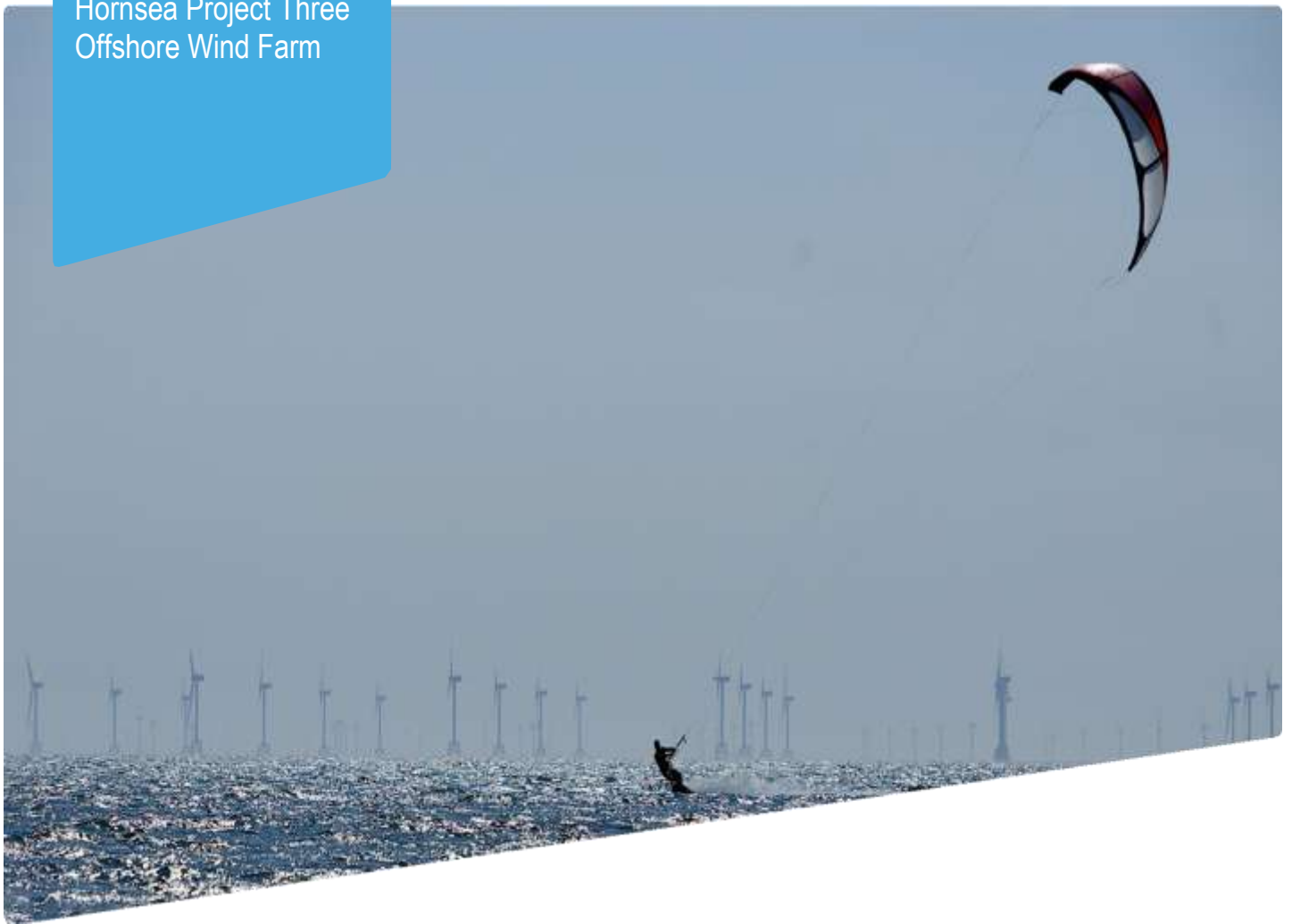


Hornsea Project Three  
Offshore Wind Farm



## Hornsea Project Three Offshore Wind Farm

Statement of Common Ground between Hornsea Project Three  
(UK) Ltd. and Highways England

Date: November 2018

Hornsea 3  
Offshore Wind Farm

Orsted

**Statement of Common Ground between Ørsted Hornsea Project Three (UK) Ltd. and Highways England**

---

Ørsted

5 Howick Place,

London, SW1P 1WG


© Ørsted Power (UK) Ltd, 2018. All rights reserved

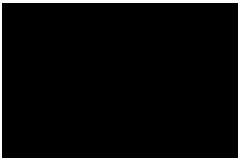
Front cover picture: Kite surfer near a UK offshore wind farm © Ørsted Hornsea Project Three (UK) Ltd., 2018.

### Revision History

Version	Date	Author	Context
1	23.10.2018	Ørsted	Initial draft for discussion with Highways England
2	25.10.2018	Ørsted	Second draft following meeting with Highways England
3	06.11.2018	Ørsted	Final draft for signing
4	06.11.2018	Ørsted	Final for submission

### Signatories

<i>Signed</i>	
<b>Name</b>	Eric Cooper
<b>Position</b>	Team Leader, Spatial Planning
<b>For</b>	Highways England

<i>Signed</i>	
<b>Name</b>	Andrew Guyton
<b>Position</b>	Hornsea Project Three Consents Manager
<b>For</b>	Ørsted Hornsea Project Three (UK) Ltd

## Table of Contents

1. Introduction.....	5
Overview.....	5
Approach to SoCG.....	5
Hornsea Three.....	5
Application Elements Relevant to the Strategic Road Network.....	5
2. Consultation .....	7
3. Agreements Log.....	7
4. Conclusions and Further Work.....	17
5. Appendix “a” - Applicant’s Response to Highways England Briefing Note 01A.....	i
6. Introduction.....	2
7. Highways England Comments/Create Response.....	3
8. Summary and Conclusions.....	11

## List of Tables

Table 3.1: Traffic and Transport.....	8
---------------------------------------	---

