



Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions

Preliminary Environmental Information Report

Volume 3

Appendix 26.6 - Construction Materials Demand

April 2021

Title:	
Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions Preliminary Environmental Information Report Appendix 26.6 Construction Materials Demand	
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Prepared by:	
Royal HaskoningDHV	
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Jo Rodriguez, Equinor	29 th April 2021

Table A26.6.1: Derivation of Construction Materials and Associated HGV Demand

1. Temporary Construction Compounds (TCCs)	
No. of Compounds	8
Length (m)	50
Width (m)	50
Depth (m)	0.4
Volume (m3)	8,000
Tonnes (assume density of 2.2 tonnes per cubic meter)	17,600
HGV payload (tonnes)	20
Total HGV deliveries	880
Duration of deliveries, months	4
Monthly HGV deliveries	220
2. Landfall HDD Compound	
No. of Compounds	1
Length (m)	75
Width (m)	75
Depth (m)	0.5
Volume (m3)	2,813
Tonnes (assume density of 2.2 tonnes per cubic meter)	6,188
HGV payload (tonnes)	20
Total HGV deliveries	309
Duration of deliveries, months	2
Monthly HGV deliveries	155
3. Haul Road	
No. of Haul Roads	1
Length (m)	60,000
Width (m)	6
Depth (m)	0.4
Volume (m3)	144,000
Tonnes (assume density of 1.8 tonnes per cubic meter)	259,200
HGV payload (tonnes)	20
Total HGV deliveries	12,960
Duration of deliveries, months	6
Monthly HGV deliveries	2,160
4. Backfill Material - CBS	
Route Length (m)	60,000
HDD Route Length (m)	3,000
Total Length (m)	57,000
Trench Volume (m3)	0.70
Duct Space (m3)	0.10
Total Volume of Backfill (m3)	0.6
No. of Circuits	2
Total Volume (m3)	68,400
Tonnes (assume density of 1.6 tonnes per cubic meter)	1.6
Total CBS Tonnes	109,440
HGV payload (tonnes)	20
Total CBS Deliveries	5,472
Trench Excavated Material	68,400
Excavated Material Bulking/Density Factor	1.3
Total Excavated Material Tonnes	88,920
HGV payload (tonnes)	20
Total Excavated Material deliveries	4,446
Total HGV deliveries (CBS and Excavated Material)	9,918
Duration of deliveries, months	8
Monthly HGV deliveries	1,240

5. Tape / Tile	
Route Length (m)	55,000
HDD Route Length (m)	3,000
Total Length (m)	52,000
No. of Circuits	2
No. of Tapes / Circuit	1
Total Length of Tape (m)	104,000
Tape Roll Length (m)	400
No. of Rolls	260
HGV payload (Rolls / HGV)	50
Total HGV deliveries	5
Duration of deliveries, months	8
Monthly HGV deliveries	1
6. Ducts (trench)	
Route Length (m)	60,000
HDD Route Length (m)	3,000
Total Length (m)	57,000
No. of Circuits	2
No. of Ducts / Circuit	3
Total Length of HV Ducts (m)	342,000
Total length for duct Length - 1 per circuit (m)	114,000
HGV payload (Ducts / HGV)	750
HGV payload (Fibre Ducts / HGV)	1,000
Total HGV HV duct deliveries	456
Total HGV FO ducts deliveries	114
Total HGV deliveries	570
Duration of deliveries, months	7
Monthly HGV deliveries	81
7. Cables	
Route Length (m)	60,000
No. of Circuits	6
Total Length (m)	360,000
Drum Length (m)	500
No. of Cable Deliveries	720
Fibre optic length (m)	120,000
Fibre optic drum length (m)	2,000
No. of fibre optic drums	60
HGV payload (Fibre optic drums / HGV)	6
Total HGV fibre ducts deliveries	10
Total HGV deliveries	730
Duration of deliveries, month	8
Monthly HGV deliveries	91
8. HDD installation	
HDD Route Length (m)	4,500
No. of Circuits	2
No. of HDD Ducts per circuit	3
Total number of HDD ducts	27,000
HGV payload (Ducts / HGV)	500
No. of HGV Loads	54
Fibre Ducting Length (m) 1 per circuit + 1 spare	13,500
No. Fibre ducting HGV Loads	27
HDD Route Length (4500m)	4,500
HDD Excavated material	2,986.48
Excavated Material Bulking/Density Factor	1.3
Total Excavated Material Tonnes	3882.419
HGV payload (tonnes)	20
Total Excavated Material HGV Deliveries	194
Total HGV deliveries	275
Duration of deliveries, months	7
Monthly HGV deliveries	39
8B. HDD installation	
No. of HDD Compounds	30
HDD Compound Length (m)	50
HDD Compound Width (m)	50
HDD Compound Depth (m)	0.3
HDD compound volume of stone (m3)	22,500
Tonnes (assume density of 2.2 tonnes per cubic meter)	49,500
HGV payload (tonnes)	20
Total HDD compound deliveries	2,475
Total HGV deliveries	2,556
Duration of deliveries, months	12
Monthly HGV deliveries	213

