FAO Gareth Leigh Norfolk Vanguard Project Case Team

Thank you for your email below and attached letter dated 6 December 2019.

Norfolk County Council will fully respond to the queries raised in the letter in due course.

In the meantime I would like to clarify that with regard to: Appearance of Electrical Equipment (paragraphs 17 -19); and Control of Noise During Operational Phase (Paragraphs 26 and 27) - these are matters for the respective District Councils to consider and respond to accordingly in their Local Planning and Environmental Health roles.

I note that Breckland District Council has not been sent a copy of the letter referred to above and as such I have forwarded it to the District Council's Planning Department for information.

Kind regards

Stephen

Stephen Faulkner MRTPI Principal Planner Community and Environmental Services Telephone: 01603 222752



From: Norfolk Vanguard <NorfolkVanguard@planninginspectorate.gov.uk>
Sent: 06 December 2019 16:22
Cc: Norfolk Vanguard <NorfolkVanguard@planninginspectorate.gov.uk>
Subject: Norfolk Vanguard - Secretary of State Consultation

WARNING: External email, think before you click!.

Dear Sir / Madam,

Please find attached a letter from the Secretary of State.

Kind regards,

Norfolk Vanguard Project Case Team

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Community and Environmental Services County Hall Martineau Lane Norwich NR1 2SG NCC contact number: 0344 800 8020 Text Relay - 18001 0344 800 8020

Department for Business, Energy & Industrial Strategy 1 Victoria Street LONDON SW1H 0ET

Your Ref:	EN010079	My Ref:	8/1/18/0088
Date:	27 February 2020	Tel No.:	01603 223231
		Email:	john.r.shaw@norfolk.gov.uk

Dear Mr Leigh

Application by Norfolk Vanguard Limited ("the Applicant") for an Order granting Development Consent for the proposed Norfolk Vanguard Offshore Wind Farm and associated offshore and onshore infrastructure ("the Norfolk Vanguard project")

REQUEST FOR INFORMATION AND NOTIFICATION OF THE SECRETARY OF STATE'S DECISION TO SET A NEW DATE FOR DETERMINATION OF THE APPLICATION

Thank you for your letter of 6 December 2019 requesting additional information from Norfolk County Council to which we would like to respond as follows:-

Traffic Movements at Cawston - paragraph number 11 to 16

Norfolk County Council still believes a suitable access strategy can be produced that mitigates the impact to highway users sufficient to offset potential harm from in-combination traffic effects arising from the proposed Norfolk Vanguard project and H3 in the event that both are granted development consent. However:-

- As Highway Authority we make no assessment relating to residential amenity. Our remit is confined to assessing impact upon highway users and we leave it for Broadland District Council to respond to you on amenity issues.
- 2. Whilst we have now received revised drawings, which are broadly in line with our expectations, we only received an updated road safety audit (RSA) from the applicants today and accordingly we have not yet had the opportunity to review the contents. Until such time as a RSA is agreed, which overcomes the safety concerns previously raised by the external auditors, we cannot agree that a suitable mitigation scheme exists.

We note from your letter that further comments will be invited from interested parties within 28 days (if appropriate) and believe we will be able to provide a firm view on the acceptability of the RSA by that date.

In the circumstances, given the fact a mitigation scheme has not yet been agreed, Norfolk County Council can see the merit in the revised text to requirement 21 as suggested by the Secretary of State. In the event of the scheme failing to pass the safety audit, a revised scheme of traffic mitigation will need to be submitted. Accordingly we have no objection to the proposed amendment.

As the Secretary of State may be aware, the mitigation scheme for Cawston is also being considered as part of the examination for the Norfolk Boreas NSIP. Given the close relationship between Norfolk Vanguard and Boreas, with Vanguard delivering essential infrastructure for Boreas, we are unclear what would happen if the Boreas Inspector finds the mitigation scheme proposed by Norfolk Vanguard is unacceptable and finds in favour of a different solution.

Additions to Trenchless Crossings paragraphs 20 - 21

Norfolk County Council remains firmly of the view that trenchless crossing needs to be undertaken for the B1149 and that the B1149 needs to be included within the list of trenchless crossing locations contained within Requirement 16.

Whilst the applicants have addressed our previous safety concerns within a clarification note on trenchless crossings (copy appended to this letter) the applicants solution simply raises other problems. In short resolving one issue simply creates a different problem. A copy of our response to the applicants clarification note is also appended to this letter.

In summary:-

- This specific proposal would now require the construction of a new diversion lane (shaded pink on drawing numbers TP-PB4476-DR033 and TP-PB4476-DR036 attached to the applicants trenchless crossing clarification note). The disruption to road users for this specific proposal will be significant and last for weeks and not days as implied.
- We are not convinced by the applicants argument that open cut trenching will extend their works programme for this crossing by 8 to 9 weeks. However, even if there is some inconvenience to Norfolk Vanguard (a private company undertaking these works), we do not believe that should be at the expense of the entire public using this highway, given a reasonable alternative exists.
- The applicants imply night time working would only be required for trenchless crossing. However, their Outline Traffic Management Plan indicates it could also be required for open cut trenching. It is clear that night time working could be used for either open cut or trenchless crossings in equal measure, there is little difference.
- The proposal for the B1149 will require a deep excavation and the provision of a new diversion lane. Accordingly, open cut trenching for this specific proposal will require traffic lights to be fully operational 24 hours per day, 7 days per week. In sharp contrast to trenchless crossing, which **may** or may not have a night time impact the applicants proposal for open cut trenching to the B1149 **will** cause disruption throughout the night.

- The assessment of noise falls outside our remit and accordingly it is not an issue for the Highway Authority to assess. However open cut trenching at this specific location will require traffic signals 24 hours per day, 7 days per week with vehicles stopping and starting at the traffic signals together with associated noise.
- Open cut trenching for this specific location will not only require the road to be dug up but also requires the highway verges and adjacent hedges (together with any trees) to be dug up and removed to accommodate a diversion lane.
- The applicants indicate a typical worst case scenario of an additional 450 HGVs per trenchless crossing. However, this is not a **typical** crossing and the applicants do not appear to have taken into account the movements associated with the construction of the new diversion lane attributable to this specific proposal.
- The issue of long term maintenance liability is also a concern, particularly given the
 potential for other future large scale projects and their associated HGV load
 movements. Rural road structure can vary greatly, and with an increasing volume of
 base level traffic, notwithstanding the additional loading from these HGV movements
 any weakening of the surface construction derived from breaking open the bound and
 subgrade layers, will greatly increase the risk of carriageway failure in years to come
 when it has reverted to local authority responsibility.

In short to enable an open cut method would require extensive temporary carriageway widening to give adequate sideways clearance to permit through traffic whilst the road was crossed half at a time. This widening would involve the removal of mature hedgerow, and the construction of a suitable running lane in virgin verge. The nature of the verge and traffic levels at this point requires a full depth construction to enable adequate lateral restraint. We fully understand that Norfolk County Councils laboratory has provided a suitable construction specification. However, Construction would involve importing much aggregate and bituminous bound material to a rural environment, only for it to be removed again once the crossing was completed. This is not environmentally sound practice and goes against the applicants very reasons (environmental) for using open cut trenching.

Timing of Traffic Management Measures - Paragraphs 24 and 25

These are active measures that will be implemented during the works and accordingly we believe the original text is more accurate and should be re-instated.

If further clarification is required, then please let me know.

Yours sincerely

Senior Engineer - Highways Development Manager for Executive Director for Community and Environmental Services



Community and Environmental Services County Hall Martineau Lane Norwich NR1 2SG NCC contact number: 0344 800 8020 Text Relay - 18001 0344 800 8020

The Planning Inspectorate Room 3/13 Temple Quay House 2 The Square Temple Quay Bristol BS1 6PN

 Your Ref:
 EN010087
 My Ref:
 18/01/0091

 Date:
 25 February 2020
 Tel No.:
 01603 223231

 Email:
 john.r.shaw@norfolk.gov.uk

Dear Sir/ Madam

Application by Norfolk Boreas Limited for the Norfolk Boreas Offshore Windfarm. Response to the applicants clarification note on trenchless crossings.

Please accept this letter as Norfolk County Councils written submissions in its capacity as local highway authority in response to documentation submitted into the examination at Deadline 4.

1. Introduction

The ExA will recall that Norfolk County Council has raised serious ongoing concerns regarding the applicant's proposal to use open cut trenching for the B1149 road crossing. During Issue Specific Hearing 3, the applicants indicated their reasons for selecting this method of working relate solely to environmental impact. The applicants written summary of their oral case submitted at deadline 4 also confirms this as follows: -

"The Applicant can also confirm that the decision whether or not to use trenchless installation is not primarily based on financial imperative or implication for the Applicant. The decision to use trenchless techniques is based on thorough investigation and assessments relating to environmental considerations."

To support of the applicants position, the ExA asked the applicants to submit a clarification note to set out the reasons for and against trenchless crossings for the B1149 and also Church Road, Colby. It is the County Councils contention that the applicants have produced a set of generalities that could be used for any crossing point and have not taken into account the local context of the B1149 at this **specific** location.

In response to the applicants clarification note we wish to comment as set out overleaf:-

2. Comparison of open cut trenching and trenchless crossing of highways

Impacts to road users

The applicants state - Open cut trenching is temporary typically lasting less than 1 week.

<u>In response</u> - The whole point of the County Councils concern is that the B1149 is **not** a typical crossing. We have not objected to other "B class" roads along the cable route being crossed by open cut trenching but we do have concerns with this **specific** crossing.

This specific proposal requires the construction of a new diversion lane as shaded pink on drawing numbers TP-PB4476-DR033 and TP-PB4476-DR036 attached to the applicants trenchless crossing clarification note. The disruption to road users for this specific proposal will be significant and last for weeks (see also our detailed comments under the heading timescale below).

Working hours

<u>The applicants</u> - indicate night time working **may** be needed for trenchless crossings but imply it will not be required with open cut trenching.

<u>In response -</u> The applicants Outline Traffic Management Plan for open cut trenching states at para 113 that "...To minimise the impact of closures or diversions, night working could be employed." Accordingly it is clear that night time working could be used for either open cut trenching or trenchless crossings in equal measure, there is no difference. The Outline Traffic Management Plan is clearly at variance with the clarification note on Trenchless Crossings, they cannot both be right. We are of the view that it is the applicants trenchless crossing clarification note that gives a false impression.

<u>The applicants</u> - State that for "technical reasons", night time working may be necessary with trenchless crossing but give no such indication for open cut trenching.

<u>In response</u> - The applicants do not provide any indication as what those "technical" reasons may be. It is equally clear from the Outline Traffic Management Plan that "technical" reasons could require night time working with both methods.

The proposal for the B1149 will require a deep excavation and the provision of a new diversion lane. For these reasons, open cut trenching for this specific proposal will require traffic lights to be fully operational 24 hours per day, 7 days per week. In sharp contrast to trenchless crossing, which may or may not have a night time impact - the applicants proposal for open cut trenching to the B1149 **will** cause disruption throughout the entire working period both day and night.

Given the status of the B1149 as a "band 4" traffic sensitive street, the traffic lights will also need to be under manual control at peak times.

Works footprint

<u>The applicants indicate</u> - Additional temporary land requirements for laydown areas and facilities will be required for trenchless crossings.

<u>In response</u> - The Outline Traffic Management Plan clearly indicates at para 45 that open cut trenching also requires a running track to deliver equipment to the installation site from mobilisation areas and will also require separate storage areas for topsoil and subsoil.

Open cut trenching for this specific proposal to the B1149 will not only require the road to be dug up but also requires the highway verges and adjacent hedges (together with any trees) to be dug up and removed to accommodate a diversion lane (see area shaded pink on drawing numbers TP-PB4476-DR033 and TP-PB4476-DR036 attached to the applicants clarification note).

Timescale

<u>The applicants state</u> - Open cut trenching is **typically** likely to be completed in days, but trenchless crossing will take up to 6 weeks as there is a requirement to "...conduct the crossing, allowing for setup of temporary areas and additional equipment, period of drilling and subsequent demobilisation and removal of equipment and materials".

<u>In response</u> - The whole point of the County Councils concern is that this is **not** a typical crossing. We have not objected to other "-class" Broads along the cable route being crossed by open cut trenching but we do have concerns with the **specific** proposal to the B1149.

This specific proposal requires:-

- Installation of traffic lights
- Creation of storage areas for the materials excavated from the verges to be kept.
- Excavation and removal of the existing verges and hedges.
- Construction of a new diversion lane over the former verge including the importation of raw materials.
- New road marking to be painted on the carriageway surface
- Saw cut and remove one side of the existing carriageway with removal of materials from site.
- Import new granular back-fill material to infill the excavation.
- Reinstate the original road.
- Remove and dispose of the temporary running surface material from the diversion lane
- Relocate the traffic signals and signs.
- Repeat the whole process all over again on the opposite side of the road.
- Reinstate the verges and plant new hedges.
- Demobilisation

The disruption to road users will be significant and last for weeks.

Materials and Transport

<u>The applicants state</u> - Negligible additional materials will be required for open cut trenching compared to trenchless crossing in agricultural land, with exception to some minor traffic management and resurfacing materials, **however this is offset by no running track material requirements**.