### Abbreviations

Abbreviations	Description
DCO	Development Consent Order
CEA	Cumulative Effect Assessment
CoCP	Code of Construction Practice
CTMP	Construction Traffic Management Plan
EIA	Environmental Impact Assessment
Ex.A	Examining Authority
EMP	Ecological Management Plan
EWG	Expert Working Group
HVAC	High Voltage Alternating Current
HVDC	High Voltage Directional Current
LMP	Landscape Management Plan
MHWS	Mean High Water Springs
PEIR	Preliminary Environmental Information Report
PRoW	Public Right of Way
SoCG	Statement of Common Ground
TWT	The Wildlife Trust
WSI	Written Scheme of Investigation

## 1. Introduction

### Overview

- 1.1 This Statement of Common Ground (SoCG) has been prepared by Ørsted Hornsea Project Three (UK) Ltd. ('the Applicant') and Highways England (HE) (together 'the parties') as a means of clearly stating the areas of agreement, and any areas of disagreement, between the two parties in relation to the proposed Development Consent Order (DCO) application for the Hornsea Project Three offshore wind farm (hereafter referred to as 'Hornsea Three') with regard to the impact that the development will have upon the Strategic Road Network in Norfolk. This SoCG does not deal with or extend to any development other than Hornsea Three.

### Approach to SoCG

- 1.2 This SoCG has been developed during the pre-examination phase of Hornsea Three. In accordance with discussions between the parties, the SoCG is therefore focused on those issues raised by Highways England (HE) within its response to Scoping, Section 42 consultation, pre-application and post-application consultation between the parties.
- 1.3 The structure of this SoCG is as follows:
- Section 1: Introduction;
  - Section 2: Consultation;
  - Section 3: Agreements Log;
  - Section 4: Conclusions and Further Work

### Hornsea Three

- 1.4 Hornsea Three is a proposed offshore wind farm located in the southern North Sea and will include all associated offshore (including up to 300 turbines) and onshore infrastructure.
- 1.5 The Hornsea Three offshore cable corridor extends from the Norfolk coast, offshore in a north-easterly direction to the western and southern boundary of the Hornsea Three array area. The Hornsea Three offshore cable corridor is approximately 163 km in length.
- 1.6 From the Norfolk coast, underground onshore cables will connect the offshore wind farm to an onshore HVDC converter/HVAC substation, which will in turn, connect to an existing National Grid substation. Hornsea Three will connect to the Norwich Main National Grid substation, located to the south of Norwich. The Hornsea Three onshore cable corridor is approximately 55 km in length at its fullest extent.

### Application Elements Relevant to the Strategic Road Network

- 1.7 The onshore works (work Nos. 6 to 15) detailed in Part 1 of Schedule 1 of the draft DCO (Document A3.1) describe the elements of Hornsea Three which may affect the interests of HE.
- 1.8 The key areas of interest to Highways England relate to the impact of the proposals on the safe and efficient operation of the Strategic Road Network (SRN), during construction and following completion when it is brought into operation. This relates to.

- The impact on various junctions along the Strategic Road Network;
- The impact on the A47 at Easton and the A11 at Hethersett of the construction of HDD cable crossings under the carriageway of the Trunk Road;
- The impact on the Road Investment Strategy (RIS) schemes for the A47 between North Tuddenham and Easton and for the A11/A47 Thickthorn junction;
- The impact of HGV traffic accessing construction sites and the construction compound via junctions and accesses on the A11 and A47 in the vicinity of Easton, Honingham and Hethersett;
- The impact of HGV traffic associated with the construction of a new substation adjacent to the SRN at Swardeston; and
- The effect of the construction of construction workforce vehicles at the A47/A1074 Longwater junction, the A47/ A140 Harford junction and B1113/A140 junctions.

## 2. Consultation

- 2.1 The Applicant has engaged with HE regarding Hornsea Three during the pre-application and post-application process, both in terms of informal non-statutory engagement and formal consultation carried out pursuant to section 42 of the Planning Act 2008. In addition, formal consultation has been undertaken at various stages of the project including consultation through scoping, Section 42 consultation on the Preliminary Environmental Information Report (PEIR), further section 42 consultation undertaken in November 2017 and the focused section 42 consultation in February 2018. In addition, formal consultation was undertaken in accordance with S56 consultation requirements.

## 3. Agreements Log

- 3.1 The following section of this SoCG identifies the level of agreement between the parties for each relevant component of the application (as identified in paragraph **Error! Reference source not found.**). In order to easily identify whether a matter is “agreed”, “under discussion” or “not agreed”, a colour coding system of green, yellow and orange, respectively, is used in the “final position” column to represent the respective status of discussions.



Table 3.1: Traffic and Transport.

Discussion Point	The Applicant's Position	Highways England Position	Final Position
Design – Cable crossing of SRN: HDD	<p>The use of Horizontal Directional Drilling (HDD) to cross all public roads, including those within the strategic road network, is considered appropriate.</p> <p>Detailed crossing method statements will be provided for the Strategic Road Network Crossings (A47 and A11, HDD 31 and HDD 8 respectively) during the detailed design stage, as set out in paragraph 1.3.2.1 of the Outline CoCP [APP-179]. As agreed with Highways England on 24.10.2018, the Applicant will provide the necessary Geotechnical Risk Report and Preliminary Sources Study for each crossing, likely as an appendix to the detailed crossing method statements which will be developed in consultation with HE.</p>	<p>HE considers the use of HDD at Strategic Road Network crossings (A47 and A11, HDD location 31 and HDD location 8) to be appropriate</p> <p>The use of HDD would not require a S278 agreement. HE agrees that, in line with requirements of DMRB HD22 and HA120, the geotechnical risk report and Preliminary Sources Study Report (PSSR) for the two crossing locations should be provided during detailed design, and is content for these to be appended to the detailed crossing method statements which will be developed in consultation with HE.</p> <p>Detailed proposals should be submitted at least six months prior to the anticipated start-of-works at HDD locations 8 and 31 to allow a Section 50 Licence (New Roads And Street Works Act 1991) to be entered into and a Geotechnical Certificate to be issued by HE.</p>	<b>Agreed</b>
Design – Cable crossing of SRN: Interaction with RIS schemes	<p>Consultation undertaken with HE in respect to the two RIS schemes (A47 Tuddenham to Easton and A47/A11 Thickthorn Junction is considered appropriate</p> <p>The design of the onshore cable corridor and Application allows sufficient flexibility that HDD could be utilised at the point of crossing should there be certainty that the A47 dualling scheme would come forward. Hornsea Three will continue to consult with HE during detailed design as the A47 dualling scheme is further developed. The approach is</p>	<p>The proposed crossing points are located in the vicinity of the A47 Tuddenham to Easton and A47/A11 Thickthorn Junction RIS schemes</p> <p><u>A47/A11 Thickthorn Junction (HDD location 8)</u> The proposed cable crossing of the A11 lies beyond the extent of the works proposed as part of the A11 Thickthorn Junction RIS scheme; therefore, cable crossing works on the A11 at this location are unlikely to have an impact on the delivery of the A11 Thickthorn RIS</p>	<b>Agreed</b>