9. Drainage Ducts	
Route Length (m)	60,000
HDD Route Length (m)	3,000
Total Length (m)	57,000
No. of Drainage Pipes	2
Total Length of Pipes (m)(+20%)	136,800
HGV payload (pipes / HGV)	750
Total HGV deliveries	182
Duration of deliveries, months	12
Monthly HGV deliveries	15
10. Joint Bays	
No. of Joint Bays (2 No each 500m)	240
Concrete slab length (m)	14
Concrete slab width (m)	4
Concrete slab depth (m)	0.25
Concrete volume (m3)	3,360
HGV payload (concrete / HGV) m3	6
Total HGV concrete deliveries	560
Aggregate stone base length (m)	15
Aggregate stone base width (m)	5
Aggregate stone base depth (m)	0.2
Aggregate stone base volume (m3)	2,700
HGV payload (tonnes)	20
Total HGV aggregate stone base deliveries	135
Jointing Bay Excavated Material	13,440
Excavated Material Bulking/Density Factor	1.3
Total Excavated Material Tonnes	17472
HGV payload (tonnes)	20
Total Excavated Material HGV Deliveries	874
No. of joint bay compounds	120
Compound length (m)	50
Compound width (m)	30
Compound depth (m)	0.3
Compound stone Volume (m3)	54,000
Tonnes (assume density of 2.2 tonnes per cubic meter)	118,800
HGV payload (tonnes)	20
Total HGV aggregate compound deliveries	5,940
Total HGV deliveries	7,509
Duration of deliveries, months	8
Monthly HGV deliveries	939
11. Temporary access roads	
Length (m)	10,000
Width (m)	6
Depth (m)	0.4
Volume (m3)	24,000
Tonnes (assume density of 2.2tonnes per cubic meter)	52,800
HGV payload (tonnes)	20
Total HGV deliveries	2,640
Duration of deliveries, months	4
Monthly HGV deliveries	660

12. Onshore substation access road	
Length (m)	1,500
Width (m)	7
Depth (m)	0.4
Volume (m3)	4,200
Export of spoil (m3)	5,460
Total Volume of import/export (m3)	9,660
Tonnes (assume density of 2.2 tonnes per cubic meter)	21,252
HGV payload (tonnes)	20
Total HGV deliveries	1,063
Duration of deliveries, months	3
Monthly HGV deliveries	354
13. Substation site development	
Length (m)	250
Width (m)	250
Depth (m)	0.4
Volume (m3)	25,000
Tonnes (assume density of 2.2 tonnes per cubic meter)	55,000
HGV payload (tonnes)	20
Total HGV deliveries	2,750
Duration of deliveries, months	4
Monthly HGV deliveries	688
13B. Substation site development - Topsoil removal	
Length (m)	250
Width (m)	250
Depth (m)	0.3
Volume (m3)	18,750
Tonnes (assume density of 1.3 tonnes per cubic meter)	24,375
HGV payload (tonnes)	10
Total HGV deliveries	2,438
Duration of deliveries, months	3
Monthly HGV deliveries	813
14. Onshore substation Daily HGV deliveries	
Site prep - see above	
Month 0 - 1	12
Month 1 - 6	15
Month 7 - 12	75
Month 12 - 24	40
Month 24 - 36	10