<u>In response</u> - this proposal does not simply involve negligible resurfacing of the existing road but:-

- Requires the highway verges and adjacent hedges and part of the field to be dug up and removed to accommodate a diversion lane. (see area shaded pink on drawing numbers TP-PB4476-DR033 and TP-PB4476-DR036 attached to the applicants clarifiacation note).
- Importing new raw materials to construct the diversion lane.
- Importation of granular back-fill for the deep excavation.
- The Outline Traffic Management Plan clearly indicates at para 45 that open cut trenching **would require a running track** to deliver equipment to the installation site from mobilisation areas and will require separate storage areas for topsoil and subsoil.

<u>The applicants state</u> - state that approximately 8 HGV deliveries will be required per notional 15m highways open cut trenched crossing.

<u>In response</u> - The applicants do not give a total number of movements or the calculation of how many m2 of excavation there will be, but simply say 8 movements per 15m2 of excavation. One thing is clear, there will be a lot more than 15m2 of excavation to construct the new diversion lanes and a lot more than 8 movements.

<u>The applicants state</u> - With reference to Appendix 24.20 [APP-635], worst case additional deliveries of 450 HGVs per trenchless crossing.

<u>In response</u> - This is not a **typical** crossing and it is very clear the applicants have not taken into account the movements associated with the construction of the new diversion lane attributable to this specific proposal and the calculations to show how the 450 movements have been derived are not substantive.

Equipment / plant and associated noise levels

The assessment of noise falls outside our remit and accordingly it is not an issue for the Highway Authority to assess. However we would like to make the following comments:-

- As with working hours mentioned above the applicants Outline Traffic Management Plan for open cut trenching states at para 113 that "To minimise the impact of closures or diversions, night working could be employed. Accordingly it is clear that night time working **could** be used for either open cut trenching or trenchless crossings, there is no difference.
- In contrast, open cut trenching at this specific location will require traffic signals 24 hours per day, 7 days per week with vehicles stopping and starting at the traffic signals together with associated noise.

In summary, we are having difficulty reconciling the applicants claim that their proposal for open cut trenching is based on a "...thorough investigation and assessments relating to environmental considerations" as claimed within their clarification note.

In addition, we do not understand the applicants statement within their EIA that they will use "...trenchless crossing techniques at key sensitive environmental features, including but not limited to; waterways, protected wildlife sites, woodlands, long distance cycle route/footpaths, and major transport corridors **to avoid significant environmental disturbance**" and yet they are now saying that trenchless crossing (rather than open cut trenching) would actually cause significant environmental disturbance!

3. Considerations for the Proposed Open Cut Method at the B1149

Road Network Disruption Review

We agree with the applicants that "...open cut trenching for the B1149 project would need to 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').

Traffic Flow Data

We have no issue with the traffic flow data.

Network Disruption Conclusion

We disagree with the applicants claim that these works are capable of being undertaken outside of the periods of 7:30am to 9am and 4pm to 7pm with the road being open to two-way traffic thereafter.

Department for Transport Chapter 8 states that if it is not possible to maintain adequate sideways clearance for 2 way traffic to be facilitated, then the carriageway must be reduced to single carriageway width and traffic management deployed. Given the use of the B1149 by HGV's; PSV's etc, the width required is 6.75m to maintain 2 way traffic. The width cannot be maintained and accordingly traffic lights will be required throughout the entire working period, both day and night.

Irrespective of the above, this project involves a deep excavation and the construction of a new diversion lane. The scale and nature of the works is such that it would not be feasible to open the road to two way running during construction. This proposal will require traffic lights to be fully operational 24 hours per day, 7 days per week. Even if it were possible for the applicants to open the road to two way running each day (which it isn't) it would simply extend the timescale and cause additional disruption to highway use for a longer period. The disruption will already last weeks and not days as indicated by the applicants.

Given the status of the road as a "band 4" traffic sensitive street, the traffic lights will need to be under manual control at peak times.

Long-Term Maintenance Liability Review

The issue of long term maintenance liability remains a concern, particularly given the potential for other future large scale projects and their associated HGV load movements. Rural road structure can vary greatly and with an increasing volume of base level traffic, notwithstanding the additional loading from these HGV movements. Any weakening of the surface construction derived from breaking open the bound and subgrade layers will

greatly increase the risk of carriageway failure in years to come when it has reverted to local authority responsibility.

Cumulative Traffic Management

The County Council agrees the proposed diversion lane is technically feasible, but the solution offered for the B1149 is not a typical open cut trench and the applicants claim under their heading of timescale that this can all be provided and completed in days is not realistic.

The scale and nature of the works is such that this proposal will require traffic lights to be fully operational 24 hours per day, 7 days per week. In addition, the disruption will last weeks and not days as indicated by the applicants.

Given the status of the road as a "band 4" traffic sensitive street, the traffic lights will need to be under manual control at peak times.

Conclusions

We do not agree with the applicants conclusions.

The County Council is of the opinion that an open cut method of duct installation at this specific point on the B1149, whilst not impossible, is impractical. We still wish to see a trenchless method used similar to that at other points on this cable route.

The road width and scale of the works is such that traffic signal control would be necessary 24 hours per day, 7 days per week. This would need manual control consideration at peak traffic times due to the roads' Traffic Sensitive designation (Band 4 0730 – 0900 and 1600 – 1900). The crossing point whilst having reasonable forward visibility would benefit from additional signage to alert approaching traffic particularly from the north approach. This traffic management would need to be in place for the full duration of the crossing works on a 24/7 basis. Trenchless methods require no carriageway incursion of works or traffic management.

To enable an open cut method would require extensive temporary carriageway widening to give adequate sideways clearance to permit through traffic whilst the road was crossed half at a time. This widening would involve the removal of mature hedgerow, and the construction of a suitable running lane in virgin verge. The nature of the verge and traffic levels at this point requires a full depth construction to enable adequate lateral restraint. We fully understand that Norfolk County Councils laboratory has provided a suitable construction specification. Construction would involve the importion of much aggregate and bituminous bound material to a rural environment, only for it to be removed again once the crossing was completed. This is not environmentally sound practice and goes against the applicants very reasons (environmental) for using this crossing methodology.

The issue of long term maintenance liability is also a concern, particularly given the potential for other future large scale projects and their associated HGV load movements. Rural road structure can vary greatly, and with an increasing volume of base level traffic, notwithstanding the additional loading from these HGV movements any weakening of the surface construction derived from breaking open the bound and subgrade layers will greatly increase the risk of carriageway failure in years to come when it has reverted to local authority responsibility.

We remain firmly of the view that trenchless crossing methods need to be employed for this crossing.

We have not undertaken any assessment in relation to the acceptability of removing the hedgerow and/or trees as required for the construction of the proposed diversion lane as this falls outside our remit and rests with Broadland District Council.

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

We understand this is an issue that has been raised by North Norfolk District Council.

Whilst the County Council has not insisted on trenchless crossing for this particular road, we would have no objection to the use of this method.

Yours sincerely



Senior Engineer - Highways Development Manager for Executive Director for Community and Environmental Services





Norfolk Boreas Offshore Wind Farm Clarification Note Trenchless Crossings B1149 and Church Road, Colby

Applicant: Norfolk Boreas Limited Document Reference: ExA.AS-3.D4.V1 Deadline 4

Date: January 2020 Revision: Version 1 Author: Royal HaskoningDHV

Photo: Ormonde Offshore Wind Farm





Date	lssue No.	Remarks / Reason for Issue	Author	Checked	Approved
28/01/2020	01D	First draft for Internal Review	AH/RE/AR	CD/VR	JL
30/01/2020	01F	Final for Deadline 4 submission	AH/RE/AR	CD	JL







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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
Μ	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

- 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 Comparison of open cut trenching and trenchless crossing of highways
- 2. 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.
- 3. Crossing of highways for duct installation is required only in Scenario 2.
- 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.

Parameter	Open Cut Trench Crossing	Trenchless Crossing
Impacts to road users	Temporary (typically less than 1 week) impacts to road users which may include traffic management measures such as single lane closure or road closure or diversion.	No direct impacts to road users
Working hours	Consented 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 construction hours: 07.00 – 19.00 Monday to Friday 07.00 – 13.00 Saturday Trenchless crossings may require works to extend outside of the consented hours (for technical reasons following commencement of drilling), i.e. works may extend into the evening or night time. Should works be required to extend beyond the consented hours then prior approval would be required from the relevant planning authority as set out in Requirement 26.
Works footprint	No additional land requirements. All works are conducted within the cable route working width using the same or similar equipment and contractors as open cut trenching in agricultural land.	Additional temporary land requirements for laydown areas and facilities associated with additional trenchless crossing equipment and contractors, up to: 5,000m ² drill reception site 7,500m ² drill launch site
Timescale	Typically less than 1 week to conduct the crossing, likely to be completed in days.	Up to 6 weeks to conduct the crossing, allowing for setup of temporary areas and additional equipment, period of drilling and subsequent demobilisation and removal of equipment and materials.

Table 2.1 Comparison of open cut trench and trenchless crossing methods





Enhancing Society	Together									
Parameter	Open Cut Tre	nch Crossiı	ng		Trenchless Cross	sing				
Materials and Transport Equipment / plant and associated noise levels	Negligible add delivered com agricultural la minor traffic r materials, how running track With reference approximatel 15m highway Negligible add trench crossin trenching in a Noise levels p equipment.	ditional ma npared to c ind, with ex manageme wever this material re ce to Apper y 8 HGV de s open cut ditional equ ng compare gricultural	terials required t open cut trenchin acception to some nt and resurfacin is offset by no equirements. ndix 24.20 [APP-6 liveries per notio trenched crossin uipment for oper ed to open cut land. r associated	Significant additional materials and associated traffic movements to establish and remove additional temporary works areas and drilling equipment to the location. With reference to Appendix 24.20 [APP-635], worst case additional deliveries of 450 HGVs per trenchless crossing. Additional equipment for trenchless crossings required with associated noise. Noise levels provided for associated equipment.						
					Trenchless cross	sing (daytime	e)			
	Duct installat Name	LwA	ne) On time		Name	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 Pump	93	75%		Mobile Crane	106	25%			
	Dump	115	15km/h		Mixer	103	25%			
	Lorry	108	15km/h		Concrete Pump	108	25%			
	Evening / nig	ht-time ac	tivities		Piling	118	10%			
	None				Drilling Rig	105	75%			
					Water Pump	93	75%			
					Generator	105	100%			
					Trenchless cross	sing (evening	/ night-time)			
				Name	LwA dB(A)*	On time Correction**				
				Backhoe Loader	96	50%				
				Dumper	101	50%				
				Drilling Rig	105	75%				



Parameter	Open Cut Trench Crossing	Trench	renchless Crossing								
		Wate	r Pump	93	75%						
		Gene	rator	105	100%						
* A-weighte	d sound power level in decibels										

** Percentage of assessment period that plant is expected to be in operation

- 5. 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.
- 6. 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) and additional impacts associated with trenchless crossing methods (e.g. additional equipment, materials, temporary land, HGV deliveries etc.) are fully mitigated.
- 7. 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

8. 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

9. The principal guidance for temporary traffic management situations in the UK is Chapter 8 of the Traffic Signs Manual (Department for Transport, 2009¹) ('Chapter

/ATTENFALI

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





8'). Chapter 8 gives detailed specification for roadworks for a wide range of traffic situations.

10. 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)

11. 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

- 12. 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.
- 13. A review of the surveyed traffic data identifies network peak hours of 7:30am to 8:30am and 4:30pm to 5:30pm.
- 14. 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 Programme (TEMPro2) Version 7.2 with data set 72 for the Broadland (B1149) geographical area.
- 15. To account for daily fluctuations in traffic flows a 10% (-5%/+5%) daily fluctuation factor has been applied to the 2023 forecast flows.
- 16. 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.





17. The final 2023 forecast flows presented in Table 3.1 are considered to be the maximum worst case flows that the B1149 would experience during open cut trenching.

Time Periods		Surveyed Flows	TEMPro Growth Factors	2023 Daily Forecast	20 Fore Da	23 ecast ailv	Norfolk B 2023 Da Developi	oreas aily ment	Hornsea Pr Daily Develop	Total 2023 Daily Forecast Flows with		
				Flows	Fluctu	ations	Flow	s	Flow	Developments		
					Min	Max	Employee	HGVs	Employee	HGVs	Total Vehicles	
					(-5%)	(-5%)	Vehicles		Vehicles			
B1149												
24hr	24hrs	5,645	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	605 87 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	dv Traffic									

Table 3.1 Traffic Flow Data (two-way flows)

3.1.2 Network Disruption Conclusion

- 18. 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.
- 19. 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.
- 20. 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

- 21. Norfolk County Council's concern was that the trench reinstatement would become a long term maintenance liability (after the mandatory 3 year maintenance period).
- 22. 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.

- 23. 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.
- 24. 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 will be secured in an update to the Outline Traffic Management Plan to be submitted at Deadline 5.

3.3 Cumulative Traffic Management

- 25. 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
 - 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.
- 26. Appendix 3 sets out the proposed one-way traffic management concept design for the B1149 (to be included in the updated Outline Traffic Management Plan to be submitted at Deadline 5). 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.