Discussion Point	The Applicant's Position	Highways England Position	Final Position
	<p>appropriate.</p> <p>Where appropriate site-specific measures will be identified and developed as part of the final CTMP to manage the interaction at access points.</p>	<p>scheme</p> <p><u>A47 Tuddenham to Easton (HDD location 31)</u> At this time, it is too early to confirm the delivery programme for the respective works. Consequently it is not known if the cabling will be delivered before, during or after the A47 dualling works have been completed.</p> <p>In the advent that the cabling works precede the A47 dualling scheme, the Applicant will deliver the cable crossing point across the existing road and provide enabling works to facilitate crossing of the future dualling and any connecting roads forming part of the scheme.</p> <p>One of the local road accesses from the Church Lane, Northern side of A47 at Easton roundabout may have a potential issue of a clash with the Construction Traffic Movements proposal. Agreement and approval of detailed site access arrangements will be covered in the Detailed CTMP.</p>	
<p>Design – Cable crossing of SRN: Interaction with RIS schemes (Implementation post-A47 delivery)</p>	<p>The Applicant notes HE's position and will consider the feasibility of such a proposal in terms of its potential implications on logistics and and construction programme. The Applicant will continue to engage with HE on this matter but is confident that a reasonable solution can be reached.</p>	<p>In the advent that the cabling works occur at the time of or after construction of the A47 dualling scheme, appropriate ducting will be provided by HE as part of the scheme works at no cost to HE. Subject to further development of the A47 scheme, this may extend to local connecting roads built as part of the scheme. Agreement and approval of the cable crossing point, including construction specification, methodology and</p>	<p><b>Under discussion</b></p>

Discussion Point	The Applicant's Position	Highways England Position	Final Position
		implementation to be in place, prior to commencement of any works.	
Design – Cable crossing of SRN: Converter/ Substation Access	The onshore HVDC converter/HVAC substation will be accessed directly from the B1113 as opposed to the A47. This design is appropriate.	Access to the onshore HVDC converter/HVAC substation will be from the Mulbarton Road B1113. There will be no direct access off the SRN.	Agreed
Design – Cable crossing of SRN: Main Construction Compound	The site for the main construction compound is considered too remote from HE's Strategic Road Network (SRN) such that any impact from these proposals would be minimal on the SRN. As such, although HE will be kept informed of the ongoing discussions, detailed discussions regarding the design and suitability of the access strategy for the onshore main construction compound will continue with NCC, BDC and Oulton Parish Council. This approach is appropriate.	HE agrees that the main construction compound is located remotely from the Strategic Road Network (SRN), consequently it is unlikely to have an impact on the operation of the SRN.	Agreed
<b>Volume 3, Chapter 7: Traffic and Transport of the Environmental Statement (APP-079) and Volume 6, Annex 7.1: Transport Assessment (APP-159)</b>			
Planning and Policy	Volume 3, Chapter 7: Traffic and Transport of the Environmental Statement has identified all appropriate plans and policies relevant to traffic and transport and has given due regard to them within the assessments. This includes DfT Circular 02/2013.	HE has not raised any specific points in respect to planning policy.	Agreed

Discussion Point	The Applicant's Position	Highways England Position	Final Position
Baseline and Assessment methodology	The baseline information utilised to inform the assessment and the methodology used to assess impacts on traffic and transport in Volume 3, Chapter 7: Traffic and Transport of the Environmental Statement is appropriate.	HE has not raised any specific points in respect to the baseline information which would affect the outcomes of the assessment or its associated mitigation.	Agreed
Assessment conclusions	The assessment of potential effects on the local highway network is appropriate subject to the measures identified within Volume 3, Chapter 7: Traffic and Transport of the Environmental Statement, which includes the preparation of a detailed Construction Traffic Management Plan.	HE is satisfied with the assessment provided, with the exception of the points raised separately below.	Agreed
	The assessment presented within the Transport Assessment rev 2 and Clarification Sheets (issued to HE on 26 <sup>th</sup> September 2018 and submitted as Appendix 31 and 32 to the Applicant's response at Deadline 1) is appropriate and accurate – with the exception of the individual points identified by HE in their Briefing Note 01A (Provided as part of Appendix A to this SoCG).	HE has provided comments relevant to the Transport Assessment Rev2 and clarification sheets in Briefing Note 01A. HE have not raised further comments on the remainder of the TA Rev2 and clarification sheets.	Agreed
	The responses provided by Hornsea Three, in response to the comments raised by HE in their Briefing Note 01A (Appendix A), are considered appropriate. The responses are provided in Section 5 as part of Appendix "a" to this SoCG.	These responses were provided on 2 <sup>nd</sup> November and are in the course of being reviewed by Highways England. They are therefore 'work in progress'.	Under discussion
	The use of the A47/A1074 Longwater junction, A47/ A140 and B1113/A140 junctions by workforce during construction is likely to be low proportionate to the existing movements on the network and due to working hours (paragraph 4.1.1.1 of the Outline CoCP [APP-179], the movements may well be	HE agrees with this approach and considers that no further work beyond the provision of likely movements to inform a sensitivity test is required. HE is satisfied that the outcomes of the sensitivity test will be used to identify site-specific measures to be included in the	Agreed

