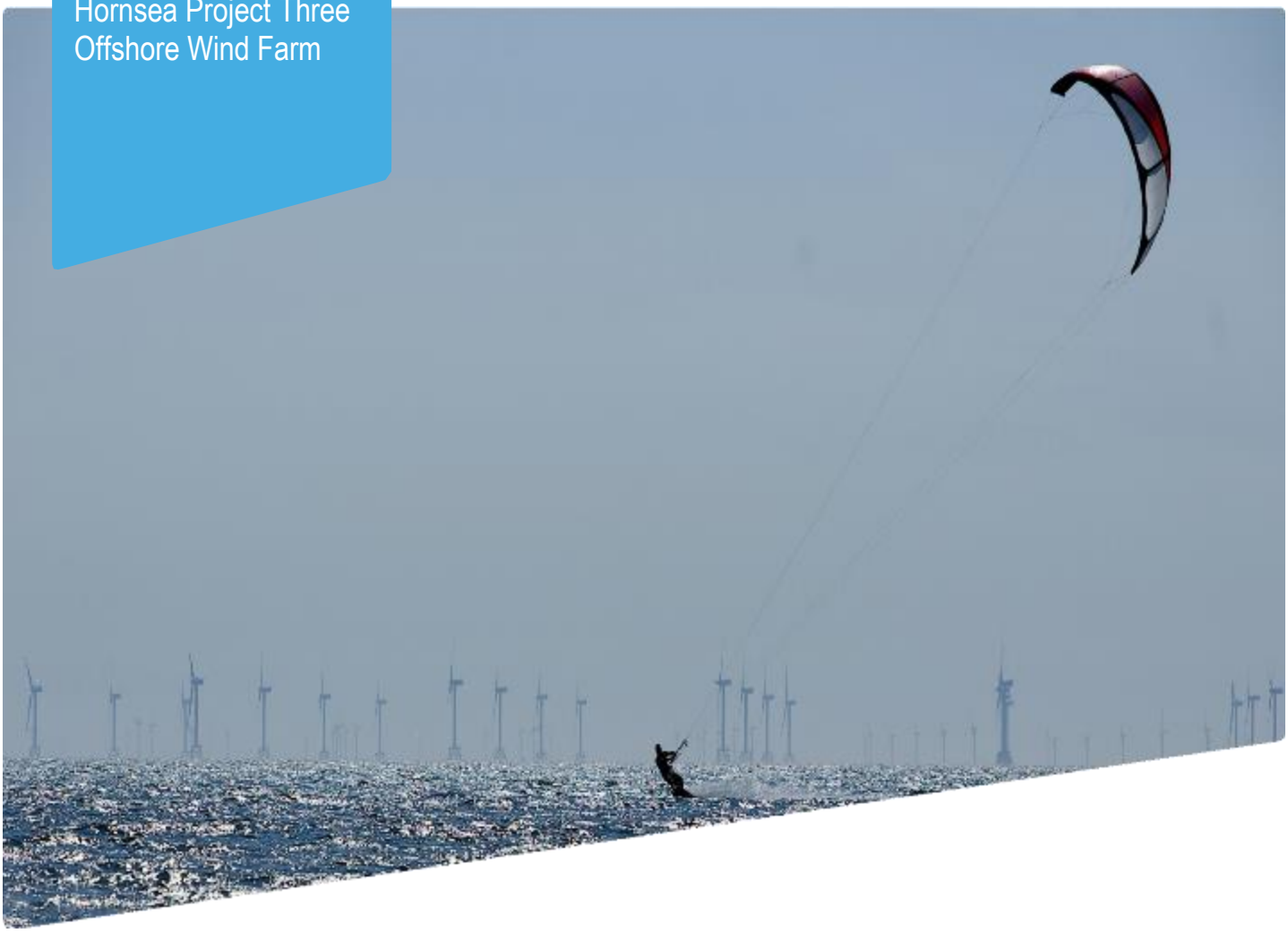
Hornsea Project Three
Offshore Wind Farm



Hornsea Project Three

Offshore Wind Farm

Appendix 23 to Deadline I submission – Impacts on the Qualities of Natural Beauty of the Norfolk Coast AONB

Date: 7th November 2018

Hornsea 3
Offshore Wind Farm

Ørsted

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

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1. Introduction

1.1 This document provides clarification on effects on the Qualities of Natural Beauty (QNBs) of the Norfolk Coast Area of Outstanding Natural Beauty (AONB) in response to the Examining Authority's written question Q1.7.12. It supports the assessment of landscape and visual effects set out in Volume 3, Chapter 4: Landscape and Visual Resources of the Environmental Statement (APP-076). In relation to landscape and visual effects on the AONB (and other designated landscapes) APP-076 states: *"Given the limited spatial extent of the onshore cable corridor in relation to these designated areas and the nature of potential effects (i.e. short-term construction activity followed by landscape reinstatement) it is unlikely that construction of the onshore cable corridor would undermine the special qualities or reasons for designation of these landscapes. Significant effects are therefore not anticipated …."* (paragraph 4.7.5.2).