- 27. 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
- 28. It is concluded that the specific cumulative traffic concerns have been designed out at the B1149 crossing.

3.4 Conclusion

- 29. 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.
- Conversely, the use of a trenchless crossing method would introduce alternate impacts, including up to 450 additional HGV deliveries to support the method, extended installation timescales and the requirement for additional temporary land.
- 31. It should be noted that there are currently no temporary works areas in proximity to the B1149. As such it would not be possible to undertake a trenchless crossing in this location without additional land outside of the current Order limits. However, 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

- 32. 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 poorer condition 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 significant effect would occur in relation to the removal of trees owing to their good condition and that direct replacement planting would not possible.
- 33. 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

- 34. 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.
- 35. 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

- 36. 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.
- 37. Appendix 4 details the general arrangement of the proposed access (AC58) and for context, Appendix 5 details the access layout overlaid on aerial photography.
- 38. 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.
- 39. 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

- 40. 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.
- 41. 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

- 42. 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.
- 43. Furthermore, HGV movements for trenchless crossing techniques will introduce disruption to the travelling public for a period of up to six weeks.
- 44. 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 trees as close as practicable to the location where they were removed, outside of the permanent operational easement and subject to landowner agreements [OLEMS, Version 2, REP1-020]. 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.

VATTENFALL



Norfolk Boreas Offshore Wind Farm Appendix 1 – B1149 Automatic Traffic Counters Data

Applicant: Norfolk Boreas Limited Document Reference: ExA.AS-3.D4.V1 Deadline 4 Date: January 2020 Revision: Version 1

Photo: Ormonde Offshore Wind Farm

Site Location Direction		7 Holt Roo Two wa 19 April 20	ad, Att - S ly 017	Signpost,	OSGR: TO	G 14536	25672												Automo	/ 7346 Ap Itic Traffic	7346 / Norfolk April 2017 lic Traffic Count		
Time	Total	1 MCL	2 SV	3 SVT	4 TB2	5 TB3	Classifi 6 T4	cation 7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT	>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85		
0000	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57.8	-		
0030	5	1	4	0	0	0	0	0	0	0	0	0	0	1	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	1	20	1	20	1	20	42.9 49.6	-		
0145	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	-	-		
0230	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	47.2	-		
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40.4	-		
0315 0330	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.3 33.2	-		
0345	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.8	-		
0400	4	1	3	0	0	0	0	0	0	0	0	0	0	1	25	1	25	1	25	39 58.5	-		
0430	2	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	38.1	-		
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 8.3	0	0	0	0	51.8 49.6	58.4		
0545	27	0	22	0	2	0	0	0	1	0	2	0	0	6	22.2	1	3.7	0	0	50.9	60.6		
0600	25 42	0	16 35	0	2 3	0	2	0	2	2	2	0	0	5	20 9.5	0	4	0	0	51.4 50.8	60.8 56.1		
0630	55	0	47	0	7	0	1	0	0	0	0	0	0	5	9.1	0	0	0	0	52.9	57.3		
0645	106	0	95	3	3	1	0	0	0	0	3	0	0	8 9	8.5	1	0.9	0	0	48.3	57.9		
0715	125	0	103	1	17	0	0	0	1	1	2	0	0	8	6.4	0	0	0	0	49.6	56.1		
0745	110	0	97	0	6	1	1	0	1	1	2	0	1	4	3.6	1	0.9	0	0	49.1	55.5		
0800	112 139	2	100	2	5 15	0	1 0	0	1	0	1	0	0	7	6.3 2.2	0	0	0	0	49.6 46.4	57 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	68	1	56	1	6	0	1	0	0	1	2	0	0	2	2.9	0	0	0	0	47.4 48.7	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		
0945	92	1	78	1	7	0	2	0	2	1	0	0	0	1	1.1	0	0	0	0	44.5	51.2		
1000	100	1	84 73	1	12	0	0	0	0	1	1	0	0	3	3	0	0	0	0	44.6 44	49.9		
1030	101	0	86	1	9	1	1	0	1	1	1	0	0	3	3	2	2	2	2	44	52.1		
1045	82	0	97 71	0	10	0	2	0	2	0	0	0	0	0	0	0	0	0	0	44.5 45.6	50.1 52.1		
1115	95	2	79	0	9	1	0	0	2	0	2	0	0	2	2.1	0	0	0	0	44.5	53.2		
1130	81	0	68	3	8	0	2	0	0	0	0	0	0	4	4.9	1	1.2	0	0	44.0	49.7		
1200	79	3	58 77	1	11	1	2	0	1	0	2	0	0	1	1.3	0	0	0	0	42.8	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	88 98	0	79	1	4	2	0	0	2	2	1	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		
1345	74	1	60	2	7	1	1	1	0	0	1	0	0	2	2.7	0	0	0	0	46.2	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 45	52.1		
1430	86	3	71	1	9	0	1	0	1	0	0	0	0	9	10.5	1	1.2	0	0	46.9	54.8		
1445	92 77	0	76	3	8	1	0	0	1	2	1	0	0	0	0	0	0	0	0	43.2 46.4	49.4 53		
1515	99	0	86	1	9	1	1	0	1	0	0	0	0	5	5.1	0	0	0	0	47	54.6		
1530	115	0	93	0	9	0	0	0	0	1	0	0	0	2	2.6	1	0.9	0	0	44.5 46.3	50.6		
1600	115	1	99	1	12	0	0	0	1	0	1	0	0	2	1.7	0	0	0	0	46.5	53.5		
1615	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	0	131 122	2	13	0	0	0	0	0	0	0	0	4	2.7	0	0	0	0	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	125	0	115	1	8	0	1	0	0	0	1	0	0	5	4	0	0	0	0	48.4 45.4	53		
1800	118	0	91	1	6	0	0	0	0	0	0	0	0	10	8.5	5	4.2	2	1.7	48.6	54.1		
1830	92	0	89	0	2	0	0	0	0	0	1	0	0	7	7.6	0	0	0	0	49.3	57.7		
1845	68 55	1	62 53	1	3	0	1	0	0	0	0	0	0	9 7	13.2	0	0	0	0	47.5	55.9 59.1		
1915	62	2	58	0	2	0	0	0	0	0	0	0	0	7	11.3	1	1.6	1	1.6	47.2	56.6		
1930	35	0	34 31	0	0	0	0	0	0	0	0	0	0	3	8.6	0	0	0	0	50.8 52.2	57.7 57.7		
2000	25	0	21	0	3	0	0	0	1	0	0	0	0	4	16	1	4	0	0	53	58.6		
2015	25	0	24	0	1	0	0	0	0	0	0	0	0	4	4	1	4	1	4	40.1 50.9	55.9		
2045	29	1	26	0	2	0	0	0	0	0	0	0	0	4	13.8	0	0	0	0	50.9 48.4	59.7		
2115	20	0	19	0	1	0	0	0	0	0	0	0	Ő	5	25	0	0	0	Ő	52.3	62.4		
2130 2145	31	0	29 17	1	1 2	0	0	0	0	0	0	0	0	7	22.6 15.8	2	6.5 0	2	6.5 0	50.6 49.3	60.2 58.4		
2200	26	0	25	0	1	0	0	0	0	0	0	0	0	2	7.7	2	7.7	1	3.8	48.2	52.3		
2215 2230	32	0	30 27	0	3	0	0	0	0	0	0	0	0	3	9.4 3.3	0	0	0	0	49.7 48.3	53.9 54.1		
2245	14	1	12	0	1	0	0	0	0	0	0	0	0	2	14.3	0	0	0	0	50.6	59.1		
2300	6	0	5	0	1	0	0	0	0	0	0	0	0	2	18.2	1	9.1 16.7	1	16.7	53.3 51.4	- 5/		
2330	10	1	8	0	0	0	0	0	0	1	0	0	0	1	10	1	10	1	10	51.5	-		
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	5566	49	4848	79 80	424 431	20	30 30	2	34	24	54 54	1	1	244	4.4	33	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	1	272	4.7	42	0.7	17	0.3	47.1	54.4		

Timo	Total	20 April 20	017				Classifi	cation						NPS1	>PSI 97	5911	5117	5812	512%	Mogn	Vpp
nine	Total	1	2	3	4	5		7	8	•	10	11	12	×F3L	×F3L/0	~3L1 68	×3L1 /0	~3LZ 75	75	Mean	85 85
		MCL	sv	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT			ACPO	ACPO	DfT	DfT		00
0000	4	0	3	0	0	0	0	0	0	1	0	0	0	1	25	1	25	0	0	50.3	
0015	3	0	3	0	0	0	0	0	0	0	0	0	0	2	66.7	2	66.7	2	66.7	69.5	-
0030	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49.1	-
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	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55.7	
0230	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.8	-
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
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	-
0530	16	0	13	0	3	0	0	0	1	0	0	0	0	5	31.3	2	12.5	0	0	56	65.5
0545	16	0	16	0	0	0	0	0	0	0	0	0	0	5	31.3	1	6.3	1	6.3	56.7	62
0600	26	0	20	0	2	0	2	0	0	0	2	0	0	4	15.4	1	3.8	1	3.8	44	58.6
0615	43	0	36	0	6	0	0	0	1	0	0	0	0	8	18.6	2	4.7	0	0	53.8	62.4
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	120	0	133	4	13	0	2	0	1	0	5	0	0	6 9	4 7.5	2	0.7	1	0.8	45.6	55.7
0800	124	3	103	0	11	1	1	0	2	1	2	0	0	5	4	0	0	0	0	44.7	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
0845	104	0	93	3	9	1	0	0	1	2	2	0	0	4	3.6	0	0.9	0	0	45.6	54.6 50.4
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	87	1	74	2	6	1	2	0	1	0	0	0	0	7	8	0	0	0	0	47.5	56.4
1000	84	0	74	0	4	1	1	0	0	4	0	0	0	2	2.4	0	0	0	0	44.0	51.2
1015	84	1	69	0	10	0	1	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	/5	0	9	2	2	0	1	0	2	0	0	0	1.1	0	0	0	0	43.6	50.3 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	76	1	70	0	1	1	2	0	1	0	0	0	0	2	2.6	0	0	0	0	46.3	54.1
1145	82	0	74	1	5	0	0	0	0	0	2	0	0	1	1.2	0	0	0	0	43.8	51
1200	87	0	79	1	4	1	0	0	0	0	2	0	0	4	4.6	1	1.1	1	1.1	43.6	40.5
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	67	3	5	2	1	0	2	0	1	0	0	3	3.3	0	0	0	0	46.4	53 49.7
1330	81	1	67	0	8	3	0	0	1	1	0	0	0	1	1.2	0	0	0	0	44.7	51.9
1345	90	0	74	0	12	0	1	0	1	0	2	0	0	2	2.2	0	0	0	0	45.6	49.9
1400	84 93	0	64	0	2	2	2	0	0	0	3	0	0	4	4.8	0	1.2	0	0	45.2	52.8
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
1530	94	0	88	0	3	1	0	0	1	0	1	0	0	4 4	4.3	1	1.1	0	0.7	47.4	54.8
1545	93	0	81	2	7	1	1	0	0	1	0	0	0	4	4.3	1	1.1	0	0	46.4	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
1630	125	1	106	2	12	0	0	0	0	2	1	0	0	4	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	134	1	123	0	7	0	1	0	1	0	1	0	0	3	2.2	0	0	0	0	43.2	50.1
1715	168	2	152	1	3	0	0	0	0	0	0	0	0	5 10	3 7.6	3	2.3	2	1.5	48.1 47.5	56.1
1745	90	1	83	2	4	0	0	0	0	Ő	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	0	0	0	0	0	0	0	0	8	8.2 5.7	0	0	0	0	48.8 46.8	55.3
1845	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	0	63	3	2	0	0	0	0	0	1	0	0	3	4.3	1	1.4	1	1.4	48.1	54.1
1915	59	1	57	0	1	0	0	0	0	0	0	0	0	6 8	10.2	0	0	0	0	52.2	57
1945	25	0	25	0	0	0	0	0	0	0	0	0	0	0 4	16	2	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	0	1	0	0	0	0	0	0	0	0	3	17.9	0	3.6	0	3.6	47.5	59.7
2100	26	Ő	26	0	0	0	0	Ő	0	Ő	0	0	0	2	7.7	1	3.8	Ő	0	52.5	55.7
2115	25	0	25	0	0	0	0	0	0	0	0	0	0	5	20	1	4	1	4	52.9	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 48.1	57
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	9	0	0	0	0	0	0	0	0	0	0	2	16.7	2	U 16.7	1	U 8.3	47.6	52.6
2315	6	Ő	6	0	0	0	0	Ő	0	Ő	0	Ő	0	1	16.7	0	0	0	0	48.4	-
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 4845	0	5	0	0	0	0	0	0	0	0	0	0	152	20	0	0	0	02	52.2	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