Discussion Point	The Applicant's Position	Highways England Position	Final Position
	<p>outside of the normal network peak. Consideration will be given to the use of these junctions by the construction workforce, as well as the need for specific traffic management measures, post-consent and secured, where necessary, through the final CTMP(s) secured under Requirement 18 of the draft DCO. Notwithstanding this, in line with discussion with HE, the Applicant will provide HE with the number of anticipated construction vehicles movements through these locations shortly to inform a sensitivity test which will subsequently be used to inform the detailed CTMP post-consent. The Applicant will engage with HE to include measures within the detailed CTMP which manage construction traffic where appropriate. The need for and location of on-site monitoring will be discussed and agreed with HE during the detailed design phase, once there is additional clarity on traffic flows at peak periods.</p>	<p>detailed Construction Traffic Management Plan CTMP post-consent.</p> <p>It is agreed that the CTMP will be developed to ensure those junctions mentioned will operate, as far as practicable in a safe and efficient manner. Where traffic modelling or on site monitoring determines that this is not the case, suitable measures such working hours restrictions on construction sites in the vicinity, and the provision of queue length detectors on A47 slip roads linked to Variable Message Signs alongside the main carriageways of the A47 to advise drivers approaching these junctions of the risk of encountering excessive amounts of queueing traffic.</p> <p>Suitable measures will be based on trigger points to be agreed where construction traffic levels exceed acceptable levels.</p> <p>On-site monitoring and mitigation measures such as those set out above must be implemented for the duration of the works to the satisfaction of Highways England and in compliance with its usual standards and policies in place at the time.</p>	
	<p>Based on comments provided by HE, and subject to the sensitivity testing referred to above, no junction capacity assessment or collision assessment is required at the</p>	<p>HE has discussed the capacity and characteristics of these junctions with the Applicant. HE is content that no junction capacity modelling is required except in the</p>	<p><b>Agreed subject to confirmation</b></p>

Discussion Point	The Applicant's Position	Highways England Position	Final Position
	<p>following locations;</p> <ul style="list-style-type: none"> <li>• A47/B1535 junction;</li> <li>• A47 to the west of Easton;</li> <li>• A47 Easton roundabout (subject to measures such as those set out in paragraph 2.2.1.1 of the Outline CTMP being implemented at this location);</li> <li>• A47/ A1074 Longwater junction</li> <li>• A47/B1108 Colney junction;</li> <li>• A11/ Station Lane, Hetherset;</li> <li>• A11 to the south-west of Thickthorn junction;</li> <li>• A11/A47 Thickthorn junction (though the final CTMP will include a commitment to restrict the use of Cantley Lane – see CTMP section below);</li> <li>• A47/A140 Harford junction (subject to measures such as those set out in paragraph 2.2.1.1 of the Outline CTMP being implemented at this location);</li> <li>• A47/A146 Trowse junction; and</li> <li>• A47/ A1270 Postwick Junction.</li> </ul> <p>The Applicant is liaising with NCC in regard to the A140/B1113 junction as set out in the NCC SoCG.</p>	<p>two locations listed below.</p> <p><u>A140/B1113</u></p> <p>The impact of the proposals on the A140/ B1113 junction is to be agreed between the Applicant and Norfolk County Council (NCC). HE will require confirmation from NCC of their acceptance of the impact of construction traffic on this junction, in order to address the risk of a queue of traffic tailing back to, and affecting the operation of, the A47/ A140 junction.</p> <p>However, if the junction mentioned above will not be operating in a safe and efficient manner, or where traffic modelling or on site monitoring determines that this is not the case, suitable mitigation measures will need to be developed in consultation with Highways England and NCC.</p>	<p><b>from NCC. Thus under discussion.</b></p>
	<p>Based on discussions with HE, the Applicant has agreed to provide, at the A47/Taverham Road Honingham junction – Collision assessment, DMRB compliance check including visibility measurements and swept path analysis for construction vehicles. A PICADY model of this junction is not</p>	<p><u>A47/Taverham Road Honingham Junction</u></p> <p>HE agrees that the Applicant should provide analysis of the A47/Taverham Road Honingham junction to include accident records, DMRB compliance check and HGV swept paths. HE agrees that a PICADY model is not</p>	<p><b>Under discussion</b></p>

Discussion Point	The Applicant's Position	Highways England Position	Final Position
	required.	<p>required. HE will review this analysis, but does not foresee any concerns which could not be managed through the detailed CTMP.</p> <p>In order to minimise the risk of a queue of stationary traffic developing on the main carriageway of the A47, the CTMP should include measures to avoid a situation in which two HGVs (one arriving, one leaving the site) will attempt to use this junction at the same time, .</p> <p>Further information was provided on 2<sup>nd</sup> November 2018 and is under review by HE</p>	
	<p>The projects screened into the cumulative effect assessment in Volume 3, Chapter 7: Traffic and Transport of the Environmental Statement were appropriate at the time of submission of the DCO application, and cumulative impacts were satisfactorily assessed.</p> <p>Where committed developments have arisen since the original DCO application, it is considered that any implications on traffic and transport assessment would not change the mitigation required, which therefore remains as proposed within the Environmental Statement.</p>	<p>HE considers the cumulative effect assessment to be appropriate, with measures to manage construction traffic to be secured through the detailed CTMP post-consent.</p>	<b>Agreed</b>
<b><i>Outline Construction Traffic Management Plan (APP-176) and Outline Code of Construction Practice (APP-179) as appropriate</i></b>			
Construction traffic management	The principles set out in the Outline Construction Traffic Management Plan are appropriate. Further detail and site specific measures will be developed in the final CTMP(s) secured under Requirement 18 of the draft DCO (Document	HE considers the principles set out in the Outline CTMP to be appropriate, including the proposed amendments. Further site-specific detail will be provided in the final CTMP to be agreed post-consent.	<b>Agreed</b>



