



Norfolk Boreas Offshore Wind Farm Clarification Note Trenchless Crossings B1149 and Church Road, Colby (Version 2)

Applicant: Norfolk Boreas Limited Document Reference: ExA.AS-1.D8.V2 Deadline 8

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Photo: Ormonde Offshore Wind Farm





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Glossary of Acronyms

AAWT	Annual Average Weekly Traffic
ATC	Automatic Traffic Count
dDCO	Draft Development Consent Order
DMRB	Design Manual for Roads and Bridges
ES	Environmental Statement
HGV	Heavy Goods Vehicle
LWA db(A)	A-weighted sound power level in decibels
M	Metres
Mph	Miles per hour
NPL	Norfolk Partnership Laboratory
OLEMS	Outline Landscape and Ecological Management Strategy
TC	Trenchless Crossing Point
TEMPro	Trip End Model Presentation Programme





1 Introduction

- 1. Following Issue Specific Hearing 3 on Onshore Effects including the draft Development Consent Order held on Tuesday 21st January 2020, an action was identified by the Examining Authority for the Applicant to produce a Clarification Note to set out the reasons for and against trenchless crossings at B1149 and at Church Road, Colby, to include plans to an appropriate scale. This clarification note has been produced to address the request from the Examining Authority.
- 2. This clarification note has been updated at the suggestion of the Examining Authority following comments and responses to comments at Deadline 5 and Deadline 6 which provide further site specific details for the crossing of the B1149 and Church Road, Colby.

2 Comparison of open cut trenching and trenchless crossing of highways

- 3. Open cut trenching and trenchless crossing duct installation methods for the crossing of highways are detailed within Section 5.7.2.3.3 and Section 5.7.2.4 of Environmental Statement Chapter 5 Project Description [APP-218] respectively.
- 4. Crossing of highways for duct installation is required only in Scenario 2.
- 5. A comparison of open cut trenching and trenchless crossing methods is provided in Table 2.1 based on a range of parameters and with reference to the application documents.

Table 2.1 Comparison of open cut trench and trenchless crossing methods

Parameter	Open Cut Trench Crossing	Trenchless Crossing
Impacts to road users	Temporary impacts to road users (2 weeks at the B1149 crossing to allow for additional traffic management measures including temporary lane construction, but typically less than 1 week) which includes traffic management measures such as single lane closure.	No direct impacts to road users
Working hours	Consented normal construction hours: 07.00 – 19.00 Monday to Friday 07.00 – 13.00 Saturday No work on Sundays or public holidays. As set out in Requirement 26.	Consented normal construction hours: 07.00 – 19.00 Monday to Friday 07.00 – 13.00 Saturday No work on Sundays or public holidays.
	Passive traffic management measures (traffic lights on single lane closure) will be required throughout the period of the open cut crossing, however no active construction works with associated impacts are required outside of normal construction hours.	Trenchless crossings may require active construction works to extend outside of the consented hours (for technical reasons following commencement of drilling such as to maintain fluid pressures to minimise breakout risk), i.e. active construction works with associated impacts may extend into the evening or night time.
	Active construction works outside of normal construction hours may be employed to	





Parameter	Open Cut Trench Crossing	Trenchless Crossing
	minimise the period of works, although this is	Should works be required to extend beyond
	not a requirement of the works. Should	the consented hours then prior approval
	additional working hours be proposed	would be required from the relevant planning
	beyond the consented hours then prior	authority as set out in Requirement 26.
	I to the second of the second	dutilonty as set out in Requirement 20.
	approval would be required from the relevant	
	planning authority as set out in Requirement	
	26.	
Works	No additional land requirements outside the	Additional temporary land requirements for
footprint	Order limits. All works are conducted within	laydown areas and facilities associated with
	the cable route working width using the same	additional trenchless crossing equipment and
	or similar equipment and contractors as open	contractors is up to:
	cut trenching in agricultural land.	5,000m ² drill reception site
	and the control of th	7,500m ² drill launch site
	Access will be taken from the running track	
	Access will be taken from the running track	As secured in Requirement 16(15) of the
	(via Mobilisation Areas) as part of the duct	dDCO.
	installation works.	
		However, no temporary works compounds
	Additional temporary land of 303m ² (within	have been included within the current Order
	the Order limits) is required at the crossing of	limits as submitted for the DCO application.
	the B1149 to accommodate worst case	Therefore a bespoke design, with a single
		temporary works compound of 4,500m ² ,
	temporary diversion lanes as illustrated in	
	Appendix 3. The extent of these diversion	retained within the Order limits could be
	lanes is included to safely accommodate	considered.
	Hornsea Project Three cable drum delivery by	
	way of Abnormal Indivisible Loads (AIL) in the	This bespoke design only accommodates the
	worst case event that the two week open cut	HDD trenchless crossing method (and no
	trenching programme cannot be scheduled to	other trenchless crossing method) to
	avoid these movements. Norfolk Boreas	minimise supporting construction compound
		I
	Project in isolation would not require the	requirements, such that the compound could
	diversion lanes and a relatively small 'overrun	be wholly contained within the current Order
	area' would be sufficient to accommodate	limits. Other trenchless crossing methods
	'standard' traffic movements. It is therefore	such as auger boring, pipe jacking and micro
	implicit, that the Applicant's contractor will	tunnelling could not practicably be employed
	use their best endeavours to programme	here because additional temporary land
	· =	
	works to avoid the cumulative AIL scenario	adjacent to the launch and reception pits
	and minimise the additional temporary land	would be needed to support the plant and
	use.	materials required to sink shallow shafts at
		both the launch and reception pit.
		At all other trenchless crossing locations
		flexibility is retained for all trenchless
		crossing methods so that the most
		appropriate solution can be employed
		following ground investigation, cable design
		(sizing) and detailed design of the trenchless
		crossing. To accommodate a HDD at these
		specific locations would be constraining the
		Project design prior to detailed design and
Fi 1	2 weeks at the D4440 are sain.	investigations being conducted.
Timescale	2 weeks at the B1149 crossing to allow for	Up to 6 weeks to conduct the crossing,
	additional traffic management measures	allowing for setup of temporary areas and
	including temporary lane construction, but	additional equipment, period of drilling and
	Aurainally lang them 1aal, ta aanal, at the	subsequent demobilisation and removal of
	typically less than I week to conduct the	Subsequent demobilisation and removal of
	typically less than 1 week to conduct the crossing, such as at Church Road, Colby.	
	crossing, such as at Church Road, Colby, which is likely to be completed in days.	equipment and materials.





Enhancing Society											
Parameter	Open Cut Tre				Trenchless Cross						
Materials and Transport	delivered con agricultural la management	npared to d and, with ex and resurf	rials required to lopen cut trenchin exception to traffic acing materials	g in	remove addition and drilling equi With reference	c movements al temporary pment to the to Appendix 2	s to establish and works areas location. 24.20 [APP-635],				
	approximatel 15m highway such as at Chu	y 8 HGV dess open cut urch Road, ang of the Bass s would be	1149, a further 38 required to	nal g,	worst case addit per trenchless contemporary work aggregated to a material from the supplies, geotex mobilisation/de	rossing to sup s areas (12,5) depth of 0.3r he drill arising tiles, fencing	oport additional 00m² to be 50% m), excavated s, drill rig, water				
	diversion land (to a depth of laboratory replackfilling and materials for trenches. The 20% continge	e widths as 0.42m as port) includ d providing the two 1n e 38 HGV d ncy for mis	shown in Appendinformed by the I ding excavating, gnew pavement ox 1m x 15m eliveries includes scellaneous items	a	Order limits, wo 220 HGV deliver compound requ standard trench	is constraine uld require ir ies, reflecting irements com less crossing.	to the existing the order of the reduced npared to the				
Equipment / plant and associated noise levels	"	ng compare gricultural		cut	Additional speci- crossings require Noise levels pro equipment.	ed with assoc					
	Duct installat	ion (daytir	mal		Trenchless crossing (daytime) Name LwA On time						
	Name	LwA dB(A)*	On time Correction**			LWA dB(A)*	On time Correction**				
	Bulldozer	108	75%		Tracked Excavator	107	50%				
	Dump Truck	107	75%		Backhoe Loader	96	50%				
	Tracked Excavator	107	75%		Bulldozer	108	50%				
	Generator	105	100%		Dumper	101	50%				
	Water	02	750/	Mobile Crane	106	25%					
	Pump	93	75%		Cement Mixer	103	25%				
	Lorry	115 108	15km/h 15km/h	Concrete Pump	108	25%					
	Evening / nig	ht-time ac	tivities		Piling	118	10%				

Evening / night-time activitiesNo active construction works required.

Traffic management measures (e.g. traffic

represent an equipment noise source.

lights) will be operational throughout the evening / night-time however do not

Drilling Rig

Water Pump

Generator

75%

75%

100%

105

93

105





Parameter	Open Cut Trench Crossing	Trenchless Cross	sing						
		Trenchless cross	ing (evening	/ night-time)					
		Name	LwA dB(A)*	On time Correction**					
		Backhoe Loader	96	50%					
		Dumper 101							
		Drilling Rig	105	75%					
		Water Pump 93 7							
		Generator	105	100%					

- * A-weighted sound power level in decibels
- ** Percentage of assessment period that plant is expected to be in operation
- 6. In summary, trenchless crossing methods mitigate direct impacts to the highway and highway users. However, the additional trenchless crossing equipment, associated materials and methodology requirements results in a number of additional wider impacts including an extended installation timescale, notable additional HGV deliveries of materials and additional temporary land requirements.
- 7. Conversely, open cut trench crossing methods do not require notable additional materials or equipment as the duct installation method is similar to that employed through the majority of the onshore cable route, including in agricultural land either side of the crossing. During the crossing works, impacts to highway users can be mitigated through the use of traffic management measures for the short installation period (typically less than 1 week or 2 weeks at the B1149 where temporary diversion lanes may be required) and additional impacts associated with trenchless crossing methods (e.g. additional equipment, materials, temporary land, HGV deliveries etc.) are fully mitigated.
- 8. The application of open cut trenching or trenchless crossing methods at highways crossings has been carefully considered, in consultation with the Highways Authority, acknowledging the benefits and drawbacks of each methodology. Where justification has been provided through an evidential basis that impacts to road users would be significant through the use of open cut trenching, the use of trenchless crossing methods has been committed to (and secured in Requirement 16 of the dDCO). Where assessments have illustrated that traffic management measures are sufficient to mitigate impacts to road users, the use of open cut trenching is proposed to limit additional indirect impacts associated with the onshore duct installation.





3 Considerations for the Proposed Open Cut Method at the B1149

9. Norfolk County Council raised concerns with the use of open cut trenching on the B1149 and an investigation was undertaken in response to the concerns raised, further details are provided below.

3.1 Road Network Disruption Review

- 10. The principal guidance for temporary traffic management situations in the UK is Chapter 8 of the Traffic Signs Manual (Department for Transport, 2009¹) ('Chapter 8'). Chapter 8 gives detailed specification for roadworks for a wide range of traffic situations.
- 11. Open cut trenching for the Project would be carried out by closing a lane of the carriageway and providing traffic signal control to safely introduce single file traffic (known as 'one-way working'). Paragraph D5.1.6 of Chapter 8 details the maximum vehicle flows at which significant delays would be experienced by traffic subjected to one-way working as follows:
 - 'On roads where flows are very high, overload of the controlled area is possible and exceptional delays may result. This can occur with two-way flows as low as 1,300 vehicles per hour (for sites about 50m long)....' (Department for Transport, 2009)
- 12. Thus, the 1,300 vehicle per hour is adopted as the 'Chapter 8 thresholds' to determine if the open cut method would lead to significant network disruption at the B1149.

3.1.1 Traffic Flow Data

- 13. Baseline traffic flow data for the B1149 was captured via seven-day Automatic Traffic Counters (ATC) commissioned by Norfolk Vanguard Limited at a location approximately 65m north of the crossing point. Original ATC were captured as part of Chapter 24 of the Environmental Statement (ES), undertaken on the 19th April 2017 to 25th April 2017, and this data is provided in Appendix 1. The traffic count data is summarised in Table 3.1.
- 14. A review of the surveyed traffic data identifies network peak hours of 7:30am to 8:30am and 4:30pm to 5:30pm.
- 15. Within Table 3.1, the surveyed flows have been growthed to the forecast year of 2023 (the earliest start of construction for Norfolk Boreas Scenario 2). Annual Average Weekly Traffic (AAWT) has been derived to reflect the Project's predominate weekday traffic demand. The growth factors for AAWT peak hours have been derived from the Department for Transport Trip End Model Presentation

¹ Department for Transport, 2009. Traffic and Signs Manual, Chapter 8.





- Programme (TEMPro2) Version 7.2 with data set 72 for the Broadland (B1149) geographical area.
- 16. To account for daily fluctuations in traffic flows a 10% (-5%/+5%) daily fluctuation factor has been applied to the 2023 forecast flows.
- 17. In addition, the daily development flows (employees and HGVs) for both Norfolk Boreas and Hornsea Project Three have been taken from the respective examination documentation (and as presented in the cumulative impact assessment section 24.8 of ES Chapter 24 [APP-237] and added to the maximum (+5%) 2023 forecast flows.

The final 2023 forecast flows presented in

18. Table 3.1 are considered to be the maximum worst case flows that the B1149 would experience during open cut trenching.

Table 3.1 Traffic Flow Data (two-way flows)

Time Perio	ds	Surveyed Flows	TEMPro Growth Factors	2023 Daily Forecast Flows	Fore Da	23 ecast hily ations	Norfolk B 2023 Da Developi Flow	aily ment	Hornsea Pr Daily Develope Flow	/ ment	Total 2023 Daily Forecast Flows with Developments
				Hows	Min	Max	Employee	HGVs	Employee	HGVs	Total Vehicles
					(-5%)	(-5%)	Vehicles		Vehicles		
B1149											
24hr	hr 24hrs		1.1324	6,292	6,072	6,712	173	212	232	162	7,491
AAWT ¹											
Weekday	7:30am	513	1.1234	547	540	605	87	21.2	116	17	846
am Peak	to										
	8:30am										
Weekday	4:30am	561	1.1261	631	600	663	87	21.2	116	17	904
pm Peak	to										
	5:30pm										
1	Annual A	verage Weel	dy Traffic								

3.1.2 Network Disruption Conclusion

- 19. As can be seen by Table 3.1, both the forecast 2023 AM (846) and PM (904) peak flows (for both Project alone and cumulative traffic flows) are well below the Chapter 8 thresholds of 1,300 two-way vehicle flows for one-way working.
- 20. Therefore, it is considered that one-way working remains appropriate for the B1149 and will not result in significant network disruption. It is noted that the B1149 is defined by Norfolk County Council as a traffic sensitive route and in accordance with this stipulation, all roadworks will be undertaken outside of the periods of 7:30am to 9am and 4pm to 7pm and the road would be open to two-way traffic thereafter.
- 21. With the combination of the identified low traffic flows and previously identified traffic mitigation measures in place, no more than a **minor adverse** residual impact





would be experienced on the B1149 during the open cut trench crossing works, which is not significant in Environmental Impact Assessment terms.

3.2 Long-Term Maintenance Liability Review

- 22. Norfolk County Council's concern was that the trench reinstatement would become a long term maintenance liability (after the mandatory 3 year maintenance period).
- 23. In response, Norfolk Vanguard Ltd. commissioned local pavement specialists, the Norfolk Partnership Laboratory (NPL) to investigate ground conditions at the B1149 and ascertain if an appropriate road reinstatement specification is feasible. NPL undertook four core sample ground investigations in the approximate location of the proposed open cut trench crossings on the B1149.
- 24. Appendix 2 contains the core testing results. In summary, the testing indicates that there is good load bearing subgrade (known as the California Bearing Ratio test) and accordingly the road can be suitably reinstated. A specification has been developed for the reinstatements to minimise the potential for future maintenance liability by minimising the risk of differential settlement and reflective cracking. Appendix 2 also contains the recommended pavement specification for each trench location. The specification uses readily available material and established trenching techniques and would be adopted by a suitably accredited contractor.
- 25. Based on the findings of the laboratory tests and the recommended reinstatement specification, it is concluded that adverse maintenance liability can be mitigated and therefore open cut trenching remains an appropriate method. The specification is secured in the Outline Traffic Management Plan (Version 4 submitted at Deadline 8).

3.3 Cumulative Traffic Management

- 26. Norfolk County Council has raised specific concerns relating to the cumulative interaction of the Project's and Hornsea Project Three's traffic. With regard to one-way working the specific concerns are:
 - 1) Accommodating the large volume of abnormal loads delivering cable drums to the Hornsea Project Three main compound at Oulton; and
 - 2) Ensuring the roadworks do not lead to 'blocking back' of the B1149/The Street, Oulton junction; or vehicles do not approach the back of a queue unsighted from the B1149 south, hump back bridge; and
 - 3) The need for a 1.2m wide safety zone.
- 27. Appendix 3 sets out the proposed one-way traffic management concept design for the B1149 (this is included in the Outline Traffic Management Plan (Version 4 submitted at Deadline 8)). The roadworks design incorporates a wide one way lane (4.5m) to accommodate the Hornsea Project Three abnormal loads and a 1.5m wide





safety zone within the current Order limits for Norfolk Boreas. It can also be observed from Appendix 3 that the road works terminate some 210m southeast of the B1149/The Street, Oulton junction ensuring that the risk of traffic blocking back to the B1149/The Street junction would be minimised. Furthermore, the roadworks terminate some 430m northwest of the hump back bridge ensuring the risk of queue length collision is minimised. The updated traffic management design was shared with Norfolk County Council at a meeting on the 15th January 2020 and it was confirmed that officers had "no technical objection" to the proposal.