Timo	Total	21 April 20	017				Classifi	cation						NPS1	>PSI 97	5911	581197	2012	512%	Mogn	Vpp
mine	Toral	1	2	3	4	5	6	7	8	9	10	11	12	60	60	68	68	75	75	mean	85
		MCL	sv	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT			ACPO	ACPO	DfT	DfT		
0000	7	0	7	0	0	0	0	0	0	0	0	0	0	3	42.9	2	28.6	0	0	55.1	-
0015	3	0	3	0	0	0	0	0	0	0	0	0	0	2	66.7	2	66.7	1	33.3	62.3	-
0030	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45.7	-
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	-
0200	2	0	2	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	50	59.1 43.9	-
0215	1	0	1	0	0	0	0	0	0	0	0	0	0	1	100	0	0	0	0	67	-
0230	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42.6	-
0245	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59.9	-
0300	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	4	0	4	0	0	0	0	0	0	0	0	0	0	1	25	0	0	0	0	55.9	-
0400	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.5	-
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	-
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	17	0	13	0	2	0	0	0	0	1	1	0	0	7	41.2	0	0	0	0	56.3	62.2
0600	27	0	19	0	1	0	3	0	1	0	3	0	0	2	7.4	0	0	0	0	48.3	56.8
0610	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
0/15	117	0	98	4	12	0	0	0	2	1	2	0	0	2	6.8	3	2.6	0	0	48.1 45.7	55.7 52.8
0745	121	1	102	3	8	2	1	1	1	0	1	1	0	2	1.7	0	0	0	0	45.5	53.2
0800	112	2	85	5	13	2	3	0	1	0	1	0	0	3	2.7	1	0.9	0	0	45.4	52.3
0815	140	2	118	5	13	0	0	0	0	0	1	0	1	4	1.4 3.5	0	1.4 0	0	0	45.3 45.5	52.1 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
0930	93	0	86 79	1	15	0	2	0	2	0	3	0	0	1	0	0	0	0	0	45.2 45	50.8 52.1
0945	119	0	101	2	7	3	3	0	0	1	1	1	0	0	0	0	0	0	0	43	48.8
1000	93	0	73	2	13	0	1	0	0	2	2	0	0	0	0	0	0	0	0	45.6	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
1045	97	0	80	2	9	0	1	0	1	0	4	0	0	0	0.7	0	0	0	0	43.3	47.4
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	93	0	74	1	8	2	2	0	1	2	0	0	0	2	2.2	0	0	0	0	38./	48.8
1200	84	1	71	4	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	46.6	52.6
1215	89	0	75	0	7	2	1	0	0	1	2	0	1	3	3.4	1	1.1	0	0	46.3	52.3
1230	88	0	90	1	7	0	1	0	0	0	0	0	0	1	11	0	0	0	0	44.4	49.2
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	82	0	71	1	/	0	1	0	2	0	0	0	0	2	2.4	0	0	0	0	45.I 45.8	50.3
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	109	0	95 89	3	6	0	2	0	2	1	4	0	0	6	5.5	0	0.9	0	0	45.9	53.5 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	102	1	93	1	6	0	0	0	0	1	0	0	0	4	3.9	1	1	0	0	47.6	51.9
1530	103	1	/9 98	6	15	0	2	0	0	0	0	0	0	2	1.9	0	0	1	0	46.9	53.5
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	0	133	2	11	1	0	0	0	1	0	0	0	3	2 2 5	0	0.7	0	0	47.9 44.4	54.4 52.4
1700	141	2	129	1	9	0	0	0	0	0	0	0	0	5	3.5	2	1.4	0	0	48.2	54.8
1715	142	2	131	1	8	0	0	0	0	0	0	0	0	6	4.2	3	2.1	1	0.7	48.6	53
1730	148	1	141	1	5	0	0	0	0	0	0	0	0	10	6.8	4	2.7	0	0	47.9 48.5	53.2 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 79	0	1	0	0	0	0	0	0	0	0	3	3.3	0	0	0	0	43.1	51.9
1900	51	0	48	1	1	0	0	0	0	1	0	0	0	7	13.7	1	2	0	0	49.6	59.3
1915	54	0	51	1	2	0	0	0	0	0	0	0	0	4	7.4	1	1.9	1	1.9	48	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
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	26	0	25	0	0	0	0	0	0	0	0	0	0	4	3.d 15.4	0	0.0	0	0	51.2	58.2
2115	20	0	19	0	1	0	0	0	0	0	0	0	0	3	15	1	5	0	0	51.4	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	0	5	0	0	51 47 4	59.5 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	0	0	0	0	0	0	0	0	0	0	2	10	0	0	0	0	47	54.4 56.4
2315	12	0	12	0	0	0	0	0	0	0	0	0	0	1	8.3	0	0	0	0	52.9	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 07-19	6 5107	0	6	0	0	0	0	0	0	0	0	2	0	2	33.3	0	0	0	0	58.7 45 7	52 4
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

Timo	Total	22 April 2	017				Classifi	cation						NPSI	>PSI %	SSI1	5117	2012	551297	Mogn	Vnn
inne	Total	1	2	3	4	5	6		8	9	10	11	12	60	60	68	68	75	75	Medi	*pp 85
		MCL	sv	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT			ACPO	ACPO	DfT	DfT		
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	8	0	7	0	0	0	0	0	0	0	1	0	0	1	12.5	1	12.5	0	0	49.7	-
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	2	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	4	0	4	0	0	0	0	0	0	0	0	0	0	0	25	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	-
0415	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 58.2	-
0515	4	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	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 22.2	2	22.2	2	22.2	59.5 47.3	-
0615	23	0	14	0	4	0	2	0	3	0	0	0	0	2	8.7	1	4.3	0	0	53.4	58.4
0630	25	0	24	0	1	0	0	0	0	0	0	0	0	7	28	1	4	0	0	54.4	61.5
0700	28	0	12	1	1 5	0	0	0	0	0	1	0	0	2	12.5	0	0	0	0	51.3 46.1	57.9
0715	35	1	26	1	3	0	1	0	0	2	1	0	0	5	14.3	0	0	0	0	48.8	59.5
0730	55	0	51	2	1	0	0	0	0	0	1	0	0	4	7.3	0	0	0	0	48.7	56.1
0745	40	0	51	2	6	0	0	0	0	0	1	0	0	3	5	0	0	0	0	49.3	57.9
0815	57	0	51	0	4	0	1	0	0	0	1	0	0	2	3.5	0	0	0	0	47.7	54.6
0830	60 54	1	51	3	2	0	0	0	1	1	1	0	0	4	6.7	0	0	0	0	45.5 18	54.6
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	71	0	60	1	8	0	0	0	2	0	0	0	0	1	1.4	0	0	0	0	45.8	52.1
0930	90 79	0	71	1	3	0	0	0	0	0	1	0	0	5	3.3 6.3	1	1.3	0	0	49.1	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	102	2	92	1	5	0	0	0	0	0	2	0	0	1	1	0	0	0	0	42.4 44.8	40.0 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	92	2	85	1	9	1	1	0	1	0	0	0	0	2	2	2	1	0	0	45.4 47.3	52.8 54.8
1145	105	0	94	3	5	0	2	0	1	0	0	0	0	1	1	0	0	0	0	45	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	85	0	78	1	5	0	1	0	0	0	0	0	0	4 5	4.5	0	0	0	0	45.7	52.6
1245	105	0	99	0	3	0	1	0	1	1	0	0	0	2	1.9	0	0	0	0	45.2	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
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	82	1	77	0	2	0	0	0	0	0	1	0	1	8	9.8	1	1.2	0	0	47.1	52.8
1400	92	2	6/ 83	1	6	0	0	0	0	0	1	0	0	2	9.7	0	0	0	0	47.9	56.1
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	3	98	3	3	0	0	0	0	1	0	0	0	2	1.9	0	0	0	0	44.6	51.7
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	88	0	85	0 1	2	0	0	0	0	0	0	0	0	2	1.7	0	0	0	0	46.2 46.5	52.8
1615	100	3	94	2	1	0	0	0	0	0	0	0	0	5	5	1	1	0	0	47.3	53
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	79	1	76	1	3	0	0	0	0	1	0	0	0	5	5 6.3	0	0	0	0	45.5 48.8	აა./ 56.6
1715	99	2	92	0	5	0	0	0	0	0	0	0	0	5	5.1	0	0	0	0	46.6	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 53.5
1800	68	1	64	0	3	0	0	0	0	0	0	0	0	5	7.4	4	5.9	0	0	49.7	55.9
1815	63	0	59	0	3	0	0	0	0	0	1	0	0	6	9.5	0	0	0	0	50.3	58.4
1830	6U 39	2	56 37	0	2	0	0	0	0	0	0	0	0	5	8.3	2	3.3	0	0	5U.4 49.4	58.6 57.7
1900	45	1	43	Ő	1	Ő	0	0	0	0	Ő	0	Ő	1	2.2	0	Ő	0	0	48.9	54.6
1915	46	1	45	0	0	0	0	0	0	0	0	0	0	5	10.9	0	0	0	0	51.6	55.9
1945	30	0	30	0		0	0	0	0	0	0	0	0	4	13.3	1	3.3	0	0	51.1	59.5
2000	25	0	25	0	0	0	0	0	0	0	0	0	0	3	12	0	0	0	0	48.4	54.4
2015	27	0	26	0	1	0	0	0	0	0	0	0	0	4	14.8	2	7.4	0	3.7	51.3 50.3	59.3 57.9
2045	31	Ő	31	0	0	0	0	0	0	0	Ő	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	21	0	20	0	1	0	0	0	0	0	0	0	0	3	14.3	0	0	0	0	47.5 48.7	57.5
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
2213	14	0	14	0	0	0	0	0	0	0	0	0	0	2	14.3	0	0	0	0	-0.3 53.3	59.7
2245	17	0	17	0	0	0	0	0	0	0	0	0	0	2	11.8	1	5.9	0	0	52	55.5
2300	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44.6 46.6	-
2330	17	0	16	0	1	0	0	0	0	0	0	0	0	3	17.6	0	0	0	0	51.6	56.4
2345	15	0	14	0	164	0	0	0	0	0	0	0	0	2	13.3	0	0	0	0	52.3	57
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	50	4199	54	182	4	19	2	12	9	19	0	1	218	4.8	37	0.8	2	0	46.9	54.6
00-00	4047	52	42//	54	175	5	17	3	12	10	20			234	5	40	0.9	4	0.1	4/	34.0