Discussion Point	The Applicant's Position	Highways England Position	Final Position
	<p>Reference A3.1).</p> <p>Notwithstanding this, based on post-application discussions with HE, the Applicant has made the following amendments to the Outline CTMP (new text shown in underline):</p> <p>Newly created paragraph 2.2.1.2 <u>“Engagement with Highways England has identified the A47 Taverham Road Honingham junction, A47 Easton Roundabout, A47/A1074 Longwater junction, A47/ A140 junction and B1113/A140 junction as locations which will require measures such as the above, particularly in respect to encouraging staff movements outside of the network peak.”</u></p> <p>Newly created paragraph 2.1.3.5 <u>“No HGV movements will be permitted on Cantley Lane, close to the A11/A47 Thickthorn junction.”</u></p>		
Travel Plans	<p>The decision not to create a standard Travel Plan for onshore works, due to the linear and rural location of the project, is appropriate. However, in line with discussions with NCC, the Applicant will provide a Travel Plan during Examination.</p>	Position Agreed.	<b>Agreed</b>
Abnormal loads	<p>The impact of abnormal loads on traffic and transport receptors has been adequately assessed. The management measures detailed in Outline Construction Traffic Management Plan (Document Reference A8.2) for abnormal loads are appropriate in principle. Further detail and site-specific measures will be developed in the final CTMP(s) secured under Requirement 18 of the draft DCO).</p>	<p>At this stage it is not possible to understand fully the impacts of abnormal loads on the SRN, as the applicant has not provided the port location to be used for this project and consequently abnormal load routeings have not yet been identified.</p> <p>The routeings will be reviewed once further information on routeing is provided. Any approval will be provided</p>	<b>Under discussion</b>



Discussion Point	The Applicant's Position	Highways England Position	Final Position
	<p>The Applicant highlights that it intends, through the development of the Outline CTMP (APP-176), to continue to monitor and consider the impact of Abnormal Indivisible Loads associated with the delivery of cable drums to both the main construction compound and to secondary compounds, as well as direct to the onshore cable corridor.</p> <p>In this regard, the Applicant will give due consideration to transformer abnormal loads to demonstrate feasibility of access to the onshore HVAC booster and onshore HVDC converter/HVAC substation.</p>	<p>by the Highways England's Abnormal Loads team.</p> <p>HE will require agreement to be reached prior to any onshore site construction takes place. Any approval will include where necessary site-specific measures to accommodate the abnormal loads along the specified routeings.</p>	

## 4. Conclusions and Further Work

- 4.1 This SoCG has been developed between with HE and the Applicant to provide an overview of the impact of the proposed development on the Strategic Road Network and sets out where agreement has been reached between the parties on matters arising and where further work is required.
- 4.2 Following consideration of the evidence base, HE is in agreement with the Applicant that the transport modelling evidence base, and other submitted documentation provides a broad overview of the impact of the proposals on the Strategic Road Network and subject to outstanding matters set out in this document and summarised below, there are no identified showstoppers and that there is the potential to mitigate against and minimise to an acceptable level any impact of the proposal on the efficient and safe operation of the SRN.

### **Matters Under Discussion**

- 4.3 Ongoing work associated with these proposals are as follows,:

HDD Crossings	Approval of detailed proposals as part of the detailed design.
Detailed CTMP	Completion of sensitivity test on the impact of construction vehicles on the SRN to inform the development of detailed CTMP measures.
Detailed CTMP	The need for and location on-site monitoring and mitigations in the event that actual traffic conditions on the SRN exceed predicted levels based on agreed trigger points to be discussed and agreed as part of the development of the detailed CTMP.
A140/B113	Further understanding of the impact of proposals and consequent impact on A47.
A47/Taverham Road	Further understanding of the impact of proposals on A47.
Abnormal Load Routeings	Further analysis and approval of the abnormal load routeings and any subsequent agreement of site specific mitigation measures.

## 5. Appendix “a” - Applicant’s Response to Highways England Briefing Note 01A

Version	Date	Author	Context
1	November 2018	Create Consulting Ltd	Final version for issue

### Acronyms

Acronym	Definition
AADT	Annual Average Daily Traffic
ATC	Automatic Traffic Counter
DfT	Department for Transport
DoS	Degree of Saturation
HGVs	Heavy Goods Vehicles
LPA	Local Planning Authority
NPPF	National Planning Policy Framework
TEMPRO	Trip End Model presentation Programme
PCU	Passenger Car Units
PRC	Practical Reserve Capacity
PRoW	Public Rights of Way

## 6. Introduction

- 6.1 This document provides a response to the issues raised by AECOM on behalf of Highways England (HE) in the Briefing Note 01A (BN 01A) dated 17<sup>th</sup> October 2018 and clarification where appropriate. BN 01A is included as Appendix A of this response.
- 6.2 BN 01A builds upon an earlier briefing note issued by AECOM (BN01) which related to the Preliminary Environmental Information Report (PEIR) prepared for the proposed Hornsea Three Wind Farm. BN01A therefore provides feedback as to whether issues raised by AECOM (in BN01) have been addressed in the updated Transport Assessment (v2) and Transport Assessment Clarifications dated September 2018, which are provided as Appendix 31 and 32 in the Applicant's response to Deadline 1, as well as identifies any outstanding matters of concern.

## 7. Highways England Comments/Create Response

7.1 The BN01A breaks down the evaluation of the transport submissions into specific sections for review, these have been emulated below with Create's response to each section where necessary.

### Policy Considerations

7.2 The issue regarding Circular 02/2013 has now been clarified at para 1.2.1.3 of the Transport Assessment v2 (hereafter referred to as TA v2) to the satisfaction of AECOM.

### Main Impacts

7.3 Paragraph 11 of the BN01 states:

*"Having carried out a review of the documents, AECOM consider the principal impacts likely to be of concern to Highways England will be:*

- *The impact on the A47 at Easton and the A11 at Hethersett of the construction of TT cable crossings under the carriageway of the Trunk Road;*
- *The relationship between the works proposed at these locations and the RIS schemes for the A47 between North Tuddenham and Easton and for the A11/A47 Thickthorn junction.*
- *The impact of HGV traffic accessing construction sites and the construction compound via junctions and accesses on the A11 and A47 in the vicinity of Easton, Honingham and Hethersett;*
- *The impact of HGV traffic associated with the construction of a new substation adjacent to the SRN at Swardeston;*
- *The impact of HGV traffic carrying materials between the construction compound and the work sites."*

7.4 AECOM confirmed in BN01A that there is nothing in the TA (v2) to suggest that the main impacts of concern to Highways England will be other than these.