- 28. The traffic management methodology employs single lane working controlled by traffic signals to enable the trench to be cut and reinstated in sections whilst maintaining the flow of traffic. In order to accommodate the required AIL and safety zone widths it is necessary to widen the carriageway to provide the requisite clearance. This widening will be temporary and will be reinstated following trench reinstatement, however to accommodate the traffic outlined it will be of robust construction and require some additional HGV movements. It is noted that the B1149 is designated a traffic sensitive route and therefore there may be restrictions on working during the hours of 07:30 to 09:00 and 16:00 to 19:00, Monday to Friday.
- 29. It is concluded that the specific cumulative traffic concerns have been designed out at the B1149 crossing.

3.4 Conclusion

- 30. An open cut trench crossing is deemed appropriate as there is no evidence to suggest that this form of crossing will cause significant adverse impacts or present a maintenance liability.
- 31. Conversely, the use of a trenchless crossing method would introduce alternate impacts, including up to 450 additional HGV deliveries (or 220 additional HGV deliveries if a bespoke solution with a temporary works compound constrained to the existing Order limits is employed) to support the method, extended installation timescales and the requirement for additional temporary land.
- 32. It should be noted that there are currently no temporary works areas in proximity to the B1149. A bespoke design has been considered which would retain additional temporary works areas to within the existing Order limits, although this would only accommodate a HDD solution, precluding the opportunity of using other trenchless methods and the greater suitability those methods could provide, constraining the Project design prior to detailed design and ground investigations being conducted. Irrespective, the evidence presented within this note demonstrates that that an open cut trench solution is appropriate for the B1149.





4 Considerations for the Proposed Open Cut Method at Church Road, Colby

- 33. The Environmental Statement Chapter 29 identifies that at Church Road, Colby localised trees are susceptible to significant effects. In these locations open trenching would be carefully sited so as to minimise the number of trees to be removed, targeting smaller specimens or by using existing gaps in the tree line. However, restrictions applied to planting over cable easements prevents trees from being replanted over the 13m easement and immediately either side. Therefore, a localised significant effect would occur in relation to the physical effect of the removal of trees owing to their good condition and that direct replacement planting would not possible.
- 34. North Norfolk District Council identified in their Local Impact Report [REP2-087] that they believe that at this location the duct should be installed via a trenchless crossing technique so as to avoid the loss of trees at this location. As detailed above the ES considered the potential for localised tree loss at this location.

4.1 Additional Requirements

- 35. As detailed in section 2, the inclusion of a trenchless crossing of Church Road, Colby would require;
 - Additional laydown areas and facilities associated with additional trenchless crossing equipment not currently secured within the Order Limits;
 - Additional HGV movements;
 - Longer duration for duct installation; and
 - Additional equipment for trenchless crossings required with associated noise.
- 36. The prolonged works period and alternate construction methodology (compared to trenched installation) would result in additional construction impacts including noise, light, traffic, dust, vibration and land use which have not been assessed within the Environmental Statement.

4.2 Access Layout

- 37. At this location an access is required directly from the road to the cable route, in order to access works from MA8 (to the south-west) to TC11 (to the north-east). This is because TC11 is committed as a 'stop end' to mitigate direct impacts to Kings Beck (which is a sensitive watercourse), see ES Figure 5.4 Map 3 [APP-268]. Therefore, access either side of Church Road would be required to access the trenchless crossing at this location.
- 38. Appendix 4 details the general arrangement of the proposed access (AC58) and for context, Appendix 5 details the access layout overlaid on aerial photography.





- 39. It can be noted that (in accordance with HGV routing embedded mitigation) AC58 has been designed to accommodate HGV access from the north only. An assumed 30mph speed limit is applied (enforced by temporary traffic management) to minimise the required visibility splays and associated clearance of vegetation.
- 40. Notwithstanding these design relaxations, a significant area vegetation removal is required to implement safe access. As such, a trenchless crossing here would not remove the necessity to open a notable gap in the hedgerow and removal of any associated trees.

4.3 HGV Traffic Management

- 41. Noting the width of Church Road (single lane carriageway) a road closure may be required to implement an open cut trench. This would be a temporary closure lasting a few days during which traffic would be diverted round via the A140.
- 42. As set out in Table 2.1, a trenchless crossing generates in excess of 400+ HGVs above the relatively low demand generated by open cut trenching. For this volume of HGV traffic, mobile traffic management on Church Road would cause notable delays, frequently necessitating temporarily halting traffic and escorting HGVs to and from site. This would introduce disruption for the entire periods of drilling, lasting six weeks.

4.4 Conclusion

- 43. Considering the access layout and visibility splay for construction accessibility through the hedgerow/trees will be required for a trenchless crossing of Church Road, Colby the benefits of a trenchless crossing at this location are not realised.
- 44. Furthermore, HGV movements for trenchless crossing techniques will introduce disruption to the travelling public for a period of up to six weeks.
- 45. In comparison, the Applicant's use of a trenched method will minimise construction impacts, land requirements and timescales and will look to microsite so far as possible to minimise impacts to trees. The Applicant has committed to replacing all trees to ensure no net loss within North Norfolk and mitigate potential impacts by micro-siting of the cable to limit tree removal and to target smaller specimens for any tree removal required, as well as to maximise the opportunity for replacement trees to be planted within the Order limits, along with the replanting of the hedgerows (for further details please see the Position Statement Church Road, Colby, REP7-035).
- 46. If all replacement tree planting cannot be accommodated within the Order limits (subject to detailed design post-consent) then they will be replaced as close as practically possible, ideally further along Church Road to ensure no net loss of trees

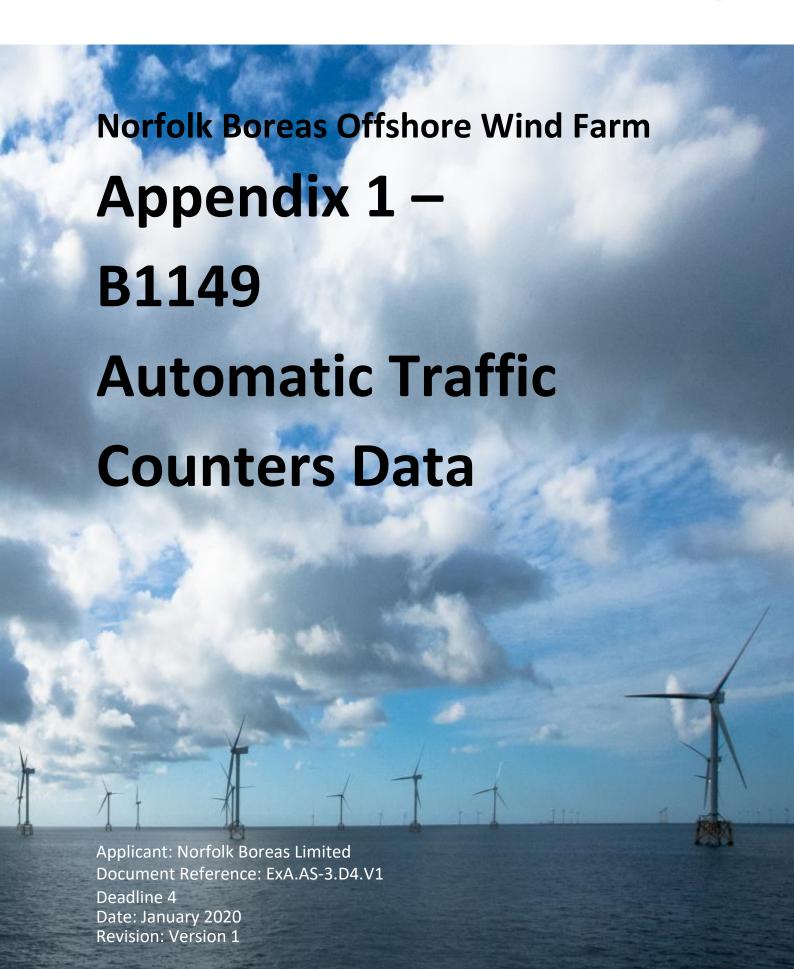




on Church Road (subject to landowner consent outside of the Order limits). This has been secured in the Outline Landscape and Ecological Management Strategy (Version 4 submitted at Deadline 8). This commitment to replace trees as close as possible to the location where they are removed, combined with reinstatement of the hedgerow, will assist in minimising the identified impact.



Photo: Ormonde Offshore Wind Farm



 Site
 7
 7346 / Nofolk

 Location
 Holt Road, Att - Signpost, OSGR: TG 14536 25672
 April 2017

 Direction
 Two way
 Automatic Traffic Count

Direction		Two wa																	Automo	itic Traffic	Count
Time	Total	17 April 2	517				Classifi	cation						>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
		1	2	3	4	5	6	7	8	9	10	11	12	60	60	68	68	75	75		85
0000	3	MCL 0	SV	SVT 0	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT 0	1	33.3	ACPO	ACPO	DfT 0	DfT 0	57.8	-
0015	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.6	
0030 0045	5	0	3	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	53.6 48.4	-
0100	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.6	-
0115 0130	5	0	4	0	1	0	0	0	0	0	0	0	0	0	20	0	20 0	0	20	42.9 49.6	-
0130	2	0	1	0	0	0	0	0	0	1	0	0	0	1	50	1	50	1	50	66.6	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0215 0230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47.2	-
0245	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53.8	
0300	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40.4 48.3	
0330	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	33.2	-
0345 0400	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.8 39	-
0415	4	1	3	0	0	0	0	0	0	0	0	0	0	1	25	1	25	1	25	58.5	-
0430 0445	2	0	1 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38.1 41.6	-
0500	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.8	
0515	22	0	20	0	0	0	0	0	1	1	0	0	0	2	9.1	0	0	0	0	51.8	58.4
0530 0545	12	0	8 22	0	2	0	0	0	1	0	2	0	0	6	8.3 22.2	0	0 3.7	0	0	49.6 50.9	55.3 60.6
0600	25	0	16	1	2	0	1	0	1	2	2	0	0	5	20	1	4	0	0	51.4	60.8
0615 0630	42 55	0	35 47	0	7	0	2	0	0	0	0	0	0	4 5	9.5 9.1	0	0	0	0	50.8 52.9	56.1 57.3
0645	68	1	61	3	3	0	0	0	0	0	0	0	0	8	11.8	1	1.5	0	0	52.1	57.9
0700 0715	106 125	0	95 103	3	4 17	0	0	0	0	0	3 2	0	0	9 8	8.5 6.4	0	0.9	0	0	48.3 49.6	57 56.1
0730	127	0	106	1	15	0	0	0	1	1	3	0	0	8	6.3	0	0	0	0	47.8	56.1
0745 0800	110 112	0	97 100	0	6	1	1	0	1	0	2	0	1	7	3.6	0	0.9	0	0	49.1 49.6	55.5 57
0800	139	2 0	118	2	5 15	0	0	1	1	0	2	0	0	3	6.3 2.2	1	0.7	0	0	49.6 46.4	53.5
0830	122	1	104	2	9	1	2	0	1	1	1	0	0	4	3.3	1	0.8	0	0	46.4	52.6
0845 0900	102	2	89 56	2	5	0	1	0	0	0	2	0	0	5	4.9 2.9	0	0	0	0	47.4 48.7	56.1 54.1
0915	88	2	71	4	6	1	2	0	1	0	1	0	0	1	1.1	0	0	0	0	45.1	52.6
0930 0945	96 92	1	83 78	3	7	0	0 2	0	1 2	0	3	0	0	5	5.2	0	2.1	0	0	45.1 44.5	52.8 51.2
1000	100	i	84	i	12	0	0	0	0	i	1	0	0	3	3	0	0	0	0	44.6	49.9
1015 1030	88 101	0	73 86	2	9	0	0	0	2	1	1	0	0	3	1.1	2	0 2	2	2	44 44	50.8 52.1
1045	112	1	97	1	10	1	1	0	0	1	0	0	0	0	0	0	0	0	0	44.5	50.1
1100	82	0	71	0	7 9	0	2	0	2	0	0	0	0	1	1.2	0	0	0	0	45.6	52.1
1115 1130	95 93	2	79 85	0	5	0	0	0	0	0	2	0	0	2	2.1	0	0	0	0	44.5 44.8	53.2 51.2
1145	81	0	68	3	8	0	2	0	0	0	0	0	0	4	4.9	1	1.2	0	0	42.4	49.7
1200 1215	79 94	3	58 77	1 2	11	0	0	0	0	0	2	0	0	3	1.3	0	0	0	0	42.8 45.5	51 51.4
1230	86	0	72	0	9	0	1	0	2	0	1	1	0	2	2.3	0	0	0	0	46.9	53.5
1245 1300	88 98	0	79 79	5	6	0 2	0	0	1 2	2	2	0	0	2	2.3	0	0	0	0	46.3 45.8	53.7 52.3
1315	81	0	67	3	10	1	0	0	0	0	0	0	0	2	2.5	1	1.2	0	0	45.6	52.3
1330 1345	88 74	1	76 60	2	7	0	0	0	0	0	2	0	0	2	2.7	0	0	0	0	46.2 44.5	51.9 51.7
1400	86	2	75	1	6	0	0	0	0	1	1	0	0	1	1.2	0	0	0	0	45.2	52.1
1415	109 86	3	92 71	2	7	0	1	0	0	0	0	0	0	9	2.8	0	1.2	0	0	45 46.9	51.4 54.8
1445	92	0	76	3	8	1	0	0	1	2	1	0	0	0	0	0	0	0	0	43.2	49.4
1500 1515	77 99	0	61 86	2	10 9	0	0	0	0	0	0	0	0	3 5	3.9 5.1	0	0	0	0	46.4 47	53
1515	105	0	93	2	9	0	0	0	0	0	1	0	0	2	1.9	0	0	0	0	44.5	54.6 50.6
1545	116	0	106	0	9	0	0	0	0	1	0	0	0	3	2.6	1	0.9	0	0	46.3	51.7
1600 1615	115 136	1	99 118	1 4	12 11	0	0	0	0	0	0	0	0	2	1.7	0	0	0	0	46.5 47.3	53.5 53
1630	146	3	129	2	11	0	0	0	0	0	1	0	0	3	2.1	0	0	0	0	46.9	51
1645 1700	146 137	0	131 122	2 2	13	0	0	0	0	0	0	0	0	4	2.7	0	0.7	0	0.7	47.1 47.8	53.9 54.4
1715	166	4	153	1	8	0	0	0	0	0	0	0	0	7	4.2	0	0	0	0	49.2	53.7
1730 1745	125 141	0	115 130	1	7 8	0	0	0	0	0	0	0	0	5	4	0	0	0	0	48.4 45.4	55 53
1800	118	0	111	1	6	0	0	0	0	0	0	0	0	10	8.5	5	4.2	2	1.7	48.6	54.1
1815 1830	94 92	0	91 89	0	3 2	0	0	0	0	0	0	0	0	5 7	5.3 7.6	2	2.1	1	1.1	48.8 49.3	56.6 57.7
1830	68	1	62	1	3	0	1	0	0	0	0	0	0	9	13.2	0	0	0	0	49.3 47.5	55.9
1900	55	0	53	0	2	0	0	0	0	0	0	0	0	7	12.7	2	3.6	0	0	51.2	59.1
1915 1930	62	2	58 34	0	0	0	0	0	0	0	0	0	0	7	11.3 8.6	0	1.6	0	1.6	47.2 50.8	56.6 57.7
1945	35	0	31	1	3	0	0	0	0	0	0	0	0	4	11.4	0	0	0	0	52.2	57.7
2000 2015	25 36	0	21 34	0	3	0	0	0	0	0	0	0	0	4	16	2	5.6	0	0	53 48.1	58.6 55.5
2030	25	0	24	0	1	0	0	0	0	0	0	0	0	1	4	1	4	1	4	50.9	55.9
2045 2100	29	0	26 22	0	0	0	0	0	0	0	0	0	0	4 2	13.8 8.7	0	0	0	0	50.9 48.6	59.7 55.9
2115	20	0	19	0	1	0	0	0	0	0	0	0	0	5	25	0	0	0	0	52.3	62.4
2130	31	0	29	1	1	0	0	0	0	0	0	0	0	7	22.6	2	6.5	2	6.5	50.6	60.2
2145 2200	19	0	17 25	0	2	0	0	0	0	0	0	0	0	3	15.8 7.7	2	7.7	0	3.8	49.3 48.2	58.4 52.3
2215	32	1	30	0	1	0	0	0	0	0	0	0	0	3	9.4	0	0	0	0	49.7	53.9
2230 2245	30	0	27 12	0	3	0	0	0	0	0	0	0	0	1 2	3.3 14.3	0	0	0	0	48.3 50.6	54.1 59.1
2300	11	0	11	0	0	0	0	0	0	0	0	0	0	2	18.2	1	9.1	0	0	53.3	57
2315 2330	6	0	5	0	1	0	0	0	0	0	0	0	0	1	16.7	1	16.7	1	16.7	51.4	-
2330	10	0	8	1	0	0	0	0	0	0	0	0	0	2	10 50	0	10 0	0	10 0	51.5 54.5	-
07-19	4981	43	4321	72	391	20	26	2	30	22	52	1	1	171	3.4	22	0.4	7	0.1	46.5	53.5
06-22 06-00	5566 5699	49 52	4848 4969	79 80	424 431	20	30 30	2	34 34	24 25	54 54	1	1	244 258	4.4	33 38	0.6	11	0.2	46.9 47	54.4 54.4
00-00	5811	54	5057	80	438	20	30	2	37	31	59	2	i	272	4.7	42	0.7	17	0.3	47.1	54.4