Timo	Total	23 April 2	017				Classifi	cation						NPS1	>PSI 97	SSI1	591197	2012	512%	Mogn	Vnn
inne	Total	1	2	3	4	5	6	7	8	9	10	11	12	60	60	68	68	75	75	Medi	*pp 85
		MCL	sv	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT			ACPO	ACPO	DfT	DfT		
0000	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.1	56.4
0015	11	0	11	0	0	0	0	0	0	0	0	0	0	1	9.1	0	0	0	0	52.6	53.2
0030	13	0	12	0	1	0	0	0	0	0	0	0	0	5	38.5	3	23.1	3	23.1	57.1	76.1
0100	0 2	0	2	0	0	0	0	0	0	0	0	0	0	0	16./	0	0	0	0	48.3	-
0115	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.7	-
0130	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44.3	-
0145	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47.4	-
0200	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.8	-
0230	7	0	6	0	1	0	0	0	0	0	0	0	0	1	14.3	1	14.3	0	0	51.6	-
0245	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57.8	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	1	100	1	100	0	0	70.3	-
0330	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45.5	-
0345	3	0	2	0	1	0	0	0	0	0	0	0	0	2	66.7	1	33.3	1	33.3	63.1	-
0400	3	0	3	0	0	0	0	0	0	0	0	0	0	1	33.3	0	0	0	0	48.8	-
0415	3	0	3	0	0	0	0	0	0	0	0	0	0	0	33.3	0	33.3	0	0	54.I	-
0435	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55.7	-
0500	6	0	3	0	2	0	0	0	0	1	0	0	0	2	33.3	0	0	0	0	50.9	-
0515	1	0	1	0	0	0	0	0	0	0	0	0	0	1	100	1	100	0	0	68.5	-
0545	5	0	5	0	0	0	0	0	0	0	0	0	0	3	60	0	0	0	0	59.4	-
0600	7	1	4	0	2	0	0	0	0	0	0	0	0	2	28.6	0	0	0	0	53	-
0615	6	0	6	0	0	0	0	0	0	0	0	0	0	2	33.3	2	33.3	1	16.7	61.2	-
0630	19	0	17	0	2	0	0	0	0	0	0	0	0	4	21.1	1	5.3	0	0	52.1	62.6
0700	21	1	20	0	0	0	0	0	0	0	0	0	0	4	14.5	1	4.8	0	4.0	49.3	60.4
0715	20	0	19	0	1	0	0	0	0	0	0	0	0	3	15	0	0	0	0	53.2	58.4
0730	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.2	54.1
0/45	21	2	18	0	0	0	0	0	1	0	0	0	0	2	9.5	0	4.8 0	0	4.8 0	48.9 47.9	55.7
0815	44	2	41	0	1	0	0	0	0	0	0	0	0	5	11.4	1	2.3	0	0	51.6	59.5
0830	54	0	53	0	1	0	0	0	0	0	0	0	0	7	13	1	1.9	0	0	49.7	55.5
0845	37	2	31	1	2	0	1	0	0	0	0	0	0	4	10.8	0	0	0	0	49.4	57.3
0900	84	2	75	3	4	0	0	0	0	0	0	0	0	1	10.9	0	0	0	0	47.6	53.9
0930	74	3	70	1	0	0	0	0	0	0	0	0	0	4	5.4	0	0	0	0	47.2	53.9
0945	71	2	69	0	0	0	0	0	0	0	0	0	0	2	2.8	0	0	0	0	48.4	55
1000	76	3	69 80	1	2	1	0	0	0	0	0	0	0	5	6.6	1	1.3	0	0	40.9	54.6 52.3
1010	77	0	70	1	5	0	1	0	0	0	0	0	0	2	2.6	0	0	0	0	46.2	53
1045	93	1	90	0	2	0	0	0	0	0	0	0	0	7	7.5	1	1.1	0	0	45.3	53.9
1100	76	0	73	1	1	0	1	0	0	0	0	0	0	2	2.6	1	1.3	0	0	46.5	52.8
1115	105	4	96	3	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	45.8 44	51.7
1145	80	1	77	1	1	0	0	0	0	0	0	0	0	1	1.3	1	1.3	0	0	45.9	49.9
1200	96	0	96	0	0	0	0	0	0	0	0	0	0	2	2.1	0	0	0	0	44.6	52.1
1215	108	2	102	2	1	0	0	0	0	1	0	0	0	1	0.9	0	0	0	0	44.1	50.1
1230	93	2	89	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44.5	50.3
1300	86	1	78	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	54.1
1315	87	5	78	1	3	0	0	0	0	0	0	0	0	5	5.7	0	0	0	0	47.5	55.9
1330	94	4	87	0	3	0	0	0	0	0	0	0	0	5	5.3	0	0	0	0	43.5	51.2
1400	90	4	84	1	1	0	0	0	0	0	0	0	0	5	5.6	1	1.1	0	0	48.8	55.5
1415	90	0	90	0	0	0	0	0	0	0	0	0	0	8	8.9	0	0	0	0	47.7	55.3
1430	75	2	71	0	2	0	0	0	0	0	0	0	0	2	2.7	2	2.7	1	1.3	46.4	52.1
1445	77	2	76	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46./	50.8
1515	78	1	76	1	0	0	0	0	0	0	0	0	0	3	3.8	0	0	0	0	46.2	53.7
1530	91	3	82	1	5	0	0	0	0	0	0	0	0	4	4.4	0	0	0	0	45.7	51.7
1545	94	0	91	1	2	0	0	0	0	0	0	0	0	2	2.1	0	0	0	0	44.8	52.1
1615	78	0	73	1	4	0	0	0	0	0	0	0	0	2	2.6	1	1.3	0	0	46.7	51.4
1630	100	3	94	0	3	0	0	0	0	0	0	0	0	5	5	3	3	1	1	46.5	53
1645	104	1	95	2	6	0	0	0	0	0	0	0	0	3	2.9	0	0	0	0	47	52.6
1715	74	1	70	0	2	0	0	0	0	0	0	0	0	7	9.5	1	3 1.4	0	0	48.7	56.4
1730	65	3	61	0	1	0	0	0	0	0	0	0	0	11	16.9	3	4.6	1	1.5	51.6	60.6
1745	67	3	64	0	0	0	0	0	0	0	0	0	0	4	6	2	3	0	0	50.3	56.6
1800	53 46	0	50	0	2	0	0	0	0	0	0	0	0	8	10.9	3	5./	1	2.2	50.7	55.5
1830	52	0	49	0	3	0	0	0	0	0	0	0	0	5	9.6	1	1.9	1	1.9	49.9	57.7
1845	42	0	40	2	0	0	0	0	0	0	0	0	0	2	4.8	0	0	0	0	47.6	54.6
1900	42	1	38	1	2	0	0	0	0	0	0	0	0	7	16.7	0	0	0	0	52.9 50.2	59.9
1930	37	0	34	0	1	0	0	0	0	0	0	0	0	5	13.5	1	2.0	1	2.7	51.4	56.6
1945	33	1	31	0	1	0	0	0	0	0	0	0	0	5	15.2	1	3	0	0	52.6	58.4
2000	26	0	26	0	0	0	0	0	0	0	0	0	0	3	11.5	1	3.8	0	0	51.4	56.8
2015	21	0	21	0	0	0	0	0	0	0	0	0	0	0	4.8 0	0	0	0	0	47.2	54.6
2045	23	1	20	0	2	0	0	0	0	0	0	0	0	Ő	0	0	0	0	0	48	53.5
2100	14	0	14	0	0	0	0	0	0	0	0	0	0	2	14.3	0	0	0	0	50.9	56.4
2115	18	0	17	0	1	0	0	0	0	0	0	0	0	4	22.2	1	5.6	0	0	51.8	60.6
2130	12	0	12	0	0	0	0	0	0	0	0	0	0	2	10.7	1	5.3	0	0	47 54.2	58.2
2200	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.3	-
2215	17	0	17	0	0	0	0	0	0	0	0	0	0	2	11.8	1	5.9	0	0	52.3	57.7
2230	6	0	6	0	0	0	0	0	0	0	0	0	0	3	50 33.3	1	16.7	0	0	57 5	-
2300	7	0	7	0	0	0	0	0	0	0	0	0	0	1	14.3	0	0	0	0	52.3	-
2315	5	0	3	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	42.3	-
2330	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.1	-
2345 07-19	3526	73	3325	37	81	2	5	0	2	1	0	0	0	170	4.8	37	1	8	0.2	50.3 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
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

Timo	Total	24 April 20	017				Classifi	cation						NPS1	>PS197	5911	5117	5812	512%	Mogn	Vnn
lime	Tolui	1	2	3	4	5	Clussili A	7	8	•	10	11	12	~F3L	×F3L/0	~3L1 48	×3L1 /0	~3LZ 75	75	Mean	85 85
		MCL	sv	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT			ACPO	ACPO	DfT	DfT		
0000	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.5	-
0015	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45.3	-
0030	5	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45.6	-
0045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4/.3	-
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	-	-
0230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0245	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	-
0300	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	48.5	-
0330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43.2	-
0345	8	0	6	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	48.2	-
0400	4	0	2	0	1	0	0	0	0	0	1	0	0	1	25	1	25	0	0	53.1	-
0415	3	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	44.8	-
0430	6	0	5	0	1	0	0	0	0	0	0	0	0	1	16.7	0	0	0	0	- 52.2	-
0500	10	0	8	0	1	0	0	0	0	1	0	0	0	1	10	0	0	0	0	50.8	-
0515	24	0	23	0	1	0	0	0	0	0	0	0	0	4	16.7	0	0	0	0	52.4	58.6
0530	15	0	14	0	1	0	0	0	0	0	0	0	0	2	13.3	0	0	0	0	52.1	57.7
0600	25	0	16	0	3	0	3	0	1	1	1	0	0	2	8	0	0	0	0	50.4	57.7
0615	36	0	31	0	3	1	0	0	0	0	1	0	0	4	11.1	1	2.8	0	0	52	59.7
0630	66	0	55	0	7	0	3	0	0	0	1	0	0	5	7.6	1	1.5	1	1.5	51.6	58.6
0700	62	0	52	2	5	0	0	0	0	0	3	0	0	6	9.7	0	1.6	0	1.6	5U.1 49	55.9
0715	131	0	113	2	12	0	1	0	0	0	2	0	1	4	3.1	0	0	0	0	46.2	54.4
0730	147	0	123	6	15	0	0	0	2	0	1	0	0	5	3.4	3	2	0	0	47.2	52.8
0745	108	1	90	1	11	2	1	0	1	0	1	0	0	1	0.9	0	0	0	0	41.5	52.3
0800	107	0	88 108	0	11	1	0	0	3	3	1	0	0	1	0.9	1	0.9	0	0	45.3	51.4 49.4
0830	132	2	112	1	9	1	1	0	3	2	1	0	0	1	0.8	1	0.8	0	0	45.5	49.7
0845	97	0	82	0	12	1	1	0	0	0	1	0	0	3	3.1	0	0	0	0	46.4	53
0900	101	0	83	2	9	0	0	1	1	3	2	0	0	4	4	2	2	0	0	44.8	53
0930	81	0	63	0	13	1	2	0	0	0	3	0	0	0	0	0	0	0	0	43.1	50.6
0945	93	0	76	4	11	0	0	0	0	1	1	0	0	0	0	0	0	0	0	44.9	50.1
1000	75	0	68	1	4	0	1	0	0	1	0	0	0	1	1.3	0	0	0	0	43	50.3
1015	67	0	53	0	7	0	3	0	1	1	2	0	0	0	0	0	0	0	0	44.9	53.5
1030	81	2	60	3	5	0	3	0	1	3	1	0	0	2	2.5	0	0	0	0	44.5	48.5
1100	89	0	77	3	5	0	1	1	0	1	1	0	0	1	1.1	0	0	0	0	42.4	49
1115	87	0	69	0	12	1	2	1	1	0	1	0	0	1	1.1	0	0	0	0	46	52.6
1130	77	2	61	1	8	2	0	0	2	0	1	0	0	3	3.9	1	1.3	0	0	44.6	50.8
1145	69	0	59	2	4	0	2	0	0	0	1	0	0	1	1.4	0	0	0	0	44.2	50.6
1215	75	0	61	1	6	1	3	0	0	1	2	0	0	2	2.7	1	1.3	0	0	45.8	52.1
1230	67	0	50	2	10	0	0	0	2	2	1	0	0	0	0	0	0	0	0	43.2	47.9
1245	66	0	54	0	6	1	3	1	0	1	0	0	0	3	4.5	1	1.5	0	0	46.1	53.7
1300	90	2	79	3	6	2	0	0	0	0	2	0	0	2	2.2	1	1.1	0	0	44.7	52.1
1330	68	0	55	0	9	0	0	0	0	1	1	1	1	2	2.9	0	0	0	0	45.6	53
1345	79	0	70	1	4	1	3	0	0	0	0	0	0	1	1.3	1	1.3	0	0	46.3	52.3
1400	88	0	75	3	7	1	2	0	0	0	0	0	0	3	3.4	1	1.1	0	0	44.5	52.3
1413	83	0	69	3	8	0	1	1	0	1	0	0	0	0	0	0	0	0	0	44.5	51.9
1445	80	0	64	2	9	1	2	0	1	1	0	0	0	1	1.3	0	0	0	0	46.2	51.9
1500	85	0	72	1	9	1	0	0	1	0	1	0	0	3	3.5	0	0	0	0	46.3	50.1
1515	81	0	64 96	4	9	0	1	0	1	2	1	0	0	2	2.5	0	0	0	0	45.3	51./ 48.5
1545	83	1	73	0	8	0	0	1	0	0	0	0	0	1	1.2	1	1.2	0	0	47.5	53.9
1600	113	0	100	1	9	1	0	0	0	1	1	0	0	3	2.7	1	0.9	1	0.9	45.5	50.3
1615	122	0	112	1	9	0	0	0	0	0	0	0	0	3	2.5	2	1.6	0	0	44.1	49.9
1630 1645	124	1	103	2	15 8	0	2	0	3 0	0	0	0	0	2 3	2.1	0	0	0	0	4/.2	52.3 52.6
1700	112	2	103	1	6	0	0	0	0	0	0	0	0	3	2.7	0	0	0	0	47.2	55.3
1715	130	0	119	2	9	0	0	0	0	0	0	0	0	2	1.5	0	0	0	0	46.8	50.8
1730	122	0	115	1	6	0	0	0	0	0	0	0	0	3	2.5	1	0.8	0	0	46.7	53.2
1743	94	3	88	0		0	0	0	0	0	0	0	0	4	4.3	0	0	0	0	48	53.9
1815	78	1	74	0	3	0	0	0	0	0	0	0	0	3	3.8	0	0	0	0	48.5	55.5
1830	81	0	76	1	2	0	0	0	0	0	2	0	0	7	8.6	1	1.2	1	1.2	49.2	56.1
1845	/2	1	68 44	0	3	0	0	0	0	0	0	0	0	7	9.7	0	1.4 0	0	0	49.4 48.5	57 58 4
1915	41	0	40	0	0	0	0	0	0	0	1	0	0	4	9.8	1	2.4	1	2.4	50.9	57.5
1930	40	0	38	0	1	0	0	0	0	0	1	0	0	4	10	0	0	0	0	51.6	57.7
1945	33	0	32	0	1	0	0	0	0	0	0	0	0	6	18.2	1	3	0	0	52	61.3
2000	30	0	30	0	2	0	0	0	0	0	0	0	0	6	20	3	6./ 10	1	3.3	53.4	62.2
2030	25	0	24	0	1	0	0	0	0	0	0	0	0	Ő	0	0	0	0	0	46.9	51.2
2045	24	0	24	0	0	0	0	0	0	0	0	0	0	2	8.3	0	0	0	0	49.7	57.7
2100	22	0	22	0	0	0	0	0	0	0	0	0	0	3	13.6	0	0	0	0	50.8	55.7
2115	19	0	19	0	0	0	0	0	0	0	0	0	0	1	9.1	0	0	0	0	40 48.8	53
2145	21	Ő	20	0	1	0	0	0	0	0	0	0	0	5	23.8	1	4.8	0	0	49.8	60.8
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
2215	25	1	22	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44.2	49.2
2230	12	0	10	0	0	0	0	0	0	0	0	0	0	1	10	0	0	0	0	49.6	JJ.7 -
2300	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.7	-
2315	5	0	5	0	0	0	0	0	0	0	0	0	0	1	20	0	0	0	0	52.3	-
2330	8	0	6	0	2	0	0	0	0	0	0	0	0	3	37.5	1	12.5	0	0	56.5	-
2345 07-19	4526	24	3867	77	388	23	39	7	26	29	43	1	2	108	2.4	25	0.6	3	0.1	45.1 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	53.5
00-00	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