### Impact Assessments

7.5 Paragraphs 12-14 of BN01 states:

*"The PEIR proposes use of the Guidance on the Environmental 12. Assessment of Road Traffic (GEART) to determine the significance of environmental impacts. The TA is to be prepared in accordance with the (now withdrawn) DfT Guidance on Transport Assessment.*

*The PEIR proposes that impacts will be screened in accordance with the following criteria:*

- *Highway links with an increase in flow (or an increase in HGV flow) of more than 30%; and*
- *In specifically sensitive areas, highway links with an increase in flow (or an increase in HGV flow) of more than 10%.*

*Highway links where the increase in total flow or HGV flows are predicted to be less than 10% will be screened out of the assessment. AECOM acknowledge that this is the 'industry standard' approach for the sort of impacts considered in an EIA. However, it should be noted that Circular 02/2013 can require detailed scrutiny of traffic capacity and road safety impacts at significantly lower thresholds."*

7.6 The AECOM response to this in BN01A is:

*"The TA does not explicitly acknowledge this point. However traffic flow increases of less than 10% are tabulated in Tables 1.7 & 1.8 of the TA and therefore this comment has de facto been addressed. Further consideration of the significance of the increases reported in the TA is discussed in the sections which follow.*

7.7 Paragraph 16 of BN01 states:

*"It should be noted that the way the HGV movements are presented does not always allow the potential useage of individual access points on the SRN to be quantified. AECOM recommend that an estimate be made of the numbers likelty to arise from each construction compound and site access. This is particularly important for construction compound C1, which is to be accessed via the A47/B1535 junction at Honingham and in section 7.10, its traffic generation is aggregated with ten individual construction access points, the majority of which would be served from the north, via the A1067. So it is not possible to determine the extent to which traffic flows at the A47/B1535 junction would increase. This should be clarified in the TA."*

7.8 The AECOM response to this in BN 01A is:

*'Table 1.5 of the TA clarifies the split between construction access points accessed via the A1067 and via the A47 and Appendix A of the TA allocates traffic accordingly. However, the proposed route for traffic accessing site access 19 (C) is not stated in Table 1.5 nor in Appendix A. This should be clarified. In addition, construction compound C1 is no longer located on the B1535 and the TA appears to propose that no construction traffic will be routed via the B1535.'*

7.9 To confirm, the construction compound C1 is no longer being proposed as being accessed off the B1535 and therefore, no construction traffic should be assigned to/from this specific location.

7.10 Paragraph 17 of BN01 states:

*"AECOM note that no similar exercise appears to have been undertaken in respect of either motor vehicle trips generated by the workforce; or by HGVs on the wider network, moving materials between quarries, railheads and/or ports and the cable corridor. Many of these routes will utilise substantial lengths of the SRN and may be significant at locations close to the source of the materials, for example at the first point of access to the SRN from the selected base port. These additional sources of traffic should be assessed in the TA."*

7.11 The AECOM response to this in BN01A is:

*"The TA acknowledges this point at paras 1.6.2.19 and 1.6.2.27, where two alternative percentage distributions of HGV traffic are proposed. Tables 1.6 & 1.7 of the TA assign traffic to the A14 east and west of the study area and to the A11 south. No explicit consideration is given to individual junctions in the vicinity of railheads or base ports and no rationale is given for not doing so. HGV traffic forecast to use the A146 (SE of Norwich) and A140 (S of Norwich) is not tabulated. HGVs are assigned to these routes in the traffic flow diagrams in Appendix B of the TA but the numbers assigned to each of these routes is minimal."*

7.12 Paragraph 19 of BN01 states:

*"The anticipated construction phasing should be clarified before work on the TA commences because it will be critical to ensuring that the correct scenarios are assessed."*

The AECOM response to this in BN 01A is:

*'The inter relationship between the wind farm proposal and the RIS schemes is referenced at para 1.7.9.1 of the TA, where it states that initial discussions have taken place (although it says that these have been with NCC, not with HE – presumably a misprint) and that further discussions will take place post submission. Provided these discussions are meaningful and ongoing, this point has been addressed.'*

7.13 Create can confirm that said discussions are both meaningful and ongoing.

#### **Location-Specific Impacts**

##### **A47 Junction with B1535 west of Honingham**

7.14 The access (referred to above) is no longer proposed via B1535 and therefore, no further action is required relating to this matter.

##### **A47 Junction with Taverham Road east of Honingham**

7.15 Paragraph 26 of BN01 states:

*"In the event that the Wind Farm construction precedes the opening of the RIS scheme, AECOM recommend that, in the TA, this junction should be assessed in the following ways:*

- *An assessment of the current junction layout against the requirements of DMRB design standard TD42;*
- *An assessment of the collision record of this junction;*



- *If the traffic flow increases are sufficient to warrant it, a PICADY model to determine any capacity problems associated with this junction;*
- *Consideration should be given to geometric improvements to facilitate the use of this junction by larger numbers of HGVs;*
- *Alternatively, consideration should be given to banning the right turns into and out of Taverham Road for construction vehicles, making use of the roundabouts at the east end of Honingham bypass and at Easton to facilitate the resulting U-turn movements.”*

7.16 The AECOM response to this in BN01A is:

*“No assessments of this nature are included in the TA or its supporting documentation.*

*Table 1.5 of the TA lists two construction site accesses as being accessed via the A47/ Taverham Road junction. These are listed as sites 16 (B) and 17 (B) although on the plan at Sheet 7 of ES Annex 7.8, it would seem more logical to serve sites 17 (B) and 18 (B) from Taverham Road and 16 (B) from Church Lane, Easton. Appendix A shows the total traffic generated by sites 16 (A), 17 (B) and 18 (B) as being 31 two-way light vehicle and 99 two-way HGV movements per day. It would be reasonable to assume that this traffic will be split equally across the three access points, therefore the A47/ Taverham Road junction would have to accommodate up to 66 two-way HGV movements per day. This is unlikely to require a junction capacity model. However, the underlying suitability of this older-style priority junction needs to be questioned for the reasons stated at para 24 above. An assessment of the junction’s layout against DMRB standards and the provision of HGV swept path plots to demonstrate its adequacy to accommodate an influx of larger vehicles, together with an assessment of the collision record here would be advisable. It is of note that a collision analysis was undertaken for the A47 to the west of Easton (TA paras 1.4.2.16 – 1.4.2.23) but this covered a section some 2-3km to the west of here and did not include this junction.*