		20 April 20	017																		
Time	Total		1	1	1		Classific			1				>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
		1	2	3	4	5	6	7	8	9	10	11	12	60	60	68	68	75	75		85
		MCL	SV	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT		0.5	ACPO	ACPO	DfT	DfT		
0000 0015	3	0	3	0	0	0	0	0	0	0	0	0	0	2	25 66.7	2	25 66.7	2	0 66.7	50.3 69.5	-
0030	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49.1	-
0045	2	0	2	0	0	0	0	0	0	0	0	0	0	1	50	0	0	0	0	56.7	-
0100	5	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57.1	-
0115	4	0	3	0	0	0	0	0	0	1	0	0	0	2	50	0	0	0	0	50.2	-
0130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0145	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	28.5	-
0200 0215	3	0	3	0	0	0	0	0	0	0	0	0	0	0	33.3	0	0	0	0	54.6 55.7	-
0213	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	28.2	
0245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.8	-
0315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0330	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43.1	-
0345	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47.6	-
0400 0415	0	0	0 2	0	0	0	0	0	0	0	0	0	0	0	0 50	0	0	0	0	61.6	-
0430	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43.2	-
0445	6	1	4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	46.3	-
0500	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47.3	-
0515	18	0	15	0	1	0	0	0	0	1	1	0	0	4	22.2	0	0	0	0	51.6	63.1
0530	16	0	12	0	3	0	0	0	1	0	0	0	0	5	31.3	2	12.5	0	0	56	65.5
0545 0600	16 26	0	16 20	0	2	0	2	0	0	0	2	0	0	5	31.3 15.4	1	6.3 3.8	1	6.3 3.8	56.7 44	62 58.6
0600	43	0	36	0	6	0	0	0	1	0	0	0	0	8	15.4	2	3.8 4.7	0	0	53.8	58.6 62.4
0630	61	0	46	1	7	0	1	0	1	2	3	0	0	7	11.5	0	0	0	0	49.7	56.8
0645	75	2	64	4	3	1	1	0	0	0	0	0	0	7	9.3	2	2.7	1	1.3	49.7	57.3
0700	106	1	90	2	9	1	1	0	0	0	2	0	0	5	4.7	1	0.9	1	0.9	49.6	55.3
0715	135	1	112	3	17	0	0	0	0	2	0	0	0	6	4.4	3	2.2	0	0	47	54.1
0730	150	0	133	1	13	1	2	0	0	0	0	0	0	6	7.5	1	0.7	0	0	45.6	54.6
0745 0800	120 124	3	100	4 0	9	0	1	0	2	0	5	0	0	9	7.5 4	0	1.7	0	0.8	48.1 44.7	55.7 53
0815	153	0	134	0	13	2	0	0	2	1	1	0	0	3	2	0	0	0	0	45.3	52.6
0830	111	0	93	3	9	1	0	0	1	2	2	0	0	4	3.6	1	0.9	0	0	45.6	54.6
0845	104	0	83	2	14	0	1	1	1	0	2	0	0	1	1	0	0	0	0	44.5	50.6
0900	96	0	84	1	6	1	1	0	1	1	1	0	0	1	1	1	1	0	0	46.6	53
0915	96	0	85	1	6	0	0	0	0	1	3	0	0	0	0	0	0	0	0	46.7	52.3
0930 0945	87 95	0	74	0	6	0	2	0	0	0	3	0	0	7	8	0	0	0	0	47.5 44.8	56.4
1000	84	0	82 74	0	4	1	1	0	0	4	0	0	0	2	2.4	0	0	0	0	44.4	52.8 51.2
1015	84	1	69	0	10	0	i	0	1	1	1	0	0	3	3.6	0	0	0	0	45.6	51.9
1030	104	1	88	1	11	1	0	0	1	1	0	0	0	0	0	0	0	0	0	46.1	51
1045	89	0	75	0	9	2	0	0	1	0	2	0	0	1	1.1	0	0	0	0	43.6	50.3
1100	90	0	68	3	13	0	2	0	1	0	3	0	0	0	0	0	0	0	0	42	48.5
1115	90	0	76	0	11	2	0	0	0	1	0	0	0	3	3.3	0	0	0	0	44.7	51.4
1130 1145	76 82	0	70 74	0	5	0	0	0	0	0	2	0	0	2	2.6 1.2	0	0	0	0	46.3 43.8	54.1 51
1200	93	1	77	1	8	0	0	0	0	1	5	0	0	1	1.1	0	0	0	0	43.6	48.5
1215	87	0	79	i	4	1	0	0	0	0	2	0	0	4	4.6	1	1.1	1	1.1	43.6	49.4
1230	72	0	58	3	7	1	1	0	1	0	1	0	0	2	2.8	1	1.4	0	0	46.1	55.3
1245	66	0	54	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46.3	54.1
1300	90	0	80	1	5	2	1	0	0	0	1	0	0	3	3.3	1	1.1	0	0	46.4	53
1315	85	1	67	3	9	1	1	0	2	0	1	0	0	0	0	0	0	0	0	44	49.7
1330	81 90	0	67 74	0	8 12	3	0	0	1	0	0	0	0	2	1.2	0	0	0	0	44.7 45.6	51.9 49.9
1345 1400	84	1	64	0	11	2	2	0	1	0	3	0	0	4	2.2 4.8	0	1.2	0	0	45.2	52.8
1415	93	0	85	2	2	0	2	0	0	0	2	0	0	2	2.2	0	0	0	0	45.7	52.1
1430	75	1	65	2	7	0	0	0	0	0	0	0	0	5	6.7	2	2.7	0	0	46.3	51.4
1445	85	1	70	2	6	2	1	0	0	0	3	0	0	4	4.7	1	1.2	1	1.2	45	51
1500	97	1	85	0	9	0	1	0	1	0	0	0	0	1	1	0	0	0	0	46.4	51.2
1515	113 94	1	100 88	0	9	1	0	0	0	0	1	0	0	4	3.5 4.3	1	0.9	0	0.9	48.2 47.4	54.8
1530 1545	93	0	88	2	7	1	1	0	0	1	0	0	0	4	4.3	1	1.1	0	0	46.4	54.8 53
1600	115	0	101	2	12	0	0	0	0	0	0	0	0	2	1.7	1	0.9	1	0.9	43.2	53.9
1615	125	0	106	2	11	0	3	0	0	2	1	0	0	4	3.2	0	0	0	0	46.3	53.5
1630	130	1	114	2	12	0	0	0	0	0	1	0	0	1	0.8	0	0	0	0	44.8	53.2
1645	147	0	128	4	14	0	0	0	0	0	1	0	0	2	1.4	0	0	0	0	45.7	52.6
1700 1715	134 168	2	123 152	0	10	1	1	0	0	0 1	0	0	0 1	3 5	2.2 3	3	1.8	0	0	43.2 48.1	50.1 54.4
1713	131	0	127	1	3	0	0	0	0	0	0	0	0	10	7.6	3	2.3	2	1.5	47.5	56.1
1745	90	1	83	2	4	0	0	0	0	0	0	0	0	6	6.7	1	1.1	0	0	49	56.8
1800	94	1	89	0	4	0	0	0	0	0	0	0	0	3	3.2	1	1.1	0	0	48.7	54.6
1815	97	1	87	0	8	1	0	0	0	0	0	0	0	8	8.2	0	0	0	0	48.8	56.8
1830	87	0	85	0	2	0	0	0	0	0	0	0	0	5	5.7	0	0	0	0	46.8	55.3
1845 1900	73	0	66	4	3	0	0	0	0	0	0	0	0	2	2.7	1	1.4	0	0	44.9	52.3
1900	69 59	0	63 57	3	2	0	0	0	0	0	0	0	0	3 6	4.3 10.2	0	1.4	0	1.4	48.1 52.2	54.1 57
1930	40	0	37	0	3	0	0	0	0	0	0	0	0	8	20	2	5	0	0	51.7	61.5
1945	25	0	25	0	0	0	0	0	0	0	0	0	0	4	16	0	0	0	0	48.2	57.3
2000	37	1	36	0	0	0	0	0	0	0	0	0	0	6	16.2	1	2.7	1	2.7	51.6	59.7
2015	33	0	31	1	1	0	0	0	0	0	0	0	0	10	30.3	2	6.1	0	0	52.8	62.6
2030	28	0	25	2	1	0	0	0	0	0	0	0	0	5	17.9	1	3.6	1	3.6	49.9	59.9
2045 2100	23	0	22 26	0	0	0	0	0	0	0	0	0	0	2	13 7.7	0	0 3.8	0	0	47.5 52.5	59.7 55.7
2100	25	0	25	0	0	0	0	0	0	0	0	0	0	5	20	1	3.8	1	4	52.5	60.2
2130	27	0	26	0	1	0	0	0	0	0	0	0	0	4	14.8	2	7.4	1	3.7	50.1	57
2145	34	0	34	0	0	0	0	0	0	0	0	0	0	2	5.9	1	2.9	0	0	48.1	55.3
2200	27	0	27	0	0	0	0	0	0	0	0	0	0	4	14.8	1	3.7	0	0	49.5	58.8
2215	21	0	17	0	4	0	0	0	0	0	0	0	0	3	14.3	2	9.5	1	4.8	52.1	58.2
2230	16	0	16	0	0	0	0	0	0	0	0	0	0	2	12.5	1	6.3	0	0	48.9	59.5
2245	14	0	14	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	47.6	52.6
2300 2315	12	0	9	0	0	0	0	0	0	0	0	0	0	1	16.7 16.7	0	16.7	0	8.3	48.5 48.4	50.8
2330	8	0	7	0	1	0	0	0	0	0	0	0	0	2	25	1	12.5	0	0	53.9	
2345	5	0	5	0	0	0	0	0	0	0	0	0	0	1	20	0	0	0	0	52.2	-
07-19	4865	24	4222	61	391	32	32	2	23	22	55	0	1	152	3.1	30	0.6	8	0.2	45.9	53.2
06-22	5496	28	4795	72	419	33	36	2	25	24	61	0	1	236	4.3	47	0.9	15	0.3	46.4	54.1
06-00	5605	28	4896	72	427	33	36	2	25	24	61	0	1	251	4.5	54	1	17	0.3	46.5	54.1
00-00	5702	30	4978	72	432	33	36	2	26	29	63	0	1	273	4.8	60	1.1	20	0.4	46.6	54.4

		21 April 20	017																		
Time	Total		1	1	1		Classific							>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
		1	2	3	4	5	6	7	8	9	10	11	12	60	60	68	68	75	75		85
2000		MCL	SV	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT		10.0	ACPO	ACPO	DfT	DfT		
0000 0015	7	0	7	0	0	0	0	0	0	0	0	0	0	2	42.9 66.7	2	28.6 66.7	0	33.3	55.1 62.3	-
0030	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45.7	-
0045	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35.2	-
0100	2	0	2	0	0	0	0	0	0	0	0	0	0	1	50	1	50	1	50	73.5	-
0115	4	0	4	0	0	0	0	0	0	0	0	0	0	2	50	1	25	1	25	60.6	-
0130	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43.3	-
0145	2	0	2	0	0	0	0	0	0	0	0	0	0	1	50	1	50	1	50	59.1	-
0200 0215	2	0	2	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	43.9 67	-
0230	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42.6	
0245	i	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59.9	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55.1	-
0315	3	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	47.3	-
0330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0345	2	0	4 2	0	0	0	0	0	0	0	0	0	0	1	25	0	0	0	0	55.9	-
0400 0415	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.5 43.4	-
0430	4	0	4	0	0	0	0	0	0	0	0	0	0	1	25	0	0	0	0	51.5	
0445	7	0	5	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	47.1	-
0500	7	1	6	0	0	0	0	0	0	0	0	0	0	3	42.9	1	14.3	0	0	49.5	-
0515	23	1	17	0	2	0	0	0	1	1	1	0	0	5	21.7	1	4.3	1	4.3	51	62.9
0530	18	0	15	0	2	0	0	0	0	1	0	0	0	3	16.7	1	5.6	0	0	52.3	59.1
0545 0600	17	0	13 19	0	2	0	3	0	0	0	3	0	0	7	41.2 7.4	0	0	0	0	56.3 48.3	62.2 56.8
0600	37	0	32	0	4	0	0	0	0	1	0	0	0	10	27	0	0	0	0	51.3	62.9
0630	48	0	43	0	4	0	0	0	0	0	1	0	0	11	22.9	4	8.3	0	0	53.8	63.1
0645	59	1	52	1	2	1	0	0	0	0	2	0	0	13	22	6	10.2	2	3.4	53.7	63.5
0700	88	0	72	1	11	0	0	1	0	0	3	0	0	7	8	1	1.1	1	1.1	49.8	57.5
0715	117	1	98	4	12	0	0	0	1	0	1	0	0	8	6.8	3	2.6	0	0	48.1	55.7
0730	124	0	107	4	8	0	0	0	2	1	2	0	0	2	1.6	0	0	0	0	45.7	52.8
0745 0800	121	2	102 85	3 5	8	2	3	0	1	0	1	0	0	3	1.7 2.7	0	0.9	0	0	45.5 45.4	53.2 52.3
0815	140	2	118	5	13	0	0	0	1	0	1	0	0	2	1.4	2	1.4	0	0	45.4	52.3 52.1
0830	115	0	101	0	12	0	0	0	0	0	1	0	1	4	3.5	0	0	0	0	45.5	52.1
0845	98	1	84	0	12	0	0	0	1	0	0	0	0	4	4.1	1	1	0	0	46.7	53.7
0900	87	0	72	2	8	1	1	0	0	1	2	0	0	1	1.1	0	0	0	0	45.8	51.9
0915	107	0	86	1	15	0	2	0	0	0	3	0	0	0	0	0	0	0	0	45.2	50.8
0930	93	0	79	2	7	3	3	0	2	0	1	0	0	1	1.1	0	0	0	0	45	52.1
0945 1000	119 93	0	101 73	2	13	0	1	0	0	2	2	0	0	0	0	0	0	0	0	43 45.6	48.8 50.8
1015	94	0	78	2	9	1	0	0	2	0	2	0	0	0	0	0	0	0	0	41.8	48.5
1030	113	2	88	1	13	2	2	1	1	2	1	0	0	1	0.9	0	0	0	0	43.3	49.4
1045	97	0	80	2	9	0	1	0	1	0	4	0	0	0	0	0	0	0	0	42.9	49
1100	94	0	76	1	13	1	0	0	2	1	0	0	0	2	2.1	1	1.1	0	0	45.9	49.9
1115	114	0	95	2	10	1	4	0	0	0	2	0	0	0	0	0	0	0	0	41.1	48.5
1130 1145	93 96	0	81 74	1	8	2	2	0	0	2	0	0	0	2	2.2	0	0	0	0	38.7 44.6	48.8 49.7
1200	84	1	71	4	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	44.6	52.6
1215	89	0	75	0	7	2	i	0	0	1	2	0	1	3	3.4	1	1.1	0	0	46.3	52.3
1230	103	0	90	1	10	0	0	1	1	0	0	0	0	0	0	0	0	0	0	44.4	49.2
1245	88	0	79	1	7	0	1	0	0	0	0	0	0	1	1.1	0	0	0	0	45.7	53.2
1300	79	0	66	1	8	0	1	0	2	0	1	0	0	0	0	0	0	0	0	46.1	51.9
1315	105	1	90	2	10	1	0	0	0	0	1	0	0	1	1	0	0	0	0	44.3	50.3
1330 1345	82 83	0	71 70	1	7 8	0	0	0	0	0	0	0	0	2	2.4 1.2	0	0	0	0	45.1 45.8	50.3 51.2
1400	106	0	85	3	15	1	1	0	0	1	0	0	0	0	0	0	0	0	0	44.2	50.1
1415	93	1	81	0	6	3	0	0	0	1	1	0	0	2	2.2	0	0	0	0	44.4	51.7
1430	110	0	95	1	6	0	0	0	2	1	4	0	1	6	5.5	1	0.9	0	0	45.9	53.5
1445	109	0	89	3	12	0	2	0	0	1	2	0	0	1	0.9	0	0	0	0	43.5	48.5
1500	86	1	80	0	2	2	1	0	0	0	0	0	0	2	2.3	0	0	0	0	49.5	56.4
1515 1530	102	1	93 79	6	6 15	0	2	0	0	0	0	0	0	4	3.9 1.9	0	0	0	0	47.6 46.9	51.9 53.5
1545	110	1	98	3	8	0	0	0	0	0	0	0	0	2	1.9	1	0.9	1	0.9	46.5	51.9
1600	101	1	92	0	8	0	0	0	0	0	0	0	0	2	2	1	1	1	1	47.2	53.2
1615	139	1	122	2	12	0	1	0	0	1	0	0	0	2	1.4	0	0	0	0	46	51
1630	149	1	133	2	11	1	0	0	0	1	0	0	0	3	2	1	0.7	0	0	47.9	54.4
1645	121	0	109	0	11	0	0	0	0	1	0	0	0	3	2.5	0	0	0	0	46.6	52.6
1700 1715	141	2	129	1	9	0	0	0	0	0	0	0	0	5 6	3.5 4.2	3	2.1	0	0.7	48.2 48.6	54.8 53
1730	148	1	141	1	5	0	0	0	0	0	0	0	0	10	6.8	4	2.7	0	0.7	47.9	53.2
1745	111	1	108	0	1	0	0	0	1	0	0	0	0	2	1.8	0	0	0	0	48.5	54.8
1800	117	0	112	2	2	0	0	0	0	0	1	0	0	3	2.6	1	0.9	1	0.9	45	53.2
1815	116	2	108	1	4	1	0	0	0	0	0	0	0	3	2.6	0	0	0	0	49	53.7
1830	92	1	90	0	1	0	0	0	0	0	0	0	0	3	3.3	0	0	0	0	43.1	51.9
1845 1900	83 51	0	79	1	3	0	0	0	0	0	0	0	0	6	7.2	1	1.2	0	0	47.1 49.6	53
1915	54	0	48 51	1	2	0	0	0	0	0	0	0	0	7	13.7 7.4	1	1.9	1	1.9	49.6	59.3 56.4
1930	36	0	36	0	0	0	0	0	0	0	0	0	0	3	8.3	0	0	0	0	51.2	57.3
1945	46	1	45	0	0	0	0	0	0	0	0	0	0	3	6.5	1	2.2	1	2.2	49	55.7
2000	32	0	31	0	1	0	0	0	0	0	0	0	0	4	12.5	0	0	0	0	49.7	57
2015	34	0	34	0	0	0	0	0	0	0	0	0	0	5	14.7	3	8.8	1	2.9	51.6	59.9
2030	29	1	27	0	1	0	0	0	0	0	0	0	0	4	13.8	1	3.4	0	0	51.7	59.5
2045 2100	26 26	0	25 26	0	0	0	0	0	0	0	0	0	0	4	3.8 15.4	0	3.8	0	0	49.1 51.2	52.3 58.2
2100	20	0	19	0	1	0	0	0	0	0	0	0	0	3	15.4	1	5	0	0	51.2	59.1
2130	19	0	18	1	0	0	0	0	0	0	0	0	0	1	5.3	0	0	0	0	47.7	51
2145	20	0	19	0	1	0	0	0	0	0	0	0	0	3	15	1	5	0	0	51	59.5
2200	34	0	34	0	0	0	0	0	0	0	0	0	0	4	11.8	0	0	0	0	47.4	54.1
2215	48	0	47	0	1	0	0	0	0	0	0	0	0	5	10.4	0	0	0	0	48.9	58.2
2230	42	0	42	0	0	0	0	0	0	0	0	0	0	1	2.4	0	0	0	0	47.1	54.1
2245	40	0	40 18	0	0	0	0	0	0	0	0	0	0	4	10 5	0	0	0	0	47	54.4
2300 2315	19	0	18 12	0	0	0	0	0	0	0	0	0	0	1	10.5 8.3	0	0	0	0	49.6 52.9	56.4 57.9
2330	12	0	12	0	0	0	0	0	0	0	0	0	0	2	16.7	0	0	0	0	48.3	56.1
2345	6	0	6	0	0	0	0	0	0	0	0	0	0	2	33.3	0	0	0	0	58.7	-
07-19	5107	30	4416	79	423	29	34	5	24	19	42	2	4	115	2.3	26	0.5	5	0.1	45.7	52.6
06-22	5671	33	4941	83	442	30	37	5	25	21	48	2	4	193	3.4	46	0.8	10	0.2	46.2	53.2
06-00	5884	33	5152	83	443	30	37	5	26	21	48	2	4	214	3.6	46	0.8	10	0.2	46.3	53.2
00-00	6005	35	5253	83	452	30	38	5	28	24	51	2	4	244	4.1	56	0.9	15	0.2	46.4	53.5

		22 April 2	017																		
Time	Total		۱ ۵				Classifi		۱ ۵	۱ ۵	10 1		1 10	>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT	60	60	68 ACPO	68 ACPO	75 DfT	75 DfT		85
0000	12	0	12	0	0	0	0	0	0	0	0	0	0	3	25	0	0	0	0	50	59.9
0015	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.8	-
0030 0045	8	0	7	0	0	0	0	0	0	0	0	0	0	2	12.5 33.3	0	12.5	0	0	49.7 50.6	-
0100	7	0	5	0	2	0	0	0	0	0	0	0	0	1	14.3	0	0	0	0	53.8	-
0115	3	0	3	0	0	0	0	0	0	0	0	0	0	2	66.7	0	0	0	0	58.3	-
0130	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51.7	-
0145 0200	0	0	0 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47.8	-
0215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0230	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.1	-
0245 0300	4	0	4	0	0	0	0	0	0	0	0	0	0	0	25 0	0	0	0	0	57.2 27.4	-
0315	3	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	54	-
0330	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54.1	-
0345	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.3	-
0400	7	0	7	0	0	0	0	0	0	0	0	0	0	1	14.3	0	0	0	0	46	-
0430	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.6	-
0445	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.1	-
0500 0515	3	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	58.2 41.8	-
0530	10	0	6	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	49	-
0545	9	0	6	0	3	0	0	0	0	0	0	0	0	5	55.6	2	22.2	2	22.2	59.5	-
0600 0615	9 23	0	8	0	0	0	2	0	0	0	0	0	0	2	22.2 8.7	0	0 4.3	0	0	47.3 53.4	58.4
0630	25	0	24	0	1	0	0	0	0	0	0	0	0	7	28	1	4.3	0	0	54.4	61.5
0645	16	0	12	1	1	0	0	1	0	0	1	0	0	2	12.5	0	0	0	0	51.3	57.9
0700	28	0	21	1	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	46.1	55 50 F
0715 0730	35 55	0	26 51	1 2	3	0	0	0	0	0	1	0	0	5 4	14.3 7.3	0	0	0	0	48.8 48.7	59.5 56.1
0745	48	1	39	1	3	0	1	0	0	1	2	0	0	7	14.6	1	2.1	0	0	51.6	59.9
0800	60	0	51	2	6	0	0	0	0	0	1	0	0	3	5	0	0	0	0	49.3	57.9
0815 0830	57 60	0	51 51	3	2	0	0	0	0	0	1	0	0	2	3.5 6.7	0	0	0	0	47.7 45.5	54.6 54.6
0845	54	1	49	0	1	0	1	0	1	1	0	0	0	1	1.9	0	0	0	0	48	54.8
0900	72	1	65	1	5	0	0	0	0	0	0	0	0	3	4.2	1	1.4	0	0	47.5	53.2
0915 0930	71 90	0	60 86	0	8	0	0	0	0	0	0	0	0	3	1.4	0	0	0	0	45.8 49.1	52.1 55
0945	79	0	71	1	6	0	0	0	0	0	1	0	0	5	6.3	1	1.3	0	0	47.1	53.2
1000	109	1	96	7	4	0	1	0	0	0	0	0	0	5	4.6	1	0.9	0	0	43.4	51.2
1015	101	1	89	1	6	2	0	0	0	1	1	0	0	4	4	1	1	0	0	44.4	53.7
1030 1045	118 102	2	108 92	3	5	0	0	0	0	0	2	0	0	0	0	0	0	0	0	42.4 44.8	48.8 51
1100	112	0	103	1	6	0	2	0	0	0	0	0	0	4	3.6	0	0	0	0	46.5	51.9
1115	100	2	85	1	9	1	1	0	1	0	0	0	0	2	2	1	1	0	0	45.4	52.8
1130 1145	92 105	0	85 94	3	7 5	0	2	0	0	0	0	0	0	6	6.5	0	2.2	0	0	47.3 45	54.8 52.8
1200	109	0	104	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43.8	51.7
1215	89	1	82	1	3	0	0	0	1	0	1	0	0	4	4.5	2	2.2	0	0	45.7	53.5
1230 1245	85 105	0	78 99	0	5	0	1	0	0	0	0	0	0	5 2	5.9 1.9	0	0	0	0	46.5 45.2	52.6 51.7
1300	91	3	85	1	0	0	2	0	0	0	0	0	0	2	2.2	1	1.1	0	0	46.5	53.9
1315	111	1	104	1	4	0	0	0	0	0	1	0	0	4	3.6	2	1.8	0	0	45.9	54.6
1330	107	1	100	1	4	0	1	0	0	0	0	0	0	2	1.9	0	0	0	0	45.8	51.4
1345 1400	82 72	2	77 67	0	2	0	0	0	0	0	0	0	0	8 7	9.8 9.7	0	1.2	0	0	47.1 47.9	52.8 56.1
1415	92	1	83	1	6	0	0	0	0	0	1	0	0	2	2.2	0	0	0	0	44.4	50.8
1430	91	1	86	1	2	0	0	0	1	0	0	0	0	2	2.2	0	0	0	0	45.8	53.7
1445	108 79	3 0	98 76	3	3	0	0	0	0	0	0	0	0	2	1.9	0	1.3	0	0	44.6 46.1	51.7 51.9
1515	91	5	83	1	2	0	0	0	0	0	0	0	0	7	7.7	3	3.3	0	0	48.8	55.5
1530	80	0	78	0	2	0	0	0	0	0	0	0	0	1	1.3	0	0	0	0	48.3	53.7
1545 1600	118 88	0	117 85	0	2	0	0	0	0	0	0	0	0	2	1.7 2.3	0	0	0	0	46.2 46.5	51.7 52.8
1615	100	3	94	2	1	0	0	0	0	0	0	0	0	5	5	1	1	0	0	46.5	52.8
1630	87	4	76	3	2	0	1	0	0	0	1	0	0	1	1.1	1	1.1	0	0	44.3	52.3
1645	101	0	98	0	3	0	0	0	0	0	0	0	0	5	5	1	1	0	0	45.5	53.7
1700 1715	99	2	92	0	5	0	0	0	0	0	0	0	0	5	6.3 5.1	0	0	0	0	48.8 46.6	56.6 53.5
1730	79	0	76	0	3	0	0	0	0	0	0	0	0	4	5.1	0	0	0	0	47.3	53.9
1745	78	1	74	2	1	0	0	0	0	0	0	0	0	4	5.1	1	1.3	1	1.3	47.7	53.5
1800 1815	68	0	64 59	0	3	0	0	0	0	0	0	0	0	5	7.4 9.5	4	5.9	0	0	49.7 50.3	55.9 58.4
1830	60	2	56	0	2	0	0	0	0	0	0	0	0	5	8.3	2	3.3	0	0	50.4	58.6
1845	39	0	37	0	2	0	0	0	0	0	0	0	0	3	7.7	0	0	0	0	49.4	57.7
1900 1915	45 46	1	43 45	0	0	0	0	0	0	0	0	0	0	5	2.2	0	0	0	0	48.9 51.6	54.6 55.9
1930	39	1	34	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.3	57
1945	30	0	30	0	0	0	0	0	0	0	0	0	0	4	13.3	1	3.3	0	0	51.1	59.5
2000	25 27	0	25 26	0	0	0	0	0	0	0	0	0	0	3	12 14.8	2	7.4	0	0 3.7	48.4 51.3	54.4 59.3
2015	23	0	23	0	0	0	0	0	0	0	0	0	0	2	8.7	0	0	0	0	50.3	57.9
2045	31	0	31	0	0	0	0	0	0	0	0	0	0	1	3.2	1	3.2	0	0	46.9	51.9
2100	20	0	20	0	0	0	0	0	0	0	0	0	0	2	10	1	5	0	0	49.4	53
2115 2130	18	0	16 20	0	2	0	0	0	0	0	0	0	0	3	11.1	0	0	0	0	47.5 48.7	57 59.5
2145	18	0	18	0	0	0	0	0	0	0	0	0	0	3	16.7	1	5.6	0	0	54.8	58.6
2200	26	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47.8	55.7
2215 2230	29	0	28	0	1	0	0	0	0	0	0	0	0	2	6.9 14.3	0	0	0	0	48.5	55.9 59.7
2230	14	0	14 17	0	0	0	0	0	0	0	0	0	0	2	11.8	0	0 5.9	0	0	53.3 52	59.7 55.5
2300	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44.6	-
2315	9	0	9	0	0	0	0	0	0	0	0	0	0	1	11.1	0	0	0	0	46.6	-
2330 2345	17	0	16 14	0	1	0	0	0	0	0	0	0	0	2	17.6 13.3	0	0	0	0	51.6 52.3	56.4 57
07-19	3999	47	3677	53	164	4	16	1	9	9	18	0	1	163	4.1	28	0.7	1	0	46.5	53.9
06-22	4415	50	4066	54	179	4	19	2	12	9	19	0	1	206	4.7	36	0.8	2	0	46.8	54.4
06-00	4551 4649	50 52	4199 4277	54	182 195	5	19 19	3	12 12	9	19 20	0	1	218 234	4.8	37 40	0.8	2	0	46.9 47	54.6 54.6
00-00	4047	32	42//	54	175	5	17	3	12	10	20	11		234	5	40	0.7	4	0.1	4/	34.0

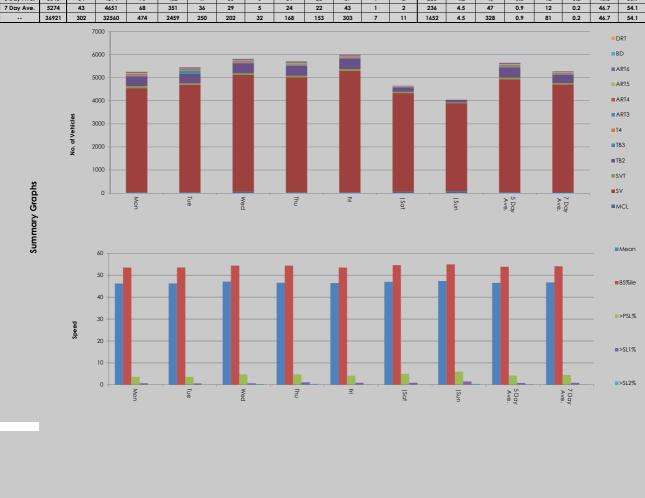
			23 April 20	017																		
	Time	Total						i .							>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
Section Sect															60	60						85
Section Sect	0000	1.5													0	0					50.1	56.4
Section Sect																						
Section Sect																						76.1
1																						
1			_														_					
Section Sect																						
Section Column																						-
Section 1.7				1																		-
Section Sect				6																		-
Section Sect		2				0									0		0					-
1		1		1											1							-
100 1				3																		-
940 3				2																		-
Section 1																						-
Georgia Part Part				1													0					-
															_		1					-
General Content											1											-
Section Sect		1		1							0				1		1					-
9960 7																						-
961 962 963 964 964 965			0																			
Section 19			1																0			-
See S																			0			62.6
OFFICE SOLITION	0645	21		19	1	1	0	0	0	0	0	0	0	0	3	14.3		9.5	1	4.8	54.2	59.5
0700 172 00 173 00 00 00 00 00 00 00			1																		49.3	60.4
0000																						
Section Sect																						
CREST CRES		24	1	21	0		0	0	0	1	0	0		0	1	4.2		0	0	0	47.8	55.7
Georgia 197 2 31																						
Decoration Control C					0			0														
OFFICE STATE STA					0			0														
																	0					
1000																						
Display							0															
1000 1007 100 700 10 5 0 1 0 0 0 0 0 0 0 2 2 2							0															
1000 200 200 0 0 0 0 0 0 0 0 0 0 0								1														
This Side 4			_		0	2		0									1					
130 136 12 2 76 2 1 0 0 0 0 0 0 0 0 0						1		1														
145																						
1235 1846 2 1962 2 1 0 0 0 0 1 0 0 0 0																						
1235																						
1245					2												_					
1300					2																	
1330																						
1345 1002 2 94 4 1 0 1 0 0 0 0 0 0 0																						
1450 90																						
1415																						
1445 1979 2 76																						
1500 178															2							
1515 152			2												1							
1550			1		1																	
1610			3		1																	
1615	1545	94	0	91	1	2		0	0	0	0	0	0	0	2	2.1	0	0	0	0	44.8	52.1
1630 100 3 94 0 3 0 0 0 0 0 0 0 0					1					-							0	-				
1645 104					0												3		1	1		
1700 100 2 96 0 2 0 0 0 0 0 0 0 0			1																0	0		
1730	1700	100	2	96	0	2	0	0	0	0	0	0	0	0	7	7	3	3	0	0	47.7	53
1745			1			3																
1800 553 1 50 0 1 0 1 0 0 0 0 0						0																
1815			1					1														
1845	1815	46		43	1		0		0	0	0	0	0	0	5	10.9	3	6.5	1	2.2	50.7	55.5
1900																						
1915 36 6 1 34 0 1 0 0 0 0 0 0 0 0																						
1930			1																			
2000 26 0 26 0 <td>1930</td> <td>37</td> <td>0</td> <td>36</td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>13.5</td> <td>1</td> <td>2.7</td> <td>1</td> <td>2.7</td> <td>51.4</td> <td>56.6</td>	1930	37	0	36	0		0	0	0	0	0	0	0	0		13.5	1	2.7	1	2.7	51.4	56.6
2015 21 0 21 0 0 0 0 0 0 0 0 0			_																			
2030 21																						
2045 23 1 20 0 2 0 <td></td>																						
2115 18 0 17 0 1 0 <td>2045</td> <td>23</td> <td>1</td> <td>20</td> <td>0</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>48</td> <td>53.5</td>	2045	23	1	20	0	2	0	0	0	0	0	0		0	0	0	0	0	0	0	48	53.5
2130 12 0 12 0 <td></td>																						
2145 19 0 19 0 <td></td>																						
2200 8 0 8 0																						
2215 17 0 17 0 <td></td> <td>-</td>																						-
2245 9 0 9 0	2215	17	0	17	0	0	0	0	0	0	0	0	0	0	2	11.8	1	5.9	0	0	52.3	
2300 7 0 7 0																						-
2315																						-
2330 3 0 3 0																						-
07-19 3526 73 3325 37 81 2 5 0 2 1 0 0 0 170 4.8 37 1 8 0.2 46.7 53.9 06-22 3881 78 3660 39 94 2 5 0 2 1 0 0 0 213 5.5 49 1.3 11 0.3 47.2 54.6 06-00 3940 78 3716 40 95 2 5 0 2 2 0 0 0 223 5.7 52 1.3 11 0.3 47.3 54.8	2330	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.1	-
06-22 3881 78 3660 39 94 2 5 0 2 1 0 0 0 213 5.5 49 1.3 11 0.3 47.2 54.6 06-00 3940 78 3716 40 95 2 5 0 2 2 0 0 0 223 5.7 52 1.3 11 0.3 47.3 54.8																						
06-00 3940 78 3716 40 95 2 5 0 2 2 0 0 0 223 5.7 52 1.3 11 0.3 47.3 54.8																						
	00-00	4045	78	3811	41	103	2	5	0	2	3	0	0	0	243	6	61	1.5	15	0.4	47.4	55

No. No.			24 April 2	017																		
	Time	Total	_												>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
Section Column															60	60						85
Section Sect	0000	2													0	0					50.5	_
Section Sect																						
1980 2		5	1			2	0	0											0	0		
Section Sect																						
100 10 10 10 10 10 10 1																						
Dec																						
Dec																						
Section Color Co				0						0			0	0							-	-
General Content																					-	-
Section Color Co						0															- 54	-
Color Colo						0																
Sect Part Sect		1										0										-
Section Sect																					-	-
General Color						0																-
Section Color Co				1		0					1											-
Color				0							0										-	-
Color Colo				5		1															52.2	-
Dec 19						1					1				1							-
Sect 25						1																
Section Sect						3																
Columb																						
Decc Decc							1										1					
Dec 100 1																	1					
																	0					
Decomposition Property Prop	0730	147	0	123	6	15	0	0	0	2	0	1	0	0		3.4	3	2	0	0	47.2	52.8
Georgia Geor							2								1							
Corp. Corp							1			3					1		-					
							1			3					1							
General Color	0845	97	0	82		12	1	1	0	0	0	1	0	0		3.1		0	0	0	46.4	53
							0			1												
							1															
1000 100												0										
1006																						
1100																						
1115																						
1150							1		1	1		1			1							
1900		77	2	61	1	8	2			2	0				3	3.9	1	1.3	0	0	44.6	50.8
1715																						
1258																						
1248																						
1315																						
1330																						
1346 1379 0 70 1 4 1 3 0 0 0 0 0 0 1 13 1 13 0 0 443 523 1415 1420 148 12 12 2 0 0 0 0 0 0 0 2 2																						
1400																						
1430							1															
1445																						
1515							0			0												
Tisis					1		1			1		1										
1545 83					4		0			0		1										
1610							1			1												
16:15							0				0		-				1		0			
1643 124							0				n						2		0			
1464 142																						
1715																						
1730 1722			2		1	6	0	0	0	0	0	0	0	0	3		0	0	0	0		
1745					1												1					
1800					2												3					
1830	1800	94	3	88	0	3	0	0	0	0	0	0	0	0	4	4.3	0	0	0	0	48	53.9
1845 172 1 68																	0					
1900																	1					
1915																						
1945	1915	41	0	40	0		0	0	0	0	0		0	0	4	9.8	1	2.4	1	2.4	50.9	57.5
2000 30 0 27 0 2 0 0 0 1 0 0 6 20 2 6.7 0 0 50.9 62.2 2015 30 0 30 0																						
2015 30																						
2030 25 0 24 0 1 0 0 0 0 0 0 0 0																						
2045 124 0 24 0 </th <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td>						1																
2115	2045	24	0	24	0			0	0		0	0	0	0		8.3	0			0	49.7	57.7
2130 11 0 11 0 <td></td>																						
2145 21 0 20 0 1 0 <td></td>																						
2200 122 0 22 0 </th <td></td>																						
2215 25 1 22 1 1 0<	2200	22	0	22	0	0	0	0	0	0	0	0	0	0	3	13.6	1	4.5	0	0	51.3	58.8
2245 10 0 10 0 <td></td> <td>25</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td></td> <td>49.2</td>		25			1			0			0	0								0		49.2
2300 3 0 3 0																						55.9
2315 5 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0																						-
2330 8 0 6 0 2 0																						-
07-19 4526 24 3867 77 388 23 39 7 26 29 43 1 2 108 2.4 25 0.6 3 0.1 45.6 52.6 06-22 5059 25 4352 80 414 24 45 7 27 31 51 1 2 167 3.3 36 0.7 7 0.1 46.1 53.2 06-00 5148 26 4433 81 418 24 45 9 27 31 51 1 2 175 3.4 38 0.7 7 0.1 46.1 53.2	2330	8	0	6	0	2	0	0	0	0	0	0	0	0		37.5	1	12.5	0	0	56.5	-
06-22 5059 25 4352 80 414 24 45 7 27 31 51 1 2 167 3.3 36 0.7 7 0.1 46.1 53.2 06-00 5148 26 4433 81 418 24 45 9 27 31 51 1 2 175 3.4 38 0.7 7 0.1 46.1 53.5																						-
06-00 5148 26 4433 81 418 24 45 9 27 31 51 1 2 175 3.4 38 0.7 7 0.1 46.1 53.5																						

		25 April 20	017																		
Time	Total	_				_	Classific							>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
		1	2	3	4	5	6	7 A DT2	8	9	10	11	12	60	60	68	68	75 Det	75		85
0000	2	MCL 0	SV	SVT 0	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT 0	1	50	ACPO	ACPO	DfT	O DfT	53.3	_
0015	6	0	6	0	0	0	0	0	0	0	0	0	0	2	33.3	0	0	0	0	50.4	
0030	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49.9	-
0045	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	-
0100 0115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0215 0230	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53.5 58.7	-
0245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0330 0345	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.8	-
0400	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56.8	-
0415	3	0	3	0	0	0	0	0	0	0	0	0	0	1	33.3	0	0	0	0	57.7	-
0430	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.6	-
0445 0500	7	0	6	0	0	0	0	0	0	0	0	0	0	0	0 14.3	0	0	0	0	48.7 50.2	-
0515	30	0	25	0	2	0	0	0	1	1	1	0	0	3	10	0	0	0	0	48.6	52.8
0530	11	0	9	0	2	0	0	0	0	0	0	0	0	1	9.1	1	9.1	0	0	49.3	52.8
0545	24	0	21	0	0	1	0	0	1	1	0	0	0	3	12.5	1	4.2	0	0	50.6	54.8 60.2
0600 0615	42	0	25 33	0	4	5	2	0	0	0	0	0	0	6	18.2 4.8	1	3 2.4	0	0	49.8 49.6	55.7
0630	67	0	55	0	5	4	1	0	0	1	1	0	0	5	7.5	0	0	0	0	49.1	55.5
0645	56	1	44	0	3	4	3	0	0	1	0	0	0	4	7.1	1	1.8	0	0	51.2	55.9
0700 0715	113	0	95 117	3	9	5 7	0	0	0	0	0	0	0	3	2.7	0	0	0	0	49.4 49.7	54.1 54.1
0715	13/	1	117	1	15	8	1	0	1	0	3	0	0	6	4.2	0	0	0	0	49.7	54.1
0745	149	1	122	3	10	8	0	0	3	0	1	1	0	2	1.3	0	0	0	0	46.8	52.8
0800	127	0	104	3	12	2	0	2	1	2	1	0	0	4	3.1	0	0	0	0	44.3	53.2
0815 0830	124 106	0	109 89	2	5 12	3	0	0	0	0	0	0	0	0	0 3.8	0	0	0	0	43.6 48	50.8 53.7
0845	95	0	82	0	8	0	1	0	2	0	1	0	1	3	3.2	0	0	0	0	47.2	56.6
0900	84	0	64	0	13	3	1	0	1	0	2	0	0	1	1.2	0	0	0	0	45.4	54.1
0915	96	1	82	0	8	3	0	0	1	1	0	0	0	4	4.2	2	2.1	1	1	48	52.6
0930 0945	81 93	0	71 75	0	6 12	2	3	0	0	0	1	0	0	5	6.2	0	1.2	0	0	48.4 44.9	54.8 51.4
1000	93	1	67	0	18	3	0	1	1	0	2	0	0	3	3.2	0	0	0	0	44.7	50.1
1015	83	0	65	2	9	1	0	0	1	0	5	0	0	3	3.6	1	1.2	0	0	43.6	51.9
1030	85	0	69	2	10	0	0	0	2	0	2	0	0	7	8.2	0	0	0	0	47.2	57.7
1045 1100	92 85	0	83 70	0	3 8	3	2	0	0	0	1	0	0	2	2.2	0	0	0	0	46.3 44.2	52.3 51.9
1115	78	1	60	2	9	2	0	1	2	0	1	0	0	0	0	0	0	0	0	42.2	49.4
1130	76	0	68	2	2	0	1	0	1	0	2	0	0	4	5.3	2	2.6	0	0	44.6	51.4
1145	64	0	52	0	8	2	1	0	0	1	0	0	0	1	1.6	0	0	0	0	45.3	53.2
1200 1215	76 65	0	67 51	0	6	2	0	0	2	0	0	0	0	4	5.3	0	0	0	0	43.7 43.5	53.5 51.2
1230	91	1	75	0	6	0	2	0	0	0	0	0	0	2	2.2	1	1.1	0	0	46.1	50.8
1245	74	1	63	0	6	2	1	0	0	0	1	0	0	2	2.7	0	0	0	0	46.8	53.5
1300	64	0	52	0	9	0	0	0	1	0	2	0	0	3	4.7	0	0	0	0	46.8	52.6
1315 1330	70 89	0	59 75	0	7	0	0	0	0	1	0	0	0	2	2.9	0	0	0	0	45.3 43.2	53 51.2
1345	69	0	57	3	9	0	0	0	0	0	0	0	0	1	1.4	1	1.4	1	1.4	46.4	53
1400	75	1	59	2	7	0	0	0	1	2	3	0	0	3	4	2	2.7	0	0	44.8	52.6
1415	122	1	105	5	6	3	0	0	1	0	1	0	0	1	0.8	0	0	0	0	44.1	49.2
1430 1445	67 80	0	57 68	0	8	1	0	0	0	0	2	0	0	5	7.5 1.3	2	1.3	0	0	48.8 45.2	54.6 51
1500	74	0	61	2	8	0	1	0	2	0	0	0	0	1	1.4	0	0	0	0	43.8	48.3
1515	96	0	84	2	9	0	0	0	0	0	1	0	0	3	3.1	0	0	0	0	47.8	52.8
1530	81	1	66	2	10	0	1	0	0	0	1	0	0	3	3.7	0	0	0	0	44.3	51.7
1545 1600	114	0	102 83	3	9	1 4	0	0	1	0	1 2	0	0	3	2.9	0	0	0	0	41.7 47.1	51.9 53.2
1615	113	1	94	7	9	0	0	0	0	1	1	0	0	4	3.5	2	1.8	0	0	44.6	53
1630	140	0	132	1	5	2	0	0	0	0	0	0	0	2	1.4	0	0	0	0	47.8	52.8
1645 1700	129	0	111	2	9	4	1	0	1	1	0	0	0	1	0.8	0	0	0	0.7	43.2	50.1
1700	144	2	133	2	5	13	0	0	0	1	0	0	0	2	1.3	0	0	0	0.7	45. 3	50.3
1730	150	0	132	0	7	11	0	0	0	0	0	0	0	2	1.3	0	0	0	0	46.5	49.9
1745	96	0	86	2	4	4	0	0	0	0	0	0	0	4	4.2	0	0	0	0	47.5	55
1800 1815	93 105	0	90 96	0	2	3	0	0	0	0	0	0	0	8	8.6 3.8	2	2.2	0	0	49.9 47.2	55 54.8
1815	87	0	82	0	2	1	0	0	1	0	1	0	0	3	3.8	0	0	0	0	48.5	54.8
1845	66	0	62	0	2	i	0	0	0	0	1	0	0	7	10.6	0	0	0	0	48.5	59.1
1900	50	0	48	1	0	0	0	0	1	0	0	0	0	5	10	1	2	0	0	49.7	57.5
1915 1930	41	0	39 28	0	0	0	0	0	0	0	0	0	0	8	4.9 27.6	0	0 3.4	0	0	49.8 50.8	53.9
1930	36	0	34	0	2	0	0	0	0	0	0	0	0	3	8.3	1	2.8	0	0	50.8	62.4 57
2000	35	0	33	0	1	0	0	0	0	1	0	0	0	1	2.9	0	0	0	0	45.8	55
2015	31	0	29	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	44.1	49
2030	27	0	26	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	46.3	52.3
2045 2100	22	0	18 19	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	45.2 44.2	51.4 48.8
2115	28	0	28	0	0	0	0	0	0	0	0	0	0	2	7.1	0	0	0	0	46.3	50.8
2130	25	0	23	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	43.7	48.5
2145	28	0	27	0	1	0	0	0	0	0	0	0	0	1	3.6	0	0	0	0	49.7	56.6
2200 2215	24	0	24 18	0	0	0	0	0	0	0	0	0	0	1	4.2 5.6	0	0	0	0	45.4 45.8	47.9 50.1
2230	13	0	12	0	1	0	0	0	0	0	0	0	0	1	7.7	1	7.7	0	0	49.5	51.4
2245	14	0	14	0	0	0	0	0	0	0	0	0	0	3	21.4	0	0	0	0	49.6	60.8
2300	6	0	6	0	0	0	0	0	0	0	0	0	0	2	33.3	0	0	0	0	53.5	-
2315 2330	7	0	7	0	0	0	0	0	0	0	0	0	0	2	14.3 50	0	0	0	0	53.4 56.3	-
2345	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	- 1
07-19	4695	24	3987	59	381	115	23	9	31	15	48	1	2	136	2.9	21	0.4	3	0.1	45.9	53
06-22	5265	25	4496	62	402	135	29	9	32	19	53	1	2	175	3.3	27	0.5	3	0.1	46.2	53.5
06-00 00-00	5354	25 26	4584	62	403 409	135 136	29 29	9	32 34	19	53 54	1	2	186	3.5	28 30	0.5	3	0.1	46.2	53.5 53.5
00-00	5451	20	4666	62	407	130	27	- 11	34	21	34		2	198	3.6	30	0.6	3	U. I	46.3	33.3

		Virtual Da	19 (7)																		
Time	Total						Classifi	cation						>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
		1	2	3	4	5	6	7	8	9	10	11	12	60	60	68	68	75	75		85
		MCL	SV	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT			ACPO	ACPO	DfT	DfT		
0000	19	0	17	0	1	0	0	0	0	0	0	0	0	4	20.3	2	8.3	1	4.5	51.9	62.2
0100	8	0	6	0	1	0	0	0	0	0	0	0	0	2	19.3	1	8.8	1	8.8	52.2	-
0200	6	0	5	0	0	0	0	0	0	0	0	0	0	1	10	0	2.5	0	0	52.4	-
0300	7	0	5	0	1	0	0	0	0	0	0	0	0	1	10	0	6	0	2	49.7	-
0400	11	0	9	0	1	0	0	0	0	1	1	0	0	1	11.4	0	3.8	0	1.3	49.3	57.7
0500	54	0	45	0	5	0	0	0	1	2	1	0	0	10	18.6	2	3.1	1	1	51.8	61.3
0600	154	1	127	2	12	2	4	0	1	1	4	0	0	20	13.2	4	2.8	1	0.7	51.2	59.1
0700	385	2	326	7	33	5	2	0	2	1	6	0	0	18	4.7	3	0.7	1	0.1	47.6	55
0800	391	3	333	5	33	3	3	1	4	2	3	0	0	13	3.3	2	0.4	0	0	46.1	53.7
0900	347	2	297	5	27	3	3	0	2	2	5	0	0	8	2.4	2	0.5	0	0.1	46.1	53
1000	368	3	313	6	31	2	3	0	2	3	4	0	0	9	2.4	1	0.3	0	0.1	44.2	51.4
1100	355	3	306	5	28	3	4	0	3	1	3	0	0	7	2.1	2	0.4	0	0	44.4	51.4
1200	342	2	299	5	24	2	3	0	2	2	4	0	0	7	2	1	0.4	0	0.1	45.1	51.7
1300	345	4	298	6	27	2	2	0	2	1	3	0	0	9	2.6	2	0.5	0	0.1	45.6	52.6
1400	357	4	311	6	23	3	2	0	1	2	4	0	0	12	3.3	2	0.6	0	0.1	45.5	52.1
1500	376	3	335	5	26	1	1	0	1	1	2	0	0	10	2.8	2	0.5	0	0.1	46.2	52.8
1600	474	4	422	8	33	2	1	0	1	1	1	0	0	11	2.4	2	0.5	1	0.1	46.2	52.8
1700	470	5	434	3	20	5	1	0	0	1	0	0	0	19	4.1	5	1	1	0.2	47.4	53.9
1800	319	2	300	2	11	1	0	0	0	0	1	0	0	21	6.5	4	1.3	1	0.3	48.3	55.5
1900	170	2	162	1	5	0	0	0	0	0	0	0	0	18	10.4	3	1.5	1	0.5	50.3	57.5
2000	111	1	106	1	3	1	0	0	0	0	0	0	0	11	10.3	3	2.8	1	0.8	49.5	57.7
2100	86	0	84	0	2	0	0	0	0	0	0	0	0	10	12.1	2	2.5	1	0.7	49.7	58.2
2200	87	0	84	0	2	0	0	0	0	0	0	0	0	8	9	2	2	0	0.3	48.8	56.6
2300	31	0	29	0	1	0	0	0	0	0	0	0	0	5	16.4	1	3.2	0	1.4	51.1	60.4
1200	4528	38	3974	63	317	32	25	4	21	17	37	1	2	145	3.2	27	0.6	5	0.1	46.1	53.2
1215	5050	41	4451	67	339	35	29	4	22	18	41	1	2	205	4.1	39	0.8	8	0.2	46.5	53.9
1230	5169	42	4564	67	343	35	29	4	23	19	41	1	2	218	4.2	42	0.8	9	0.2	46.6	53.9
1245	5274	43	4651	68	351	36	29	5	24	22	43	1	2	236	4.5	47	0.9	12	0.2	46.7	54.1

