519	278	327	4.4%	5.0%	6618	6788	290	341	4.4%	5.0%	243	87	156	6861	377	3.7%	31.2%
17	DFT 16584	AS2 (Butternack)	6446	6599	304	367	5.0%	5.9%	6446	6599	304	367	5.0%	5.9%	6901	7101	337	340	5.0%	5.9%	243	87	156	6861	377	3.7%	31.2%
18	1	AS2 (Wainfleet Road) (Halseth End)	11616	9792	423	477	3.6%	4.3%	11616	9792	423	477	3.6%	4.3%	12096	10196	440	496	3.6%	4.3%	576	434	140	12669	874	4.7%	102.8%
19	1	AS2 (Wainfleet Road) (Halseth End)	11616	9792	423	477	3.6%	4.3%	11616	9792	423	477	3.6%	4.3%	12096	10196	440	496	3.6%	4.3%	576	434	141	12670	874	4.8%	102.8%
20	35	Charth Lane	998	800	26	32	2.6%	4.0%	998	800	26	32	2.6%	4.0%	1038	832	27	33	2.6%	4.0%	40	36	4	1078	84	3.8%	136.8%
21	30	Garby Lane	1041	1114	47	55	4.5%	5.0%	1041	1114	47	55	4.5%	5.0%	1082	1159	49	58	4.5%	5.0%	184	163	21	1266	213	17.0%	346.3%
22	31	B1196 (by in the Marsh)	1096	1184	32	41	2.9%	3.4%	1096	1184	32	41	2.9%	3.4%	1140	1232	31	42	2.9%	3.4%	184	163	21	1323	196	16.1%	508.4%
23	32	B1196 (Thorp St. Peter)	825	876	20	25	2.4%	2.8%	825	876	20	25	2.4%	2.8%	859	911	21	28	2.4%	2.8%	218	163	55	1076	183	25.4%	815.9%
24	38	Rooson Road (Wainfleet)	1272	1300	41	4	3.2%	0.3%	1272	1300	41	4	3.2%	0.3%	1328	1404	43	4	3.2%	0.3%	47	0	47	1315	43	3.6%	0.0%
25	33	Brewster Lane	33	37	1	1	2.6%	3.3%	33	37	1	1	2.6%	3.3%	35	38	1	1	2.6%	3.3%	69	54	14	103	55	197.6%	6327.0%
26	81	Colston Gate	8	24	0	0	0.0%	0.0%	8	24	0	0	0.0%	0.0%	9	7	0	0	0.0%	0.0%	30	27	3	89	27	353.6%	#DIV/0!
27	43	Scot Gate	24	27	1	1	3.8%	4.3%	24	27	1	1	3.8%	4.3%	26	28	1	1	3.8%	4.3%	10	0	10	86	1	37.4%	0.0%
28	DFT 80074	Horbling Lane	1333	1317	173	171	13.0%	13.0%	1362	1345	177	175	13.0%	13.0%	1417	1389	184	182	13.0%	13.0%	210	200	10	1627	384	14.8%	813.4%
29	41	Fen Bank	647	658	22	24	3.4%	3.6%	647	658	22	24	3.4%	3.6%	673	684	23	25	3.4%	3.6%	210	200	10	884	229	31.2%	917.0%
30	36	M&L Lane	468	551	11	14	2.3%	2.5%	468	551	11	14	2.3%	2.5%	507	573	12	14	2.3%	2.5%	10	0	10	517	12	2.0%	0.0%
31	49	Hougarth Lane	122	131	2	2	1.3%	1.5%	122	131	2	2	1.3%	1.5%	127	136	2	2	1.3%	1.5%	54	45	9	381	46	42.5%	283.8%
32	52	Low Road	776	856	31	38	4.0%	4.4%	776	856	31	38	4.0%	4.4%	807	890	33	40	4.0%	4.4%	54	45	9	861	78	6.7%	142.7%
33	56	Common Road	223	217	7	9	3.1%	4.2%	223	217	7	9	3.1%	4.2%	232	228	7	10	3.1%	4.2%	192	164	28	424	172	62.8%	2346.0%
34	58	Common Road (near AS2)	233	255	5	6	2.1%	2.3%	233	255	5	6	2.1%	2.3%	243	265	5	6	2.1%	2.3%	192	164	28	435	169	79.2%	3284.5%
35	62	Ings Road	278	298	11	12	3.9%	4.0%	278	298	11	12	3.9%	4.0%	289	310	11	12	3.9%	4.0%	187	157	30	476	168	64.7%	1442.5%
36	64	West End Road	597	614	58	59	10.3%	9.6%	597	614	58	59	10.3%	9.6%	579	638	60	62	10.3%	9.6%	187	157	30	766	216	32.3%	272.0%
37	22	Cod End Road	232	235	9	13	3.4%	5.4%	232	235	9	13	3.4%	5.4%	221	244	10	13	3.4%	5.4%	38	33	5	259	42	11.1%	350.6%
38	82	Porfod Lane	0	0	0	0	0.0%	#DIV/0!	0	0	0	0	0.0%	#DIV/0!	0	0	0	0	0.0%	#DIV/0!	38	33	5	46	33	450.0%	#DIV/0!
39	23	Milford Lane East / Low Road / Steehay / Wyberton Roads	213	228	8	9	3.6%	4.0%	213	228	8	9	3.6%	4.0%	222	237	8	10	3.6%	4.0%	89	77	12	311	85	40.0%	994.8%
40	24	Stapen Road / Bantley Road / Nicks Lane / Marsh Road	321	339	10	13	3.0%	3.8%	321	339	10	13	3.0%	3.8%	334	353	10	13	3.0%	3.8%	177	153	24	511	164	63.2%	1580.0%
41	76	Wash Road / Coventry Lane	213	230	5	5	2.3%	2.3%	213	230	5	5	2.3%	2.3%	222	239	5	5	2.3%	2.3%	89	77	12	310	82	40.1%	1580.0%
42	25	A16 (south of Boston)	22100	22274	869	943	3.9%	4.2%	22100	22274	869	943	3.9%	4.2%	23012	23194	904	982	3.9%	4.2%	183	64	120	23196	968	0.8%	7.3%
43	25	A16 (south of Boston)	22100	22274	869	943	3.9%	4.2%	22100	22274	869	943	3.9%	4.2%	23012	23194	904	982	3.9%	4.2%	420	395	115	23432	1209	1.8%	38.1%
44	27	A17 (south of River Welland)	18859	20080	1728	1635	9.2%	8.1%	18859	20080	1728	1635	9.2%	8.1%	19638	21118	1799	1702	9.2%	8.1%	288	200	188	19876	2018	1.2%	12.7%
45	27	A17 (north of River Welland)	18859	20080	1728	1635	9.2%	8.1%	18859	20080	1728	1635	9.2%	8.1%	19638	21118	1799	1702	9.2%	8.1%	227	175	51	19865	1974	1.2%	10.2%
46	28	A17 (between A16 and A1121)	17006	18979	1849	1896	10.6%	10.0%	17006	18979	1849	1896	10.6%	10.0%	18229	19763	1926	1									