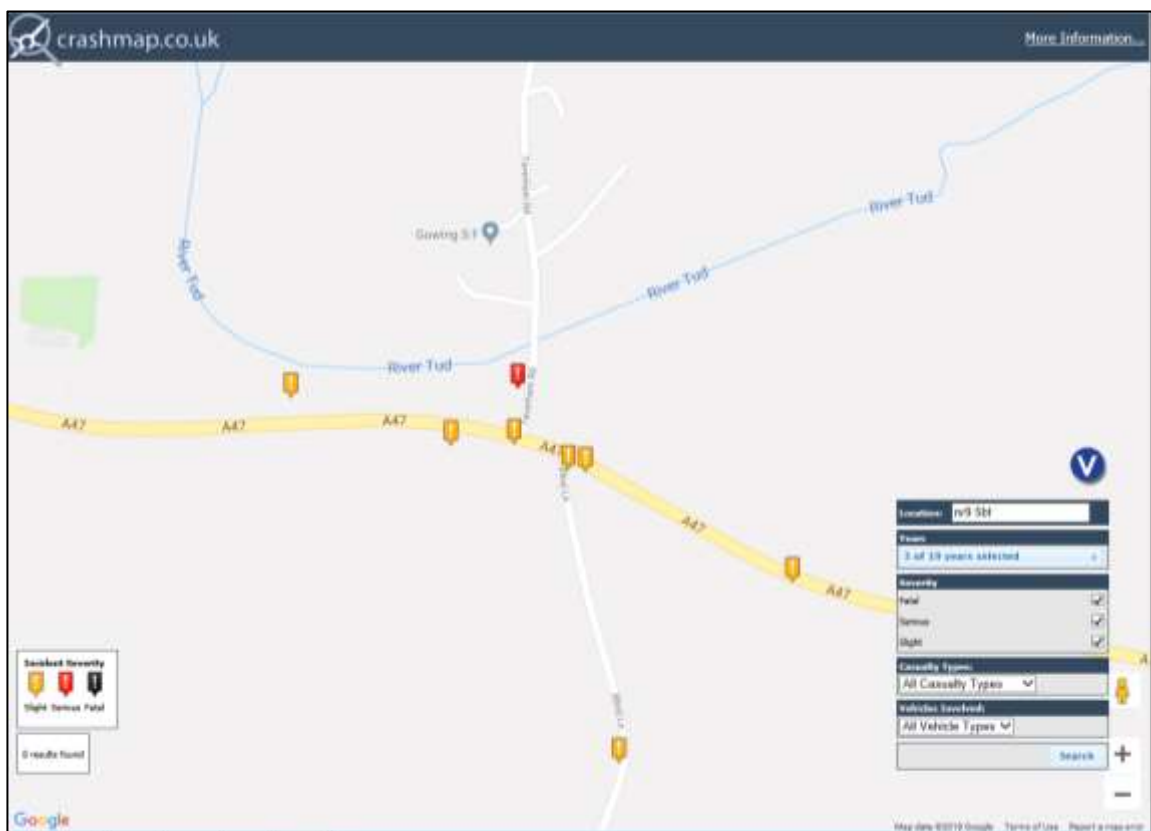
*Further assessments as recommended above would be beneficial. Alternatively, from the perspective of the safe and free flow of traffic on the Trunk Road, it might be preferable to serve all three access points 16(B) 17(B) and 18(B) from the A47/ Easton roundabout via Church Lane (highway link 126) rather than from Taverham Road (link 125).”*

7.17 Due to the low levels of proposed traffic associated with Hornsea Three, Create will not be providing a junction capacity model for the A47/Taverham Road junction.

7.18 Create has undertaken swept path analysis of HGV vehicles at the A47/Taverham Road junction to determine the suitability of the existing road layout and identify and also provide and account of existing geometry and visibility at this junction (A47/Taverham Road). The swept path analysis and geometric and visibility assessment is provided at Appendix B. There would appear to be no significant deficiencies at this location with respect to major/minor arm geometry and levels of visibility readily satisfy 215m x 4.5m x 215m for an estimated 100kph design speed. We also note the inclusion of merge and diverge tapers at this junction, which typically aid the movements of larger, slower moving vehicles to/from the minor arm.



- 7.19 It is noted that there are currently some issues with overrunning on the minor arm of the A47/Taverham Road junction, however, the track run analysis indicates that the required Hornsea Three HGV movements would be contained within the existing kerb lines. The existing overrunning appears to be principally associated with existing agricultural vehicles. This junction would, however, be included within the overall Construction Traffic Management Plan for the Hornsea Three scheme and should there be significantly increased wear and tear at this junction that can be directly associated with the scheme, then remedial action can be taken accordingly.
- 7.20 To address the AECOM concerns regarding the A47/Taverham Road junction a review of road safety has been carried out using the “Crashmap” recorded personal injury accident database. The review includes three years of accident data to the end of 2017 as shown in Figure 2.1 below:



**Figure 2.1 – Crashmap A47/Taverham Road Junction Assessment**

- 7.21 The Crashmap data depicted in Figure 2.1 shows that only one accident occurred on the A47 immediately adjacent to the Taverham Road junction. This accident is classified as ‘Slight’ in severity and was recorded on the 15 January 2016 involving two vehicles resulting in one casualty.
- 7.22 Figure 2.1 also shows an accident recorded on Taverham Road approximately 35m north of the junction with the A47. This accident occurred on 26 July 2017 and is classified as ‘Serious’ in severity involving two vehicles and one casualty.