Timo	Total	25 April 2	017				Classifi	ation						NPS1	>PS197	SSI1	SEI 197	5812	SE1297	Mogn	Vnn
inne	Total	1	2	3	4	5	6	7	8	9	10	11	12	60	60	68	68	75	75	Medi	*pp 85
		MCL	sv	SVT	TB2	TB3	T4	ART3	ART4	ART5	ART6	BD	DRT			ACPO	ACPO	DfT	DfT		
0000	2	0	2	0	0	0	0	0	0	0	0	0	0	1	50	0	0	0	0	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	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
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	-	-
0143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0215	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	53.5	-
0230	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58.7	-
0245	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	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.8	-
0345	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	3	0	2	0	0	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	48./	-
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	0	0	0	0	3	12.5	1	4.2	0	0	50.6 49.8	54.8
0615	42	0	33	0	1	5	2	0	0	1	0	0	0	2	4.8	1	2.4	0	0	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	0	44 95	0	3	4	3	0	0	0	2	0	0	4	2.7	0	1.8 0	0	0	51.2 49.4	55.9 54.1
0715	137	1	117	3	9	7	0	0	0	0	0	0	0	3	2.2	0	0	0	0	49.7	54.1
0730	144	1	114	1	15	8	1	0	1	0	3	0	0	6	4.2	0	0	0	0	45.9	54.8
0745	149	0	122	3	10	8 2	0	2	3	2	1	0	0	4	1.3	0	0	0	0	46.8 44.3	53.2
0815	124	2	109	2	5	2	3	0	1	0	0	0	0	0	0	0	0	0	0	43.6	50.8
0830	106	0	89	1	12	3	0	1	0	0	0	0	0	4	3.8	0	0	0	0	48	53.7
0045	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	93	0	75	0	6	2	3	0	0	0	1	0	0	5	6.2	0	1.2	0	0	48.4	54.8
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	92	0	83	2	3	1	0	0	1	1	1	0	0	2	2.2	0	0	0	0	47.2	52.3
1100	85	1	70	0	8	3	2	0	0	0	1	0	0	2	2.4	0	0	0	0	44.2	51.9
1115	78	1	60	2	9	2	0	1	2	0	1	0	0	0	5.3	0	0	0	0	42.2	49.4 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	76	0	67	0	6	2	0	1	0	0	0	0	0	4	5.3	0	0	0	0	43.7	53.5
1215	91	1	75	0	14	0	1	0	0	0	0	0	0	2	2.2	1	1.1	0	0	45.5	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
1330	89	0	75	0	11	0	0	1	1	1	0	0	0	2	2.2	0	0	0	0	43.2	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	122	1	105	5	6	3	0	0	1	2	3	0	0	3	4	2	2./	0	0	44.8	52.6 49.2
1430	67	0	57	2	4	1	1	1	0	0	1	0	0	5	7.5	2	3	0	0	48.8	54.6
1445	80	0	68	0	8	1	0	0	0	1	2	0	0	1	1.3	1	1.3	0	0	45.2	51
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	114	0	102	0	9	1 4	0	0	1	0	2	0	0	3	0	0	0	0	0	41.7	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
1700	144	2	127	0	8	5	1	0	0	0	1	0	0	6	4.2	2	1.4	1	0.7	45 45	52.6
1715	156	2	133	2	5	13	0	0	0	1	0	0	0	2	1.3	0	0	0	0	45.3	50.3
1730	94	0	132	2	7	11	0	0	0	0	0	0	0	2	1.3	0	0	0	0	46.5 47 5	49.9
1800	93	0	90	0	2	0	0	0	1	0	0	0	0	8	8.6	2	2.2	0	0	49.9	55
1815	105	1	96	0	4	3	0	0	0	0	1	0	0	4	3.8	1	1	0	0	47.2	54.8
1830	66	0	62	0	2	1	0	0	0	0	1	0	0	3 7	3.4	0	0	0	0	48.5 48.5	03.0 59.1
1900	50	0	48	1	0	0	0	0	i	0	0	0	0	5	10	1	2	0	0	49.7	57.5
1915	41	0	39	0	2	0	0	0	0	0	0	0	0	2	4.9	0	0	0	0	49.8 50.9	53.9
1945	36	0	34	0	2	0	0	0	0	0	0	0	0	3	8.3	1	2.8	0	0	50.9	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 46.3	49 52.3
2045	22	0	18	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	45.2	51.4
2100	20	0	19	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	44.2	48.8
2113	20	0	20	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	40.3 43.7	JU.0 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	24	0	24	0	0	0	0	0	0	0	0	0	0	1	4.2	0	0	0	0	45.4	47.9
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	1	33.3 14.3	0	0	0	0	53.5 53.4	-
2330	4	0	4	0	0	0	0	0	0	0	0	0	0	2	50	0	0	0	0	56.3	-
2345 07-19	3	0	3987	0	0	0	0	0	0	0	0	0	0	0	0	0 21	0	0	0	52 45 9	- 53
06-22	5265	24	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	5354	25	4584	62	403	135	29	9	32	19	53	1	2	186	3.5	28	0.5	3	0.1	46.2	53.5
00-00	3451	20	4000	62	409	130	24		54	Z 1	54		2	178	3.0	30	0.0	3	U.I	40.3	55.5

		Virtual Do	зу (7)																		
Time	Total			1			Classifi	cation		1	1		1	>PSL	>PSL%	>SL1	>\$L1%	>SL2	>\$L2%	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		10.0
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
0200	6	0	5	0	0	0	0	0	0	0	0	0	0	1	17.5	0	2.5	0	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	9	2	2	0.4	0	0.1	45.1	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	52.0
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	00	0	04	0	2	0	0	0	0	0	0	0	0	0	0	2	2.3	0	0.7	49.7	30.Z
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 W	eek (1)																		
Time	Total					_	Classifi	cation						>PSL	>PSL%	>SL1	>SL1%	>SL2	>SL2%	Mean	Vpp
			2	3	4	5 TP 2	6 TA	7	8	9		11	12	60	60	68	68	75	75 Dft		85
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
			0011	41	103	2	5	0	2	3	0	0	0	243	6	61	1.5	15	0.4	47.4	55
Sun	4045	/8	3811	41	100																
Sun 5 Day Ave.	4045 5645	78 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
Sun 5 Day Ave. 7 Day Ave.	4045 5645 5274	78 34 43	4894 4651	76 68	432 351 2450	49 36	36 29	6 5	31 24	28 22	57 43	1	2	235 236	4.2 4.5	45 47	0.8	12 12	0.2	46.5 46.7	53.9 54.1
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	4894 4651 32560	76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7	53.9 54.1 54.1
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	4894 4651 32560	76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7	53.9 54.1 54.1
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	4894 4651 32560	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7	53.9 54.1 54.1 0RT
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3811 4894 4651 32560 7000 6000	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7	53.9 54.1 54.1 DRT
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3811 4894 4651 32560 7000 6000	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7	53.9 54.1 54.1 DRT D
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3811 4894 4651 32560 7000 6000 5000	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7	53.9 54.1 54.1 DRT D RT6
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3811 4894 4651 32560 7000 6000 5000	41	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 B B A A A A	53.9 54.1 54.1 DRT D RT6 RT5
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3811 4894 4651 32560 7000 6000 5000 4000	41	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7	53.9 54.1 54.1 D D RT D RT6 RT6 RT5 RT4
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3811 4894 4651 32560 7000 6000 5000 4000	41 76 68 474	432 351 2459	49 36 250	36 29 202	6532	31 24 168	28 22 153	57 43 303	1 7 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 B B A A A A A	53.9 54.1 54.1 DRT D RT6 RT6 RT5 RT4
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3611 4894 4651 32560 7000 6000 4000 3000	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 B B A A A A A A A A A A A A A A A A A	53.9 54.1 54.1 DRT D RT6 RT6 RT5 RT4
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3811 4894 4651 32560 6000 6000 6000 6000 33000	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 7 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 B B A A A A A A A A A A A A A A A A A	53.9 54.1 54.1 D RT D RT5 RT5 RT4 RT3 4
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	78 34 43 302	3811 4894 4651 32560 6000	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 B B A A A A A A A A A A A A A A A A A	53.9 54.1 54.1 0 RT D RT 6 RT 6 RT 6 RT 4 8 3
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	No. of Vehicles	3811 4894 4894 4651 32560	41	432	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 B B B A A A A A A A T T	53.9 54.1 54.1 D RT D RT6 RT6 RT5 RT4 RT3 4 B3
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	Vo 34 43 302 302	3811 4894 4894 4651 32560	41	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 B B A A A A A A A T T T	53.9 54.1 54.1 D D RT D RT 6 RT 6 RT 6 RT 6 RT 6 8 8 8 8 8 8 8 2
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	No. of Vehicles	3811 3894 4894 4651 32560	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 D D RT D RT 6 RT 6 RT 6 RT 6 RT 6 8 8 8 8 8 8 8 2 VT
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	No. of Vehicles 130 1305 100 100 100 100 100 100 100 1	3814 4894 4894 4651 32560	41 76 68 474	432 351 2459	49 36 250	36 29 202		31 24 168	28 22 153	57 43 303	1 7 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81		46.5 46.7 46.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 0 0RT D 0.RT6 0.RT5 0.RT4 0.RT3 4 83 82 VT VT
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	No. of Vehicles	3811 4894 4894 4651 32560	41 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 7 7	2 2 11 11 5	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 D RRT D RRT6 RRT6 RRT6 RRT4 RRT3 4 B3 B2 VT V
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	No. of Vehicles	3814 4894 4894 4651 32560	411 76 68 474	432 351 2459	49 36 250	36 29 202		31 24 168	28 22 153	57 43 303 303	1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 0 0 0 0 0 0 0 0 0 0 0 0 0
ISUN 5 Day Ave. 7 Day Ave. State of the state of t	4045 5645 5274 36921	78 34 43 302 302	3814 4894 4894 4651 32560	411 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303	1 1 7	2 2 11	235 234 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 D RT D RT D RT F RT 5 RT 4 83 82 V T V V V CL
Sun 5 Day Ave. 7 Day Ave. 	4045 5645 5274 36921	7/8 34 43 302 302 8 8 9 8 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8	3814 4894 4894 4651 32560	411 76 68 474	432 351 2459	49 36 250	36 29 202		31 24 168	28 22 153	57 43 303		2 2 11	235 234 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 54.1 S4.1 54.1 D
ISUN 5 Day Ave. 7 Day Ave. 	4(45) 5445 5274 36921	78 34 43 302 302	3814 4894 4651 32560 6000 6000 6000 6000 2000 1000 0	411 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303 303	1 1 7	2 2 11	235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9	12 12 81	0.2 0.2 0.2	46.5 46.7 46.7 B B B B A A A A A A A A A A A A A A A	53.9 54.1 54.1 0 0 0 0 0 0 0 0 0 0 0 0 0
Sum 5 Day Ave. 7 Day Ave. Summark Grabhs	4(45) 5445 5274 36921	78 34 43 302 302	361 4894 4894 4651 32560	411 76 68 474	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303 303			235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9		0.2 0.2 0.2	46.5 46.7 46.7 B B B A A A A A A A A A A A A A A A A	53.9 54.1 54.1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Sun 5 Day Ave. 7 Day Ave. 	4(14) 5445 5274 36921	78 34 43 302 302 2 6 7 8	3611 4894 4851 32560 6000 6000 0	41 76 68 474	432 351 2459	49 36 250	36 29 202		31 24 168	28 22 153	57 43 303	1 7		235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9		0.2 0.2 0.2	44.5 44.7 44.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 D RT D RT C RT 4 4 83 82 VT V V Mean
ISUN 5 Day Ave. 7 Day Ave. 	4045 5445 5274 36921	78 34 43 302 302 2 4 302	4894 4894 4651 32560 7000 6000 6000 1000 0	Mg	432 351 2459	49 36 250	36 29 202	6 5 32	31 24 168	28 22 153	57 43 303			235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9		0.2 0.2 0.2	44.5 44.7 44.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 54.1 D
ISUN 5 Day Ave. 7 Day Ave. Souther States of the st	4045 545 5274 36921	V8 34 43 302 302	3811 4894 4894 4651 32560	Mg	432 351 2459	49 36 250	36 29 202		31 24 168	28 22 153	57 43 303 303			235 234 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9		0.2 0.2 0.2	44.5 44.7 46.7 B B B A A A C C C C C C C C C C C C C C	53.9 54.1 54.1 54.1 D
ISUN 5 Day Ave. 7 Day Ave. 	4045 5445 5274 36921	78 34 43 302 302	3811 4894 4894 4651 32560	Mon	432 351 2459	49 36 250	36 29 202		31 24 168	28 22 153	57 43 303	1 7 7		235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9		0.2 0.2 0.2	46.5 46.7 46.7 B B B A A A A A A A A A A A A A A A A	53.9 54.1 54.1 0 0 0 0 0 0 0 0 0 0 0 0 0
Sun 5 Day Ave. 7 Day Ave. Soummark GdDys	4(45) 5445 5274 36921	78 34 43 302 302	3811 4894 4894 4651 32560	Mon	432 351 2459	49 36 250	36 29 202	6	31 24 168	28 22 153	57 43 303 303	1 1 7 		235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9		0.2 0.2 0.2	46.5 46.7 46.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 D RT D RT C RT 4 83 82 VT V V V V V V Mean 85%ile
Sun 5 Day Ave. 7 Day Ave. 	4045 5445 5274 36921	76 of Celicies 34 43 302	3011 3000 6000	Mg	432 351 2459	49 36 250	36 29 202		31 24 168	28 22 153	57 43 303			235 236 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9		0.2 0.2 0.2	44.5 44.7 44.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 D RT D RT C RT 4 83 82 VT V V V V Mean 85%lie ≥>PSL%
ISUN 5 Day Ave. 7 Day Ave. Cabla Samaar Samaa	4045 5445 5274 36921	26 34 43 302	4894 4894 4894 4651 32560	A11	432 351 2459	49 36 250	36 29 202		31 24 168	28 22 153	57 43 303			235 234 1652	4.2 4.5 4.5	45 47 328			0.2 0.2 0.2	44.5 44.7 44.7 B B B A A A A A A A A A A A A A A A A	53.9 54.1 54.1 D RT D RT C NRT A RT S RT 4 83 82 VT V V V V V KCL Mean 85%ile >PSL%
ISUN 5 Day Ave. 7 Day Ave. Support	4045	Speed 34 43 302 302	3811 32540 7000 - 6000 - 5000 - 32560 - 6000 - 3000 - 60 - 60 - 60 - 7000 -	A11		49 36 250	36 29 202		31 24 168		57 43 303	1 7 7		235 234 1652	4.2 4.5 4.5	45 47 328	0.8 0.9 0.9		0.2 0.2 0.2	44.5 44.7 46.7 B B A A A A A A A A A A A A A A A A A	53.9 54.1 54.1 D RT D RT D RT A RT S RT 4 83 82 VT V V V V V V Mean 85%ile ≥PSL%
ISUN 5 Day Ave. 7 Day Ave. 	4045	Speed 34 43 302 302	301 4894 4894 4651 32560	Mg		49 36 250	36 29 202		31 24 168		57 43 303			235 234 1652	4.2 4.5 4.5		0.8 0.9 0.9		0.2 0.2 0.2	44.5 44.7 46.7 B B B A A A A A A A A A A A A A A A A	53.9 54.1 54.1 54.1 D
Sun 5 Day Ave. 7 Day Ave. 	4045 545 5274 36921	7/8 34 43 302 302	301 4894 4894 4651 32560	Mon	432 351 2459	49 36 250	36 29 202		31 24 168		57 43 303			235 236 1652	4.2 4.5 4.5		0.8 0.9 0.9		0.2 0.2 0.2		53.9 54.1 54.1 54.1 D RT D RT C RT A RT A B3 B2 VT V ACL Mean 85%lie ≥>SL1%
Isun 5 Day Ave. 7 Day Ave. Sommark Cigbhs	4045 5445 5274 36921	78 34 43 302 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	301 4894 4894 4651 32560 32560 6000	Mon 2014	432 351 2459		36 29 202		31 24 168		57 43 303 303	1 1 7 		235 236 1652	4.2 4.5 4.5		0.8 0.9 0.9		0.2 0.2 0.2	44.5 44.7 44.7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	53.9 54.1 54.1 54.1 J 54.1 D RT D RT RT 83 B2 VI V ACL SS%ile SS%ile >>PSL% >SL1%
ISUN 5 Day Ave. 7 Day Ave. 	4045 5445 5274 36921	Speed 34 43 302	301 4894 4894 4651 32560	Mg		49 36 250	36 29 202		31 24 168		57 43 303			235 234 1652	4.2 4.5 4.5		0.8 0.9 0.9 0.9		0.2 0.2 0.2 7 0.2	44.5 44.7 44.7 44.7 B B B A A A A A A A A A A A A A A A A	53.9 54.1 54.1 54.1 D