1.2 Information on the seven QNBs of the AONB defined in the Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-19 prepared by The Norfolk Coast Partnership is presented in Volume 6, Annex 4.4: Qualities of Natural Beauty of the Norfolk Coast AONB (APP-145) of the Environmental Statement. Effects the offshore HVAC Booster Station on QNB's of the AONB which are relevant to the landscape and visual resources assessment are presented in Volume 6, Annex 4.7: Effects of the Offshore HVAC Booster Station (APP-148) of the Environmental Statement, where it is concluded that effects would be negligible (paragraph 2.4.1.2).

2. Norfolk Coast AONB

2.1 The Norfolk Coast AONB is a landscape nationally designated for its natural beauty. The statutory purpose of designating an area of land as an AONB is to conserve and enhance the natural beauty of the area. This comprises the area's distinctive landscape character, biodiversity and geodiversity, historic and cultural environment. These qualities are expressed through seven QNB's as set out in the Norfolk Coast AONB Management Plan Strategy 2014-19.

2.2 The AONB occupies extensive areas of the north Norfolk coast extending from the shore inland, typically around 6 km but up to approximately 12 km in some areas. The Hornsea Three intertidal area and onshore cable corridor pass through the central part of the AONB with the export cables making landfall at Weybourne Beach and extending south, exiting the AONB as they pass High Kelling as shown on Figure 4.1 of Volume 3, Chapter 4: Landscape and Visual Resources of the Environmental Statement (APP-076). The cables would be buried and the landscape within the cable corridor reinstated following construction.

2.3 Detailed consideration of the impact of Hornsea Three on the QNB's is provided in 0 and considers landscape and visual resources as well as other topics as appropriate to provide clarification to conclusions reached in the Environmental Statement.

3. References

Norfolk Coast Partnership (2014) Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-19. Available online: http://www.norfolkcoastaonb.org.uk/mediaps/pdfuploads/pd003457.pdf [Accessed on 20 July 2018].

South Norfolk Council (2015). South Norfolk Local Plan Development Management Policies Document Adoption Version. Available online: https://www.south-norfolk.gov.uk/sites/default/files/Development_Management_Policies_Document_0.pdf [Accessed on 08 August 2018].

Annex A Qualities of Natural Beauty of the Norfolk Coast AONB

Introduction

The AONB Management Plan Strategy prepared by the Norfolk Coast Partnership (NCP) sets out a summary assessment of each defined QNB and presents an overall assessment on the following scale since designation and currently:

GREEN – quality is being conserved and enhanced

AMBER – some grounds for concern

RED – quality is not being conserved and enhanced

Table 1: Qualities of Natural Beauty of the Norfolk Coast AONB.

Summary Assessment of QNB	***Assessment as presented in the AONB Management Plan prepared by NCP***		**Impacts of Hornsea Three on the QNB**
	Overall Assessment: Since Designation	***Overall Assessment: Currently***	
1. DYNAMIC CHARACTER AND GEOMORPHOLOGY OF THE COAST *Movement and interchange of internationally recognised geomorphological features and habitats.*			
Some form of flood defences exist for much of the 'low' coast from the western outlier to Weybourne but extensive marshes, mud and sand flats in front of sea banks means that the coast is extensively subject to change through the action of natural forces and coastal processes at present, maintaining the existing range of dynamic coastal geomorphological features and coastal habitats. *Realignment schemes and sympathetic management changes have taken place and the future trend is likely to be continued realignment.*	*GREEN*	*GREEN*	The Hornsea Three onshore cable corridor does not pass through any of the designated national or internationally important geologically important sites and therefore protected geomorphological features are not considered to be at risk. Effects of cable installation at the Hornsea Three landfall and nearshore area, including effects on hydrodynamics, sediment transport and beach morphology, are considered Volume 2, Chapter 1: Marine Processes of the Environmental Statement [APP-061]. The assessment concluded that all impacts are anticipated to be of minor magnitude. The shoreline is deemed

Summary Assessment of QNB	Assessment as presented in the AONB Management Plan prepared by NCP		Impacts of Hornsea Three on the QNB
	Overall Assessment: Since Designation	Overall Assessment: Currently	
Extensive stretches of the cliffed coastline are able to erode and change naturally, maintaining a dynamic variety of habitats and providing vital sediment for beaches down-drift. Major settlements are protected by hard defences, which are likely to remain for the foreseeable future and constrain coastal change in these locations. Away from settlements the current and future trend is for reduced defence.			to be of minor vulnerability, moderate to high levels of recoverability and high value (i.e. due to presence of a number of designations in the area) and therefore, overall sensitivity of the receptor is considered to be medium. The effect was predicted to be of minor adverse significance, which is not significant in EIA terms