- 7.23 The next closest accident to the A47/Taverham Road junction was recorded on 4 May 2018, approximately 50m to the west on the A47. This incident was classified as 'Slight' in severity involving two vehicles and two casualties.
- 7.24 The two accidents shown to the east of Taverham Road along the A47 are more closely linked to the Blind Lane junction to the south and therefore are not relevant to this assessment.
- 7.25 In addition to the Crashmap data analysis outlined above, further analysis has been undertaken using collision data obtained from Norfolk County Council for an extended five year period to the end of August 2018, included at Appendix C. This more detailed account of collision data shows there to be no issues with HGV traffic turning to/from Taverham Road within the immediate vicinity of the A47/Taverham Road junction.
- 7.26 Consequently, it can be asserted that there are no prevailing accident issues associated with the A47/Taverham Road junction arrangement and this is likely to remain so with the introduction of Hornsea Three.
- 7.27 In view of the geometric, visibility and collision data analysis outlined above, there would appear to be no significant issues with use of the A47/Taverham Road junction in connection with Honsea Three and therefore, use of an alternative local route (i.e. via the A47/Church Lane roundabout at Easton) via Church Lane would not appear to be necessary, in this case.

A47 to west of Easton

- 7.28 Direct access from the A47 no longer proposed, therefore, no action is required.

A47 Easton Roundabout

- 7.29 Create will not be providing either a collision or a junction capacity assessment for this location due to the short time frame (between 106 and 158 days) over which the impact would take place.

A47/A1074 Longwater and A47/B1108 Colney Junctions

- 7.30 Paragraph 33 of BN01 states:

*"The PEIR indicates that a number of HGV access routes will pass through, join and/or leave the A47 Trunk Road at the A1074 Longwater and B1108 Colney junctions (see PEIR Figure 7.1, sheet 7). AECOM recommend that, in the TA, if the traffic flow increases are sufficient to warrant it, the impact of the proposals on the capacity of these junctions should be assessed using an ARCADY model."*

- 7.31 The AECOM response to this in BN01A is in two parts:

*"No junction capacity models are included for these junctions.*

*As regards the A47/ A1074 Longwater junction, the TA appears to assign no construction traffic via the A1074 or via Dereham Road or Long Lane to the west and south of the junction respectively. The impact may therefore be minimal, comprising the proportion of the workforce who will find this the most convenient route from home addresses in Norwich to the construction sites to the west of the City. This type of trip does not appear to be quantified in the TA and, arguably, should have been."*

- 7.32 As indicated on the accompanying traffic flows diagrams at Appendix D, the great majority of staff movements will not take place during the conventional AM (0800-0900hrs) and PM (1700-1800hrs) network peak periods and consequently, the impact will be minimal. The peak periods for staff movements associated with Hornsea Three would be 0700-0800hrs and 1800-1900hrs. Therefore, Create will not be providing any additional analysis at this location.
- and;
- As regards the A47/ B1108 junction, Appendix A of the TA implies an increase in flow of 31 light vehicle and 95 heavy vehicle two-way trips per day using the B1108 to access construction sites serving cable section 17. This scale of increase is unlikely to require either a collision or junction capacity assessment.
- 7.33 No collision or junction capacity assessment of the A47/ B1108 junction is to be provided.
- A11 to the south-east of Hethersett
- 7.34 Create will not be providing either a collision or a junction capacity assessment due to the level of proposed traffic and the short time frame (163 days) over which the impact would take place.
- A11/ A47 Thickthorn Junction
- 7.35 Create will not be providing either a collision or a junction capacity assessment due to the level of proposed traffic and the short time frame (between 163 and 231 days) over which the impact would take place.
- A47 to the west of the Harford Junction
- 7.36 Create is in agreement with the AECOM statement within BN 01A, that the previously raised issue regarding the A47 to the west of the Harford Junction has now been resolved.
- A47/ A140 Harford Junction
- 7.37 In line with the AECOM response Create will not be providing either a collision or a junction capacity assessment due to the time frame (up to 825 days) over which the impact would take place.
- 7.38 As indicated on the accompanying traffic flows diagrams at Appendix E, the great majority of staff movements will not take place during the conventional AM (0800-0900hrs) and PM (1700-1800hrs) network peak periods and consequently, the impact will be minimal. The peak periods for staff movements associated with Hornsea Three would be 0700-0800hrs and 1800-1900hrs.
- 7.39 Nevertheless, further analysis has been requested by AECOM for this junction with the response by Create outlined as follows, for the review period 0700-1000hrs.
- 7.40 The worst-case "Phase 4 max staff" development scenario for the construction would give rise to an estimated total of 57 additional movements towards the A140 northbound from the A47 eastbound off-slip and 81 additional movements from the A47 westbound off-slip, also bound for the A140 northbound during the AM peak period.

- 7.41 It should be noted, however, that this traffic would be managed such that it did not coincide with the conventional 0800-0900hrs network peak period and other measures such as car-sharing among staff would also be promoted by the Hornsea Three scheme to minimise its overall traffic impact on the local highway network.
- 7.42 The worst-case "Phase 4 max staff" scenario would give rise significantly fewer impacts at this junction in the PM peak period with a total of 30 additional movements towards the A140 southbound from the A47 eastbound off-slip and 3 additional movements from the A47 westbound off-slip, also bound for the A140 southbound.
- 7.43 HGV impact at this junction would be minimal amounting to less than 20 movements on the A47 eastbound and westbound slips in the PM peak period.
- A47/ A146 Trowse and A47/ A1074 Postwick Junctions
- 7.44 Create is in agreement with the AECOM assessment the increases in traffic at these junctions associated with Hornsea Three as presented in the TA are not of the magnitude to warrant further collision or junction capacity assessment.
- 7.45 AECOM also state that collision or capacity assessments for the A1270 are also not necessary due to the temporary nature of the construction period with any single construction site active for up to 2.25 years. Create will therefore, not be undertaking any collision or junction capacity assessment.

## **8. Summary and Conclusions**

- 8.1 This document comprehensively addresses those issues raised by AECOM on behalf of Highways England in BN01A dated 17<sup>th</sup> October 2018.
- 8.2 The additional information and clarifications provided herein mean that all points raised should now be satisfactorily addressed and there should be no further areas of concern for Highways England in respect of the Hornsea Three proposals.