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



Sheet 1 of 1	
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										Shee	t 1 of	1		A	GS
Scher	ne		Norfolk Vanguard and Boreas	Job	No.	ROHA	0001	Bore	hole N	lo.	01				
Carrie	d out	for	Royal Haskoning	Dat	e Starte	d 27/0	3/2019	Date	Finish	ned	27/0	3/201	19		
Dimer	sions	8:	0.50m x 0.50m	Тур	e of Rig	Hand	d Tools						Logge	d by	GS
Rema	rks:		Dry	Dep	th (m)	1.00		Grou (m A	ind Le [.] OD)	vel			Drawr	ı by	GS
				Co-	ords	6145	530 - 325	680					Checke	d by	MLB
Backfill	Water	Casing	Description	Legend	Depth (m)	Scale	Sar Type	nple No.	Field Tests	MC%		Laborat	ory Test	s Ora.	CBR
			Dark brown silty TOPSOIL. TOPSOIL		0.20	-									
			Dark yellowish brown slightly gravelly medium SAND, gravel is fine to medium sub angular flint. BRITON'S LANE SAND AND GRAVEL		0.20		•	01							
						- - - - - -	_								

Sheet 1 of 1	
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											Shee	t 1 of	1		A	LI I GS
Scher	ne		Norfolk Vanguard and Boreas	J	ob l	No.	ROHA	0001	Borel	hole N	lo.	02				
Carrie	d out	for	Royal Haskoning	C	ate	Starte	d 27/0	3/2019	Date	Finish	ned	27/0	3/201	9		
Dimer	nsions	S:	0.50m x 0.50m	т	уре	of Rig	Hand	d Tools						Logge	d by	GS
Rema	rks:		Dry	C	ept	h (m)	0.60		Grou (m A	nd Le ^v OD)	vel			Drawr	ו by	GS
				С	:0-0	rds	6145	540 - 325	667					Checke	ed by	MLB
Backfill	Water	Casing	Description	Lege	end	Depth (m)	Scale	Sar Type	nple No.	Field Tests	MC%	LL	_aborat	ory Test	s Org.	CBR
Backfill	Water	Casing	Description 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			Depth (m)	Scale	Sar Type	nple 01	Field Tests	MC%		-aborat	ory Test	s Org.	CBR
							- - - - - - - - - - - - - - - - - - -									

Sheet 1 of 1

											Shee	t 1 of	1		A	GS
Scher	ne		Norfolk Vanguard and Boreas	Jol	o No.		ROHA	.0001	Boreł	nole N	о.	03				
Carrie	d out	for	Royal Haskoning	Da	te St	artec	27/03	3/2019	Date	Finish	ed	27/0	3/201	9		
Dimer	nsions	8:	0.50m x 0.50m	Ту	be of	Rig	Hand	d Tools	I					Logge	d by	GS
Rema	rks:		Dry	De	pth (m)	0.60		Groui (m A0	nd Lev DD)	/el			Drawr	ı by	GS
				Co	-ords	3	6145	34 - 3250	689	,			(Checke	d by	MLB
Backfill	Water	Casing	Description	Legen	d D	epth (m)	Scale	San Type	nple No.	Field Tests	MC%	LL	aborate	ory Test	s Org.	CBR
			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).20).60	- - - - -	●	01							
							- - - - - - - - - 3.00 - - -									
							- - - - - - - - - - - - - - - - - - -									

Sheet 1 of 1	
--------------	--

								Shee	t 1 of	1		P	AGS
Scheme Norfolk Vanguard and Boreas			Job No. ROHA0001 Borehole No. 04										
Carried out for Royal Haskoning			Date Started 27/03/2019 Date Finished 27/03/2019										
imensions: 0.50m x 0.50m Type of Rig Hand					d Tools	ľ					Logge	d by	GS
Remarks: Dry De			m)	0.60		Ground Level					Drawn by G		GS
	C	Co-ords 614546 - 325670			670)				Checked by ML		MLB	
Backfill Water Casing Descrip	tion Leg	gend D	epth (m)	Scale	Sam Type	nple No.	Field Tests	MC%		Laborat	ory Test	ts Ora.	CBR
Dark brown silty TOPSOIL. TOPSOIL Orangey brown & yellowish brown coarse SAND, gravel is fine sub an BRITON'S LANE SAND AND GRAY	slightly gravelly medium to igular flint. VEL		0.60		∎ Type	01							

Norfolk Partnership Laboratory

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Royal Haskoning Rightwell House Bretton Peterborough PE3 8DW NORWICH, Norfolk NR1 2SG Tel: 01603 222416

Email: civil.laboratory@norfolk.gov.uk

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



Siev	ing	Specification for Highway	Sample Propo	Sample Proportions	
Particle Size		Works Classification	BOULDERS	0	
mm	% Passing	Table 6/2	COBBLES	0	
125	100		Coarse GRAVEL	0	
90	100		Medium GRAVEL	2	
75	100		Fine GRAVEL	2	
63	100	This material complies	Coarse SAND	3	
37.5	100	with the following	Medium SAND	68	
20	100	material classes 1B,	Fine SAND	17	
14	100	6E/6R. 6M.	Silt & Clay	8	
10	99	, .			
6.3	98		Grading Ana	llysis	
5	98		D100	10	
2	96		D60	0.31	
1.18	96		D10	0.08	
0.600	93		Uniformity Coefficient	4	
0.425	87				
0.300	58		Description	on	
0.212	26		Dark yellowish brown, slightly	gravelly, medium	
0.063	8		SAND. Gravel is fine and me	dium, sub-angular	
			flint.	-	
		Moisture content % 6			

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Test Code = 610



Peter Hardiment (Operations Manager)



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Our reference No. NCCL2019040210-610

Our Project No	ROHA0001
Your Sample Ref	40210
Your Project or Order No.	
Date Tested	03/04/2019
Date Report Issued	23-Apr-19

Page 1 of 1



Sieving	Specification for Highway	Sample Proportions	
Particle Size	Works Classification	BOULDERS	0
mm % Passing	Table 6/2	COBBLES	0
125 100		Coarse GRAVEL	6
90 100		Medium GRAVEL	12
75 100		Fine GRAVEL	8
63 100	This material complies	Coarse SAND	20
37.5 100	with the following	Medium SAND	45
20 94	material classes 1B,	Fine SAND	4
14 93	6E/6R, 6M.	Silt & Clay	5
10 88	, -		
6.3 82		Grading Ana	lysis
5 81		D100	20
2 74		D60	0.81
1.18 71		D10	0.23
0.600 54		Uniformity Coefficient	4
0.425 30			
0.300 13		Descriptio	on
0.212 9		Light brown and orangey brow	vn, very gravelly,
0.063 5		medium and coarse SAND. G	iravel is fine,
		medium and coarse, sub-ang	ular flint.
	Moisture content % 5		

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Our reference No. NCCL2019040211-610

Our Droiget No.	
Our Project No	TIOTIA0001
Your Sample Ref	40211
Your Project or Order No.	
Date Tested	05/04/2019
Date Report Issued	23-Apr-19

Page 1 of 1



Sievi	ng	Specification for Highway	Sample Prop	Sample Proportions	
Particle Size		Works Classification	BOULDERS	0	
mm	% Passing	Table 6/2	COBBLES	0	
125	100		Coarse GRAVEL	0	
90	100		Medium GRAVEL	3	
75	100		Fine GRAVEL	2	
63	100	This material complies	Coarse SAND	7	
37.5	100	with the following	Medium SAND	40	
20	100	material classes 1B,	Fine SAND	38	
14	100	6E/6R, 6M.	Silt & Clay	10	
10	97	,			
6.3	97		Grading An	alysis	
5	97		D100	10	
2	94		D60	0.28	
1.18	93		D10	0.06	
0.600	88		Uniformity Coefficient	4	
0.425	79				
0.300	63		Descript	ion	
0.212	47		Light brown and orangey bro	wn, slightly gravelly,	
0.063	10		fine and medium SAND. Gra	vel is fine and	
			medium, sub-angular flint.		
		Moisture content % 10			

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Our reference No. NCCL2019040212-610

Our Project No	ROHA0001
Your Sample Ref	40212
Your Project or Order No.	
Date Tested	05/04/2019
Date Report Issued	23-Apr-19