		Virtual We	ek (1)																		
Time	Total						Classifi	cation						>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
		1	2	3	4	5	6	7	8	9	10	11	12	60	60	68	68	75	75		85
		MCL	SV	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT			ACPO	ACPO	DfT	DfT		
Mon	5258	27	4518	82	430	24	45	9	29	35	56	1	2	188	3.6	39	0.7	7	0.1	46.2	53.5
Tue	5451	26	4666	62	409	136	29	11	34	21	54	1	2	198	3.6	30	0.6	3	0.1	46.3	53.5
Wed	5811	54	5057	80	438	20	30	2	37	31	59	2	1	272	4.7	42	0.7	17	0.3	47.1	54.4
Thu	5702	30	4978	72	432	33	36	2	26	29	63	0	1	273	4.8	60	1.1	20	0.4	46.6	54.4
Fri	6005	35	5253	83	452	30	38	5	28	24	51	2	4	244	4.1	56	0.9	15	0.2	46.4	53.5
Sat	4649	52	4277	54	195	5	19	3	12	10	20	1	1	234	5	40	0.9	4	0.1	47	54.6
Sun	4045	78	3811	41	103	2	5	0	2	3	0	0	0	243	6	61	1.5	15	0.4	47.4	55
5 Day Ave.	5645	34	4894	76	432	49	36	6	31	28	57	1	2	235	4.2	45	0.8	12	0.2	46.5	53.9
7 Day Ave.	5274	43	4651	68	351	36	29	5	24	22	43	1	2	236	4.5	47	0.9	12	0.2	46.7	54.1
	36921	302	32560	474	2459	250	202	32	168	153	303	7	11	1652	4.5	328	0.9	81	0.2	46.7	54.1





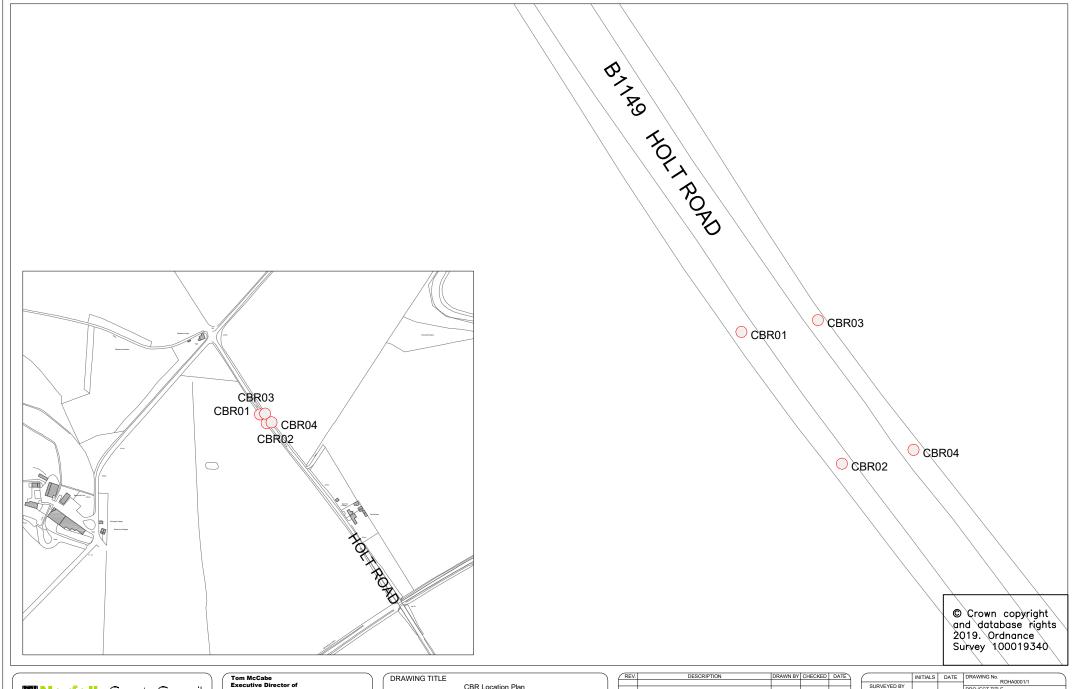
Norfolk Boreas Offshore Wind Farm Appendix 2 — B1149 Pavement Testing Results

Applicant: Norfolk Boreas Limited Document Reference: ExA.AS-3.D4.V1

Deadline 4

Date: January 2020 Revision: Version 1

Photo: Ormonde Offshore Wind Farm



Norfolk County Council

Community and Environmental Services
Norfolk County Council
County Hall, Martineau Lane
Norwich NR1 2SG

CBR Location Plan Norfolk Vanguard

REV.	DESCRIPTION	DRAWN BY	CHECKED	DATE

	INITIALS	DATE	DRAWING No.	A0001/1
SURVEYED BY			PROJECT TITLE	140001/1
DESIGNED BY			Norfoll	k Vanguard
DRAWN BY	GS	18/04/19	SCALE	FILE No.
CHECKED BY	MLB	18/04/19	1: 500 @ A4	ROHA0001

TRIAL PIT LOG



													(U)
Scheme	Norfolk Vanguard and Boreas	Job N	No.	ROHA	0001	Bore	hole N	lo.	01				
Carried out for	Royal Haskoning	Date	Started	d 27/03	3/2019	Date	Finish	ed	27/0	3/201	19		
Dimensions:	0.50m x 0.50m	Туре	of Rig	Hand	d Tools						Logged	d by	GS
Remarks:	Dry	Dept	h (m)	1.00		Grou (m A	nd Lev	/el			Drawn	by	GS
		Со-о	rds	6145	30 - 325					(Checke	d by	MLB
Backfill Water Casi	ng Description	Legend	Depth (m)	Scale		nple	Field Tests	1400/			ory Tests		000
	Dark brown silty TOPSOIL. TOPSOIL Dark yellowish brown slightly gravelly medium SAND, gravel is fine to medium sub angular flint. BRITON'S LANE SAND AND GRAVEL		1.00		Type	No. 01		MC%		PL	MPI	Org.	CBR

TRIAL PIT LOG



															LD.
Schen	ne		Norfolk Vanguard and Boreas	Job I	No.	ROHA	.0001	Borel	nole N	0.	02				
Carrie	d out	for	Royal Haskoning	Date	Started	27/0	3/2019	Date	Finish	ed	27/0	3/201	9		
Dimen	sions	s:	0.50m x 0.50m	Туре	of Rig	Hand	d Tools						Logge	d by	GS
Remai	rks:		Dry	Dept	h (m)	0.60		Grou (m A0	nd Lev OD)	/el			Drawr	by	GS
				Со-о	rds	6145	540 - 3256		,			C	Checke	ed by	MLB
Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sam Type	nple No.	Field Tests	MC%		aborato	ory Test	s Org.	CBR
			Dark brown slightly gravelly silty TOPSOIL, gravel is fine to medium sub rounded flint. TOPSOIL Light brown & orangey brown very gravelly medium to coarse SAND, gravel is fine to course sub angular flint. BRITON'S LANE SAND AND GRAVEL		0.20	-	†	01							
					0.60	_ - - - -1.00	+								
						-									
						-2.00 - - - - -									
						- - -3.00 - -									
						- - - -									
						4.00 									
						 - - -									
	1	l			i	1	i l		1	1	1		1		1

TRIAL PIT LOG

Ā	G	3

												Ğ	<u>luo</u>
Scheme	Norfolk Vanguard and Boreas	Job 1	No.	ROHA	.0001	Borel	hole N	0.	03				
Carried out for	Royal Haskoning	Date	Started	27/03	3/2019	Date	Finish	ed	27/0	3/201	9		
Dimensions:	0.50m x 0.50m	Туре	of Rig	Hand	d Tools						Logge	d by	GS
Remarks:	Dry	Dept	h (m)	0.60		Grou (m A	nd Lev	/el			Drawr	ı by	GS
		Со-о	rds	6145	34 - 325		,			C	Checke	ed by	MLB
Backfill Water Casing	Description	Legend	Depth (m)	Scale		nple	Field Tests				ory Test		
Backfill Water Casing	Dark brown silty TOPSOIL. TOPSOIL Light brown & orangey brown silty, slightly gravelly fine to medium SAND, gravel is fine to medium sub angular flint. BRITON'S LANE SAND AND GRAVEL	Legend	Depth (m) 0.20 0.60	Scale	San	No.	Field Tests	MC%		aborate PL	MPI		CBR

TRIAL PIT LOG

Ā	G	3

Scheme Norfolk Vanguard and Boreas		Norfolk Vanguard and Boreas	Job N	Job No. ROHA0001				Borehole No. 04							
		for	Royal Haskoning		Date Started 27/03/2019			Date	Date Finished 27/03/2019						
		Туре	Type of Rig Hand Tools		·	Logged			d by	y GS					
Rema	rks:		Dry	Dept	Depth (m) 0.60		Grour (m AC	nd Lev	/el			Drawn by		GS	
				Co-o	rds	6145	46 - 3256					C	Checke	ed by	MLB
Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sam		Field Tests			aborato			
			Dark brown silty TOPSOIL.		(111)		Туре	No.	10313	MC%	LL	PL	MPI	Org.	CBR
			Dark brown sity TOPSOIL. TOPSOIL Orangey brown & yellowish brown slightly gravelly medium to coarse SAND, gravel is fine sub angular flint. BRITON'S LANE SAND AND GRAVEL		0.20		•	01							

Email: civil.laboratory@norfolk.gov.uk

FAO Ryan Eldon

Royal Haskoning Rightwell House Bretton Peterborough PE3 8DW Our reference No. NCCL201904029-610

Our Project No ROHA0001 Your Sample Ref 4029

Your Project or Order No.

Date Tested 09/04/2019

Date Report Issued 23-Apr-19

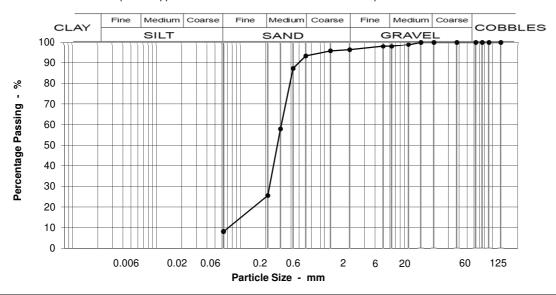
Page 1 of 1

Particle Size Distribution to BS 1377: Part 2:1990 Section 9

Scheme: Norfolk Vanguard and Boreas

Location and orientation within sample not applicable

Location: CBR 1 @ 0.7m Bulk disturbed sample



Sievi	ng	Specification for Highway			
Particle Size mm	% Passing	Works Classification Table 6/2			
125	100				
90	100				
75	100				
63	100	This material complies			
37.5	100	with the following			
20	100	material classes 1B,			
14	100	6E/6R, 6M.			
10	99	•			
6.3	98				
5	98				
2	96				
1.18	96				

Sample Proportions				
BOULDERS	0			
COBBLES	0			
Coarse GRAVEL	0			
Medium GRAVEL	2			
Fine GRAVEL	2			
Coarse SAND	3			
Medium SAND	68			
Fine SAND	17			
Silt & Clay	8			

Grading Analysis				
D100	10			
D60	0.31			
D10	0.08			
Uniformity Coefficient	4			

Description
Dark yellowish brown, slightly gravelly, medium
SAND. Gravel is fine and medium, sub-angular
flint.

Moisture content % 6

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93

87

58

26

8



Peter Hardiment (Operations Manager)



Test Code = 610



0.600

0.425

0.300

0.212

0.063

Email: civil.laboratory@norfolk.gov.uk

FAO Ryan Eldon

Royal Haskoning Rightwell House Bretton Peterborough PE3 8DW

Our reference No. NCCL2019040210-610

Our Project No ROHA0001 40210 Your Sample Ref

Your Project or Order No.

03/04/2019 **Date Tested Date Report Issued** 23-Apr-19

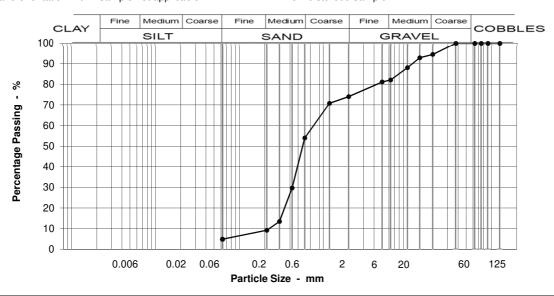
Page 1 of 1

Particle Size Distribution to BS 1377: Part 2:1990 Section 9

Scheme: Norfolk Vanguard and Boreas

Location and orientation within sample not applicable

Location: CBR 2 @ 0.2m Bulk disturbed sample



Sievi	ng	Specification for Highway			
Particle Size % Passing mm		Works Classification Table 6/2			
125 90 75	100 100 100				
63 37.5 20	100 100 94	This material complies with the following material classes 1B,			
14 10 6.3	93 88 82	6E/6R, 6M.			
5 2 1.18	81 74 71				
0.600	54				

nis material complies					
ith the following					
aterial classes 1B,					
E/6R, 6M.					

Moisture	content %	5

Sample Proportions					
BOULDERS	0				
COBBLES	0				
Coarse GRAVEL	6				
Medium GRAVEL	12				
Fine GRAVEL	8				
Coarse SAND	20				
Medium SAND	45				
Fine SAND	4				
Silt & Clay	5				

Grading Analysis					
D100	20				
D60	0.81				
D10	0.23				
Uniformity Coefficient	4				

Descri	ption

Light brown and orangey brown, very gravelly, medium and coarse SAND. Gravel is fine, medium and coarse, sub-angular flint.

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30

13 9

5

0.425 0.300

0.212

0.063



Peter Hardiment (Operations Manager)



Test Code = 610



Email: civil.laboratory@norfolk.gov.uk

FAO Ryan Eldon

Royal Haskoning Rightwell House Bretton Peterborough PE3 8DW

Our reference No. NCCL2019040211-610

Our Project No ROHA0001 40211 Your Sample Ref

Your Project or Order No.

05/04/2019 **Date Tested Date Report Issued** 23-Apr-19

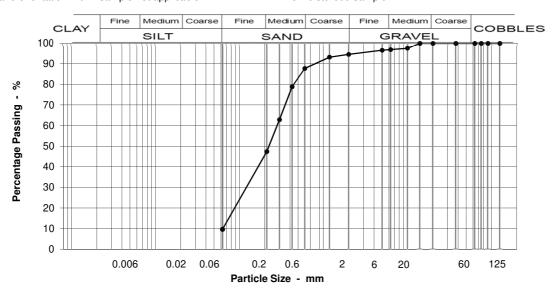
Page 1 of 1

Particle Size Distribution to BS 1377: Part 2:1990 Section 9

Scheme: Norfolk Vanguard and Boreas

Location and orientation within sample not applicable

Location: CBR 3 @ 0.2m Bulk disturbed sample



Sievi	ng	Specification for Highway			
Particle Size	% Passing	Works Classification			
mm	-	Table 6/2			
125	100				
90	100				
75	100				
63	100	This material complie			
37.5	100	with the following			
20	100	material classes 1B,			
14	100	6E/6R, 6M.			
10	97	,			
6.3	97				
5	97				
2	94				
1.18	93				

This material complies with the following
material classes 1B,
6E/6R, 6M.

Fine SAND	38
Silt & Clay	10
Grading	Analysis
D100	10
D60	0.28
D10	0.06
Uniformity Coefficient	4

Sample Proportions

0

0

0

3

2

40

BOULDERS

COBBLES

Coarse GRAVEL

Medium GRAVEL

Fine GRAVEL

Coarse SAND

Medium SAND

10 Moisture content %

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88

79

63

47

10

1.18 0.600

0.425

0.300

0.212

0.063



Peter Hardiment (Operations Manager)



Email: civil.laboratory@norfolk.gov.uk

FAO Ryan Eldon

Royal Haskoning Rightwell House Bretton Peterborough PE3 8DW

Our reference No. NCCL2019040212-610

Our Project No ROHA0001 40212 Your Sample Ref

Your Project or Order No.

05/04/2019 **Date Tested Date Report Issued** 23-Apr-19

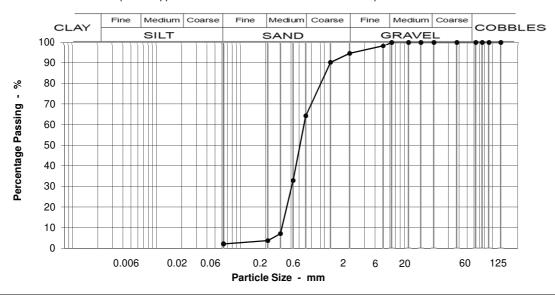
Page 1 of 1

Particle Size Distribution to BS 1377: Part 2:1990 Section 9

Scheme: Norfolk Vanguard and Boreas

Location and orientation within sample not applicable

Location: CBR 4 @ 0.2m Bulk disturbed sample



Sieving		Specification for Highway
Particle Size mm	% Passing	Works Classification Table 6/2
125	100	
90	100	
75	100	
63	100	This material complies
37.5	100	with the following
20	100	material classes 1B,
14	100	6E/6R, 6M.
10	100	,
6.3	100	
5	98	
2	94	
1.18	90	

Sample P	roportions
BOULDERS	0
COBBLES	0
Coarse GRAVEL	0
Medium GRAVEL	0
Fine GRAVEL	6
Coarse SAND	30
Medium SAND	61
Fine SAND	2
Silt & Clay	2

Grading	Analysis
D100	5
D60	0.58
D10	0.31
Uniformity Coefficient	2

Description
Orangey brown and yellowish brown, slightly gravelly, medium to coarse SAND. Gravel is fine, sub-angular flint.

5 Moisture content %

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64

33 7

4



Peter Hardiment (Operations Manager)



Test Code = 610

0.600

0.425

0.300 0.212

0.063



Norfolk Partnership Laboratory

County Hall, Martineau Lane NORWICH, Norfolk NR1 2SG Tel: 01603 222416

Email: civil.laboratory@norfolk.gov.uk

Our Project No ROHA0001

Our Report and sample No NCCL201904029-642

Your Sample Ref B4029

Your Project or Order No

Date Report Issued 23-Apr-19

Date Tested 08-Apr-19

Page 1 of 1

Determination of the California Bearing Ratio to BS 1377: PART 4: 1990

Scheme Norfolk Vanguard and Boreas

Location CBR 1 @ 0.7m

Date sampled27-Mar-19Date received29-Mar-19Sample typeBulk DisturbedSample Mass18.955kg

If a sample certificate was provided it is available for inspection.

The accuracy of information provided by third parties cannot be guaranteed.

Material Soil

Royal Haskoning

FAO Ryan Eldon

Rightwell House

Peterborough

PE3 8DW

Bretton

Description Dark yellowish brown, slightly gravelly, medium SAND. Gravel is fine and medium, sub-angular flint.

Supplier Not applicable Source Ex site

Test Specimen

LocationNot applicableOrientationNot applicable

Preparation Details

Method of Division Quartering

Preparation Method Sieving, Natural Moisture Content

Condition Unsoaked

Retained 37.5mm % 1 **Retained 20mm** % 2.1

Number of layers3CBR Value Top%43.0Blows per layerN/ACBR Value Bottom%104.0

BS Method 3.7, Vib.Hammer

Bulk Density Mg/m^3 2.07Moisture Content Top%7.0Dry Density Mg/m^3 1.94Moisture Cont. Bottom%7.0

Initial Moisture Content % 6.6 Moisture Content Method Oven dried @ 105-110°C

Remarks

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UKAS UKAS 1920

Peter Hardiment (Operations Manager)



Test Code = 642



Norfolk Partnership Laboratory

County Hall, Martineau Lane NORWICH, Norfolk NR1 2SG Tel: 01603 222416

Email: civil.laboratory@norfolk.gov.uk

Our Project No ROHA0001

Our Report and sample No NCCL2019040210-642

Your Sample Ref B40210

Your Project or Order No

Date Report Issued 23-Apr-19

Date Tested 08-Apr-19

Page 1 of 1

Determination of the California Bearing Ratio to BS 1377: PART 4: 1990

Scheme Norfolk Vanguard and Boreas

Location CBR 2 @ 0.2m

Date sampled27-Mar-19Date received29-Mar-19Sample typeBulk DisturbedSample Mass22.35kg

If a sample certificate was provided it is available for inspection.

The accuracy of information provided by third parties cannot be guaranteed.

Material Soil

Royal Haskoning

FAO Ryan Eldon

Rightwell House

Peterborough

PE3 8DW

Bretton

Description Light brown and orangey brown, very gravelly, medium and coarse SAND. Gravel is fine, medium and coarse,

sub-angular flint.

Supplier Not applicable **Source** Ex site

Test Specimen

LocationNot applicableOrientationNot applicable

Preparation Details

Method of Division Quartering

Preparation Method Sieving, Natural Moisture Content

Condition Unsoaked

Retained 37.5mm % 3 **Retained 20mm** % 7.2

Number of layers3CBR Value Top%46.0Blows per layerN/ACBR Value Bottom%133.0

BS Method 3.7, Vib.Hammer

 Bulk Density
 Mg/m³
 2.10
 Moisture Content Top
 %
 5.3

 Dry Density
 Mg/m³
 2.00
 Moisture Cont. Bottom
 %
 5.5

Initial Moisture Content % 5.4 Moisture Content Method Oven dried @ 105-110°C

Remarks

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0920

Peter Hardiment (Operations Manager)



Test Code = 642



Norfolk Partnership Laboratory

County Hall, Martineau Lane NORWICH, Norfolk NR1 2SG Tel: 01603 222416

Email: civil.laboratory@norfolk.gov.uk

Our Project No ROHA0001

Our Report and sample No NCCL2019040211-642

Your Sample Ref B40211

Your Project or Order No

Date Report Issued 23-Apr-19

Date Tested 08-Apr-19

Page 1 of 1

Determination of the California Bearing Ratio to BS 1377: PART 4: 1990

Scheme Norfolk Vanguard and Boreas

Location CBR 3 @ 0.2m

Date sampled27-Mar-19Date received29-Mar-19Sample typeBulk DisturbedSample Mass20.95kg

If a sample certificate was provided it is available for inspection.

The accuracy of information provided by third parties cannot be guaranteed.

Material Soil

Royal Haskoning

FAO Ryan Eldon

Rightwell House

Peterborough

PE3 8DW

Bretton

Description Light brown and orangey brown, slightly gravelly, fine and medium SAND. Gravel is fine and medium, sub-

angular flint.

Supplier Not applicable Source Ex site

Test Specimen

LocationNot applicableOrientationNot applicable

Preparation Details

Method of Division Quartering

Preparation Method Sieving, Natural Moisture Content

Condition Unsoaked

Retained 37.5mm % 0 **Retained 20mm** % 0.6

 Number of layers
 3
 CBR Value Top
 %
 15.0

 Blows per layer
 N/A
 CBR Value Bottom
 %
 12.0

BS Method 3.7, Vib.Hammer

Bulk DensityMg/m³2.22Moisture Content Top%11.0Dry DensityMg/m³2.01Moisture Cont. Bottom%9.7

Initial Moisture Content % 11.0 Moisture Content Method Oven dried @ 105-110°C

Remarks

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Peter Hardiment (Operations Manager)



Test Code = 642





Norfolk Partnership Laboratory

County Hall, Martineau Lane NORWICH, Norfolk NR1 2SG Tel: 01603 222416

Email: civil.laboratory@norfolk.gov.uk

Our Project No ROHA0001

Our Report and sample No NCCL2019040212-642

Your Sample Ref B40212

Your Project or Order No

Date Report Issued 23-Apr-19

Date Tested 08-Apr-19

Page 1 of 1

Determination of the California Bearing Ratio to BS 1377: PART 4: 1990

Scheme Norfolk Vanguard and Boreas

Location CBR 4 @ 0.2m

Date sampled27-Mar-19Date received29-Mar-19Sample typeBulk DisturbedSample Mass19.9kg

If a sample certificate was provided it is available for inspection.

The accuracy of information provided by third parties cannot be guaranteed.

Material Soil

Royal Haskoning

FAO Ryan Eldon

Rightwell House

Peterborough

PE3 8DW

Bretton

Description Orangey brown and yellowish brown, slightly gravelly, medium to coarse SAND. Gravel is fine, sub-angular

flint.

Supplier Not applicable Source Ex site

Test Specimen

LocationNot applicableOrientationNot applicable

Preparation Details

Method of Division Quartering

Preparation Method Sieving, Natural Moisture Content

Condition Unsoaked

Retained 37.5mm % 0

Retained 20mm % 1.1 Number of layers 3

Number of layers3CBR Value Top%32.0Blows per layerN/ACBR Value Bottom%64.0

BS Method 3.7, Vib.Hammer

 Bulk Density
 Mg/m³
 1.90
 Moisture Content Top
 %
 5.4

 Dry Density
 Mg/m³
 1.80
 Moisture Cont. Bottom
 %
 5.5

Remarks

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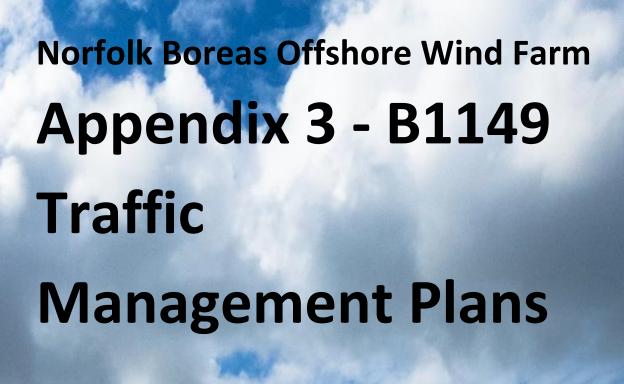
Peter Hardiment (Operations Manager)



Test Code = 642





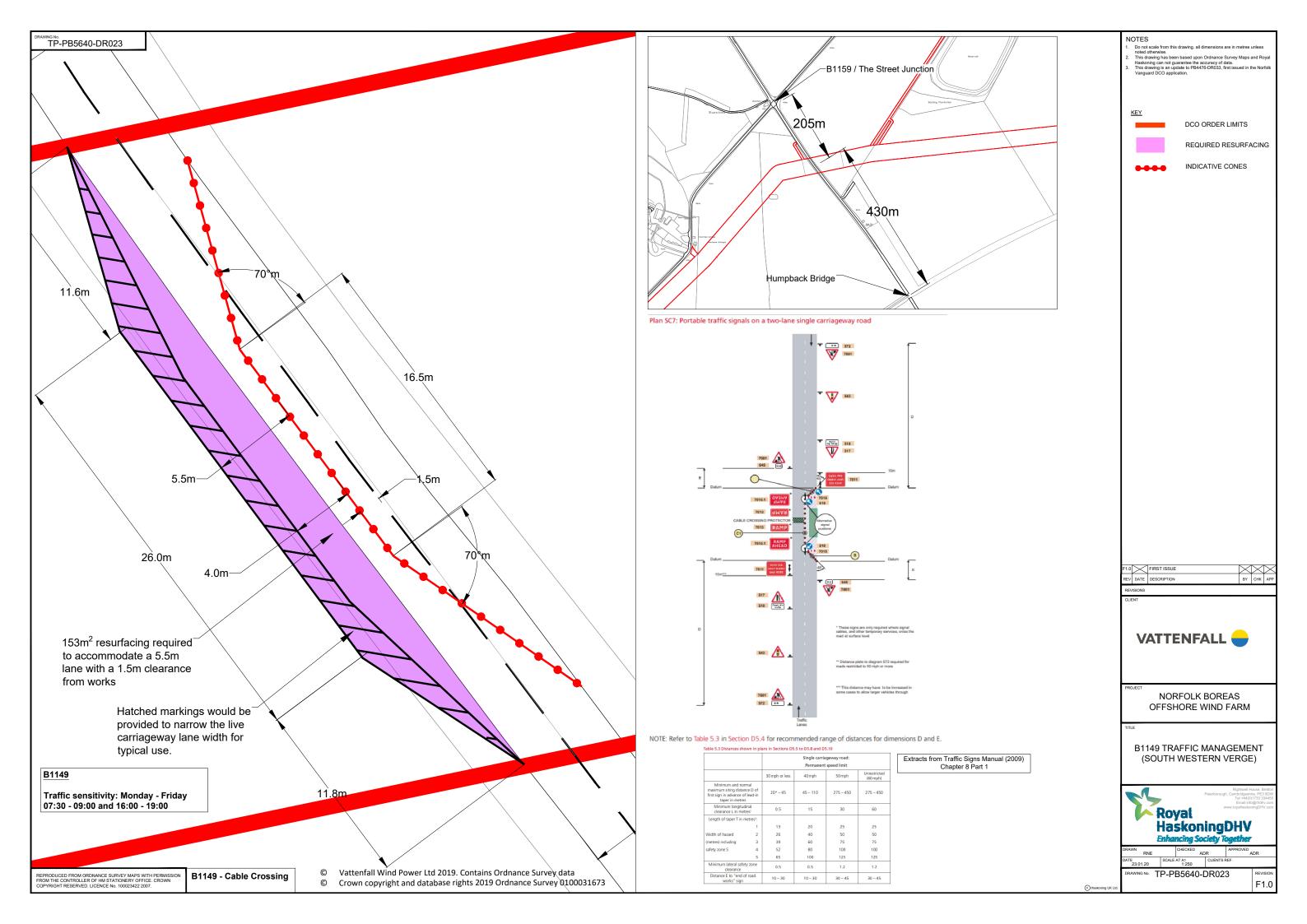


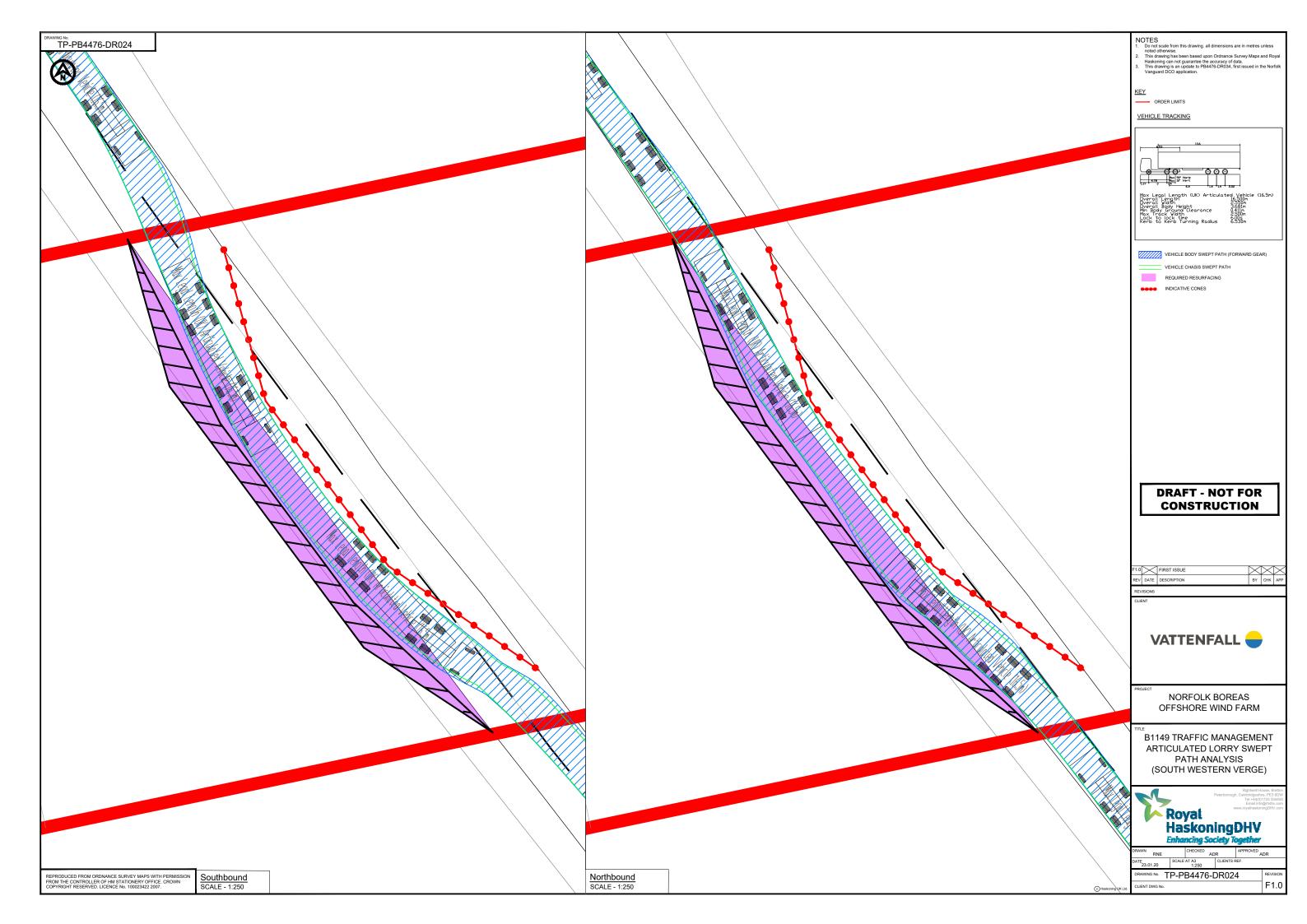
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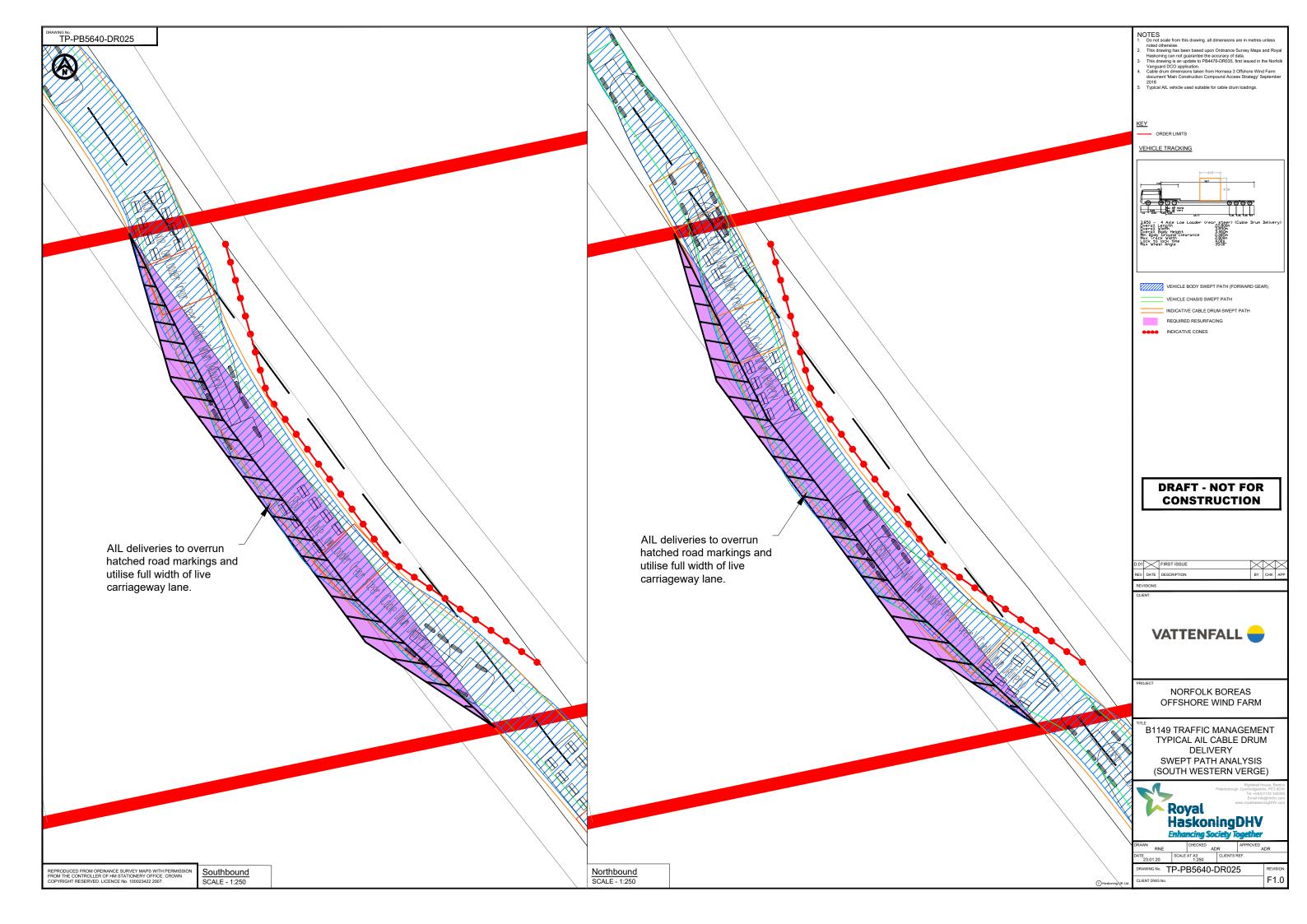
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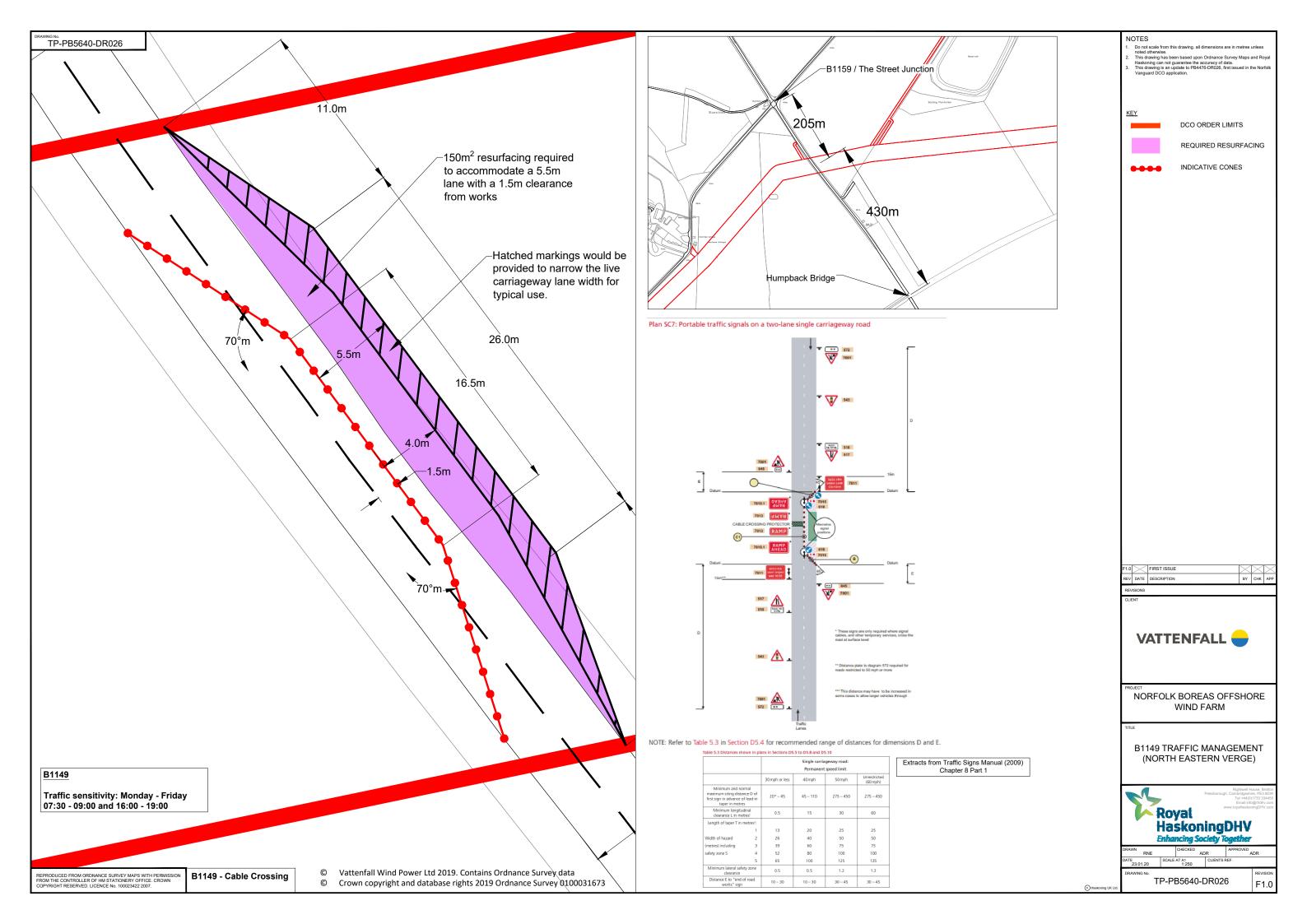
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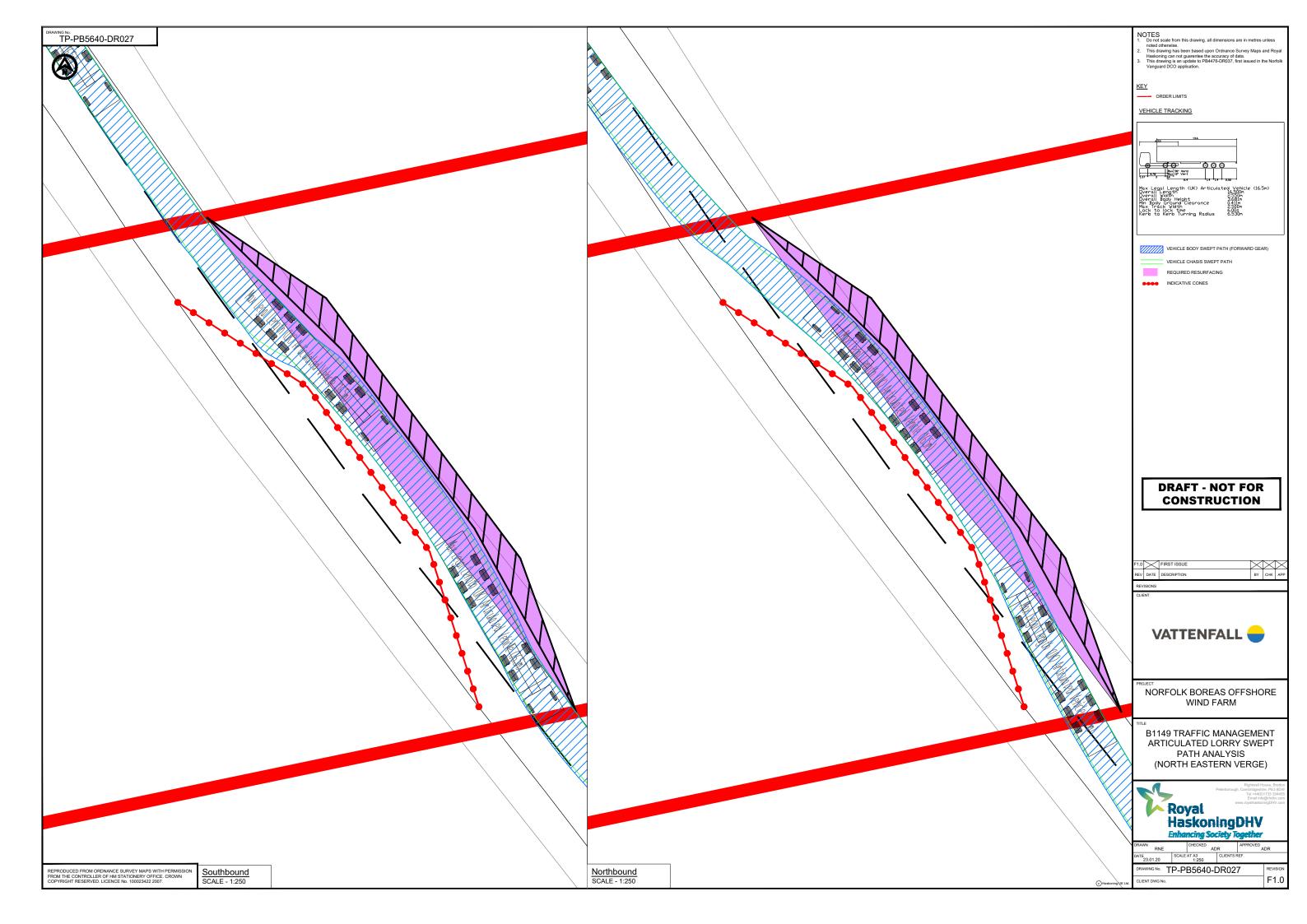
Photo: Ormonde Offshore Wind Farm

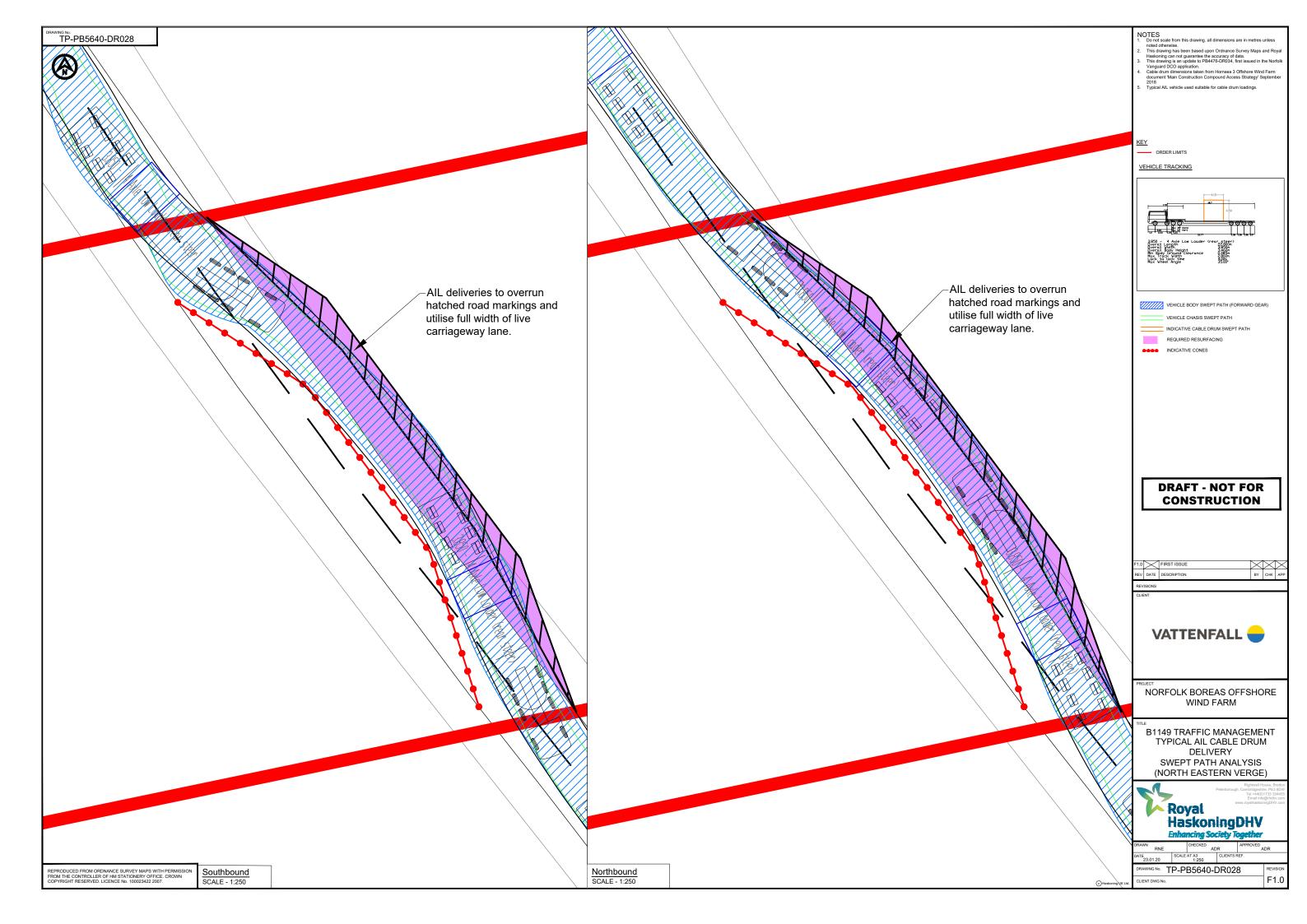




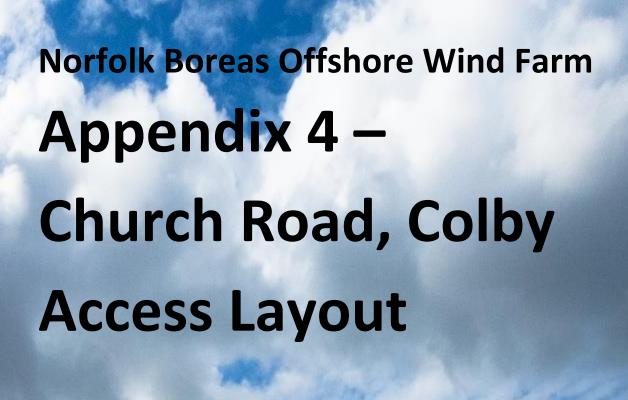










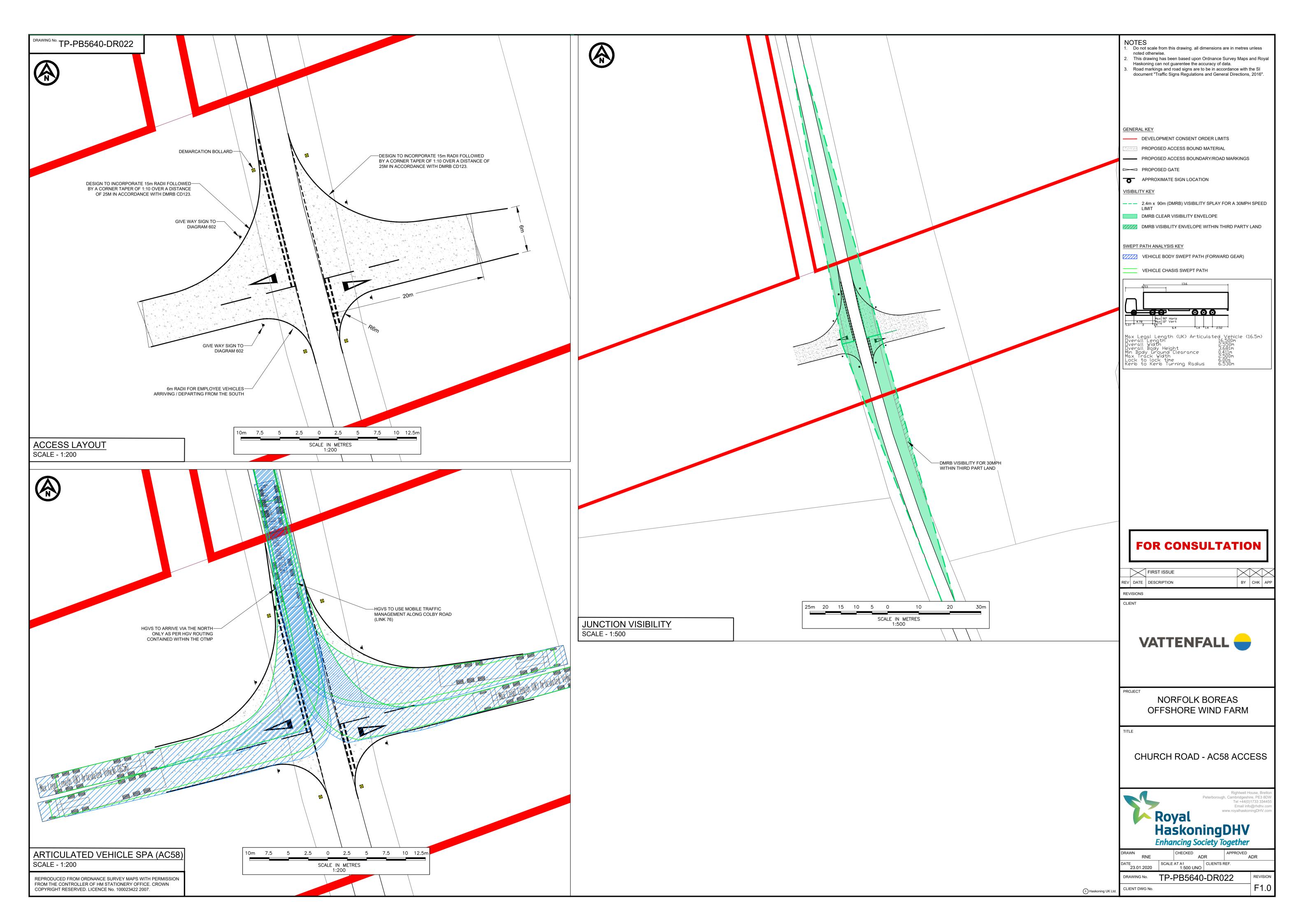


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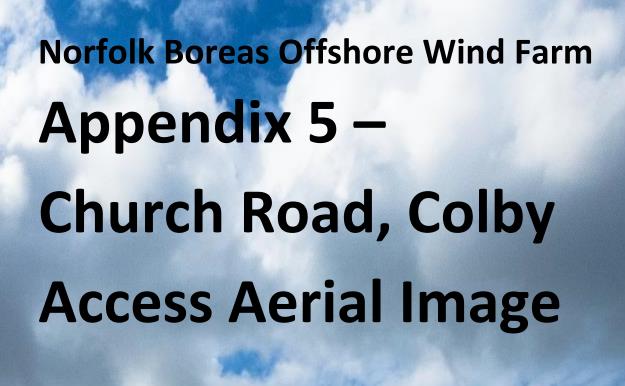
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Date: January 2020 Revision: Version 1

Photo: Ormonde Offshore Wind Farm







Applicant: Norfolk Boreas Limited Document Reference: ExA.AS-3.D4.V1

Deadline 4

Date: January 2020 Revision: Version 1

Photo: Ormonde Offshore Wind Farm