Page 1 of 1



Sieving	Specification for Highway	Sample Proportions	
Particle Size	Works Classification	BOULDERS	0
mm % Passing	Table 6/2	COBBLES	0
125 100		Coarse GRAVEL	0
90 100		Medium GRAVEL	0
75 100		Fine GRAVEL	6
63 100	This material complies	Coarse SAND	30
37.5 100	with the following	Medium SAND	61
20 100	material classes 1B,	Fine SAND	2
14 100	6E/6R, 6M.	Silt & Clay	2
10 100	, -		
6.3 100		Grading A	Analysis
5 98		D100	5
2 94		D60	0.58
1.18 90		D10	0.31
0.600 64		Uniformity Coefficient	2
0.425 33		-	
0.300 7		Descri	ption
0.212 4		Orangey brown and yellov	vish brown, slightly
0.063 2		gravelly, medium to coars sub-angular flint.	e SAND. Gravel is fine,
	Moisture content % 5		

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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 Va	anguard and Boreas				
Location	CBR 1 @	0.7m				
Date sampled	27-Mar-19)	Date receiv	ed	29-Mar-19	
Sample type	Bulk Distu	rbed	Sample Ma	ss	18.955kg	
If a sample certificate was p	provided it is	available for inspection.				
The accuracy of information	n provided b	y third parties cannot be g	juaranteed.			
Material	Soil					
Description	Dark yello	wish brown, slightly grave	lly, medium S	AND. Gravel is fi	ne and mediu	um, sub-angular flint.
Supplier	Not applic	able	Source	Ex site		
Location Orientation		Test Specimen Not applicable Not applicable				
Method of Division Preparation Method Condition		Preparation Details Quartering Sieving, Natural Moisture Unsoaked	e Content			
Retained 37.5mm	%	1				
Retained 20mm	%	2.1				
Number of layers		3	CBR Value	Тор	%	43.0
Blows per layer		N/A	CBR Value	Bottom	%	104.0
BS Method		3.7, Vib.Hammer				
Bulk Density	Mg/m³	2.07	Moisture C	ontent Top	%	7.0
Dry Density	Mg/m³	1.94	Moisture C	ont. Bottom	%	7.0
Initial Moisture Content	%	6.6	Moisture C	ontent Method		Oven dried @ 105-110°C

Remarks







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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 Va	anguard and Boreas				
Location	CBR 2 @	0.2m				
Date sampled	27-Mar-19)	Date recei	ved	29-Mar-19	
Sample type	Bulk Distu	irbed	Sample M	ass	22.35kg	
If a sample certificate was	provided it is	available for inspection.				
The accuracy of informatio	n provided b	y third parties cannot be g	guaranteed.			
Material	Soil					
Description	Light brow sub-angul	n and orangey brown, ver ar flint.	ry gravelly, n	nedium and coars	e SAND. Gra	vel is fine, medium and coarse,
Supplier	Not applic	able	Source	Ex site		
Location Orientation Method of Division		Test Specimen Not applicable Not applicable Preparation Details Quartering				
Preparation Method Condition		Sieving, Natural Moistur Unsoaked	e Content			
Retained 37.5mm	%	3				
Retained 20mm	%	7.2				
Number of layers		3	CBR Value	е Тор	%	46.0
Blows per layer		N/A	CBR Value	e Bottom	%	133.0
BS Method		3.7, Vib.Hammer				
Bulk Density	Mg/m ³	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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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 Va	anguard and Boreas				
Location	CBR 3 @	0.2m				
Date sampled	27-Mar-19	1	Date receiv	ved	29-Mar-19	
Sample type	Bulk Distu	ırbed	Sample Ma	ISS	20.95kg	
If a sample certificate was	provided it is	available for inspection.				
The accuracy of information	n provided b	y third parties cannot be g	guaranteed.			
Material	Soil					
Description	Light brow angular fli	/n and orangey brown, slig nt.	ghtly gravelly	fine and medium	n SAND. Grav	rel is fine and medium, sub-
Supplier	Not applic	able	Source	Ex site		
Location Orientation		Test Specimen Not applicable Not applicable				
Method of Division Preparation Method Condition		Preparation Details Quartering Sieving, Natural Moistur Unsoaked	e Content			
Retained 37.5mm	%	0				
Retained 20mm	%	0.6				
Number of layers		3	CBR Value	Тор	%	15.0
Blows per layer		N/A	CBR Value	Bottom	%	12.0
BS Method		3.7, Vib.Hammer				
Bulk Density	Mg/m³	2.22	Moisture C	ontent Top	%	11.0
Dry Density	Mg/m³	2.01	Moisture C	ont. Bottom	%	9.7
Initial Moisture Content	%	11.0	Moisture C	content Method		Oven dried @ 105-110°C

Remarks

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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 Va	inguard and Boreas				
Location	CBR 4 @	0.2m				
Date sampled	27-Mar-19	1	Date receiv	ed	29-Mar-19	
Sample type	Bulk Distu	rbed	Sample Ma	SS	19.9kg	
If a sample certificate was p	rovided it is	available for inspection.				
The accuracy of information	provided b	y third parties cannot be g	uaranteed.			
Material	Soil					
Description	Orangey b flint.	rown and yellowish brown	, slightly grav	elly, medium to c	coarse SAND	. Gravel is fine, sub-angular
Supplier	Not applic	able	Source	Ex site		
Location Orientation Method of Division Preparation Method Condition		Test Specimen Not applicable Not applicable Preparation Details Quartering Sieving, Natural Moisture Unsoaked	e Content			
Retained 37.5mm	%	0				
Retained 20mm	%	1.1				
Number of layers		3	CBR Value	Тор	%	32.0
Blows per layer		N/A	CBR Value	Bottom	%	64.0
BS Method		3.7, Vib.Hammer				
Bulk Density	Mg/m³	1.90	Moisture C	ontent Top	%	5.4
Dry Density	Mg/m³	1.80	Moisture C	ont. Bottom	%	5.5
Initial Moisture Content	%	5.5	Moisture C	ontent Method		Oven dried @ 105-110°C

Remarks

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Norfolk Boreas Offshore Wind Farm Appendix 3 - B1149 Traffic Management Plans

Applicant: Norfolk Boreas Limited Document Reference: ExA.AS-3.D4.V1 Deadline 4 Date: January 2020 Revision: Version 1

Photo: Ormonde Offshore Wind Farm



11.117		NOTES				
		1. Do no	o t scale from this d otherwise	rawing. all dimensions are in I	metres ur	nless
		2. This d	ornerwise. rawing has been l ming can not quar	based upon Ordnance Survey antee the accuracy of data	Maps ar	nd Royal
		3. This d Vangu	rawing is an upda ard DCO applicat	te to PB4476-DR033, first iss tion.	ued in the	e Norfolk
///						
1						
		KEY				
				DCO ORDER LIM	ITS	
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				REQUIRED RESU	JRFA	CING
					-	
		•		INDICATIVE CON	IES	
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			1		~ *	
		F1.0	FIRST ISSUE		₽	
		REVISIONS	DESCRIPTION		BY 0	APP
		CLIENT				
		V	ATTE	NFALL		
		PROJECT				
			NOR	OLK BOREAS	3	
			OFFSH	URE WIND FA	RM	
		TITLE				
		B1 ⁻	149 TRAI	FFIC MANAGE	MEN	T۱
/anual (2009) 1		(\$	SOUTH V	VESTERN VER	RGE)
•						
				Ri	ghtwell Hou	use, Bretton
			5	Peterborough, Cam T	bridgeshire el +44(0)1 Email info@	e, PE3 8DW 733 334455 @rhdhv.com
			Rov	at	/alhaskonii	ngDHV.com
			Has	koninaDl	łV	
			Enhand	cing Society Toge	ther	
		DRAWN R	NE	HECKED ADR APPF	ROVED	DR
		DATE 23.01.2	0 SCALE AT	A1 CLIENTS REF. 1:250		
		DRAWING N	• TP-PB	5640-DR023		REVISION
	C Haskoning UK Ltd.					F1.0







	 Do not scale from this drawing, all dimensions are in metres unless noted otherwise. This drawing has been based upon Ordnance Survey Maps and Royal Haskoning can not guarantee the accuracy of data. This drawing is an update to P54476-DR026, first issued in the Norfolk Vanguard DCO application.
	KEY DCO ORDER LIMITS REQUIRED RESURFACING INDICATIVE CONES
	PROJECT NORFOLK BOREAS OFFSHORE WIND FARM
Manual (2009) 1	B1149 TRAFFIC MANAGEMENT (NORTH EASTERN VERGE)
	Peterborugi, Canada Button Peterborugi, Canada Button Tel +4(9)7333435 Royat HaskoningDHV Enhancing Society Together DRAWN DEECED LAPROVED
(c)Hasko	RNE ADR ADR DATE 23.01.20 SCALE AT A1 1:250 CLIENTS REF. DRAWING No. TP-PB5640-DR026 F1.0

NOTES







Norfolk Boreas Offshore Wind Farm Appendix 4 – Church Road, Colby Access Layout

Applicant: Norfolk Boreas Limited Document Reference: ExA.AS-3.D4.V1 Deadline 4 Date: January 2020 Revision: Version 1



	 NOTES Do not scale from this drawing. all dimensions are in metres unless noted otherwise. This drawing has been based upon Ordnance Survey Maps and Royal Haskoning can not guarentee the accuracy of data. Road markings and road signs are to be in accordance with the SI document "Traffic Signs Regulations and General Directions, 2016".
	GENERAL KEY DEVELOPMENT CONSENT ORDER LIMITS PROPOSED ACCESS BOUND MATERIAL PROPOSED ACCESS BOUNDARY/ROAD MARKINGS PROPOSED GATE PROPOXIMATE SIGN LOCATION VISIBILITY KEY
	2.4m x 90m (DMRB) VISIBILITY SPLAY FOR A 30MPH SPEED LIMIT DMRB CLEAR VISIBILITY ENVELOPE DMRB VISIBILITY ENVELOPE WITHIN THIRD PARTY LAND SWEPT PATH ANALYSIS KEY VEHICLE BODY SWEPT PATH (FORWARD GEAR)
	VEHICLE CHASIS SWEPT PATH 13.6 13.7 13.7 14.78 14.78 14 14.78 14 14 14.78 14 14 14.78 14 14 14 14 14 14 14 14 14 14 14 12.52 Max ecol epoth (IIK) Anticulated Vehicle (16.5m)
	Iverall Length COKY Articulated venicle (18.5M) Iverall Width 2.550m Iverall Body Height 3.681m Min Body Ground Clearance 0.411m Max Track Width 2.500m Lock to lock time 6.00s Kerb to Kerb Turning Radius 6.530m
MPH ID	
	FOR CONSULTATION
	REV DATE DESCRIPTION BY CHK APP REVISIONS CLIENT C
	PROJECT NORFOLK BOREAS OFFSHORE WIND FARM
	CHURCH ROAD - AC58 ACCESS
	Rightwell House, Bretton Peterborough, Cambridgeshire, PE3 8DW Tel +44(0)1733 334455 Email info@rhdhv.com Www.royalhaskoningDHV.com Www.royalhaskoningDHV.com
	DRAWN RNE CHECKED ADR APPROVED ADR DATE 23.01.2020 SCALE AT A1 CLIENTS REF. 23.01.2020
	DRAWING No. TP-PB5640-DR022 REVISION CLIENT DWG No. F1.0



Norfolk Boreas Offshore Wind Farm Appendix 5 – Church Road, Colby Access Aerial Image

Applicant: Norfolk Boreas Limited Document Reference: ExA.AS-3.D4.V1 Deadline 4 Date: January 2020 Revision: Version 1

Photo: Ormonde Offshore Wind Farm







Ha 3. Ro do	not scale ted otherv is drawing iskoning c pad markin cument "	vise. g has been can not guar ngs and roa Traffic Signs	based upo rentee the a d signs are Regulatio	n Ordnance accuracy of to be in acc ns and Gen	Survey data. cordance eral Dire	Maps e with t ections	and Ro the SI , 2016	oyal ".
GENER	AL KEY DEVEL PROPC <u>ITY KEY</u> 2.4m x LIMIT DMRB	OPMENT C)SED ACCE 90m (DMR CLEAR VIS	ONSENT (SS BOUN B) VISIBIL IBILITY EN	DRDER LIM DARY/ROA ITY SPLAY IVELOPE	ITS D MARH	KINGS 30MPH	I SPEI	ED
	FOF	s CC	ONS	ULT	ΆΤ	.10	N	
REV DA	FOF FIRS	CCC	ONS	ULT	ΆΤ	ТС	Л	АРР
	FOF FIRS TE DESC	R CC	DNS	ULT	ΆΤ	ЪУ	СНК	АРР
REV DA REVISIO CLIENT	FOF FIRS TE DESC NS	R CC	NS	ULT FAL	L	BY	СНК	АРР
REV DA REVISIO CLIENT		R CC			AT L EAS FAF		СНК	APP
REV DA REVISIO CLIENT PROJEC				ULT FAL	AT EAS FAF		Снк ES	S S
REV DA REVISIO CLIENT			ONS ENF COLK DRE Cong So	ULT AL BORI WIND - ACS	EAS FAI	RM	CHK CHK	APP APP
REV DA REVISIO CLIENT PROJEC				ULT FAL BORI WIND - ACS Peterboroug	EAS FAF	BY BY CCC	CHK CHK ES	APP APP
REV DA REVISIO CLIENT PROJEC				ULT FAL BORI WIND - ACS Peterboroug	AT EAS FAF 58 A	BY BY CCC	CHK CHK ES	S Bretton 34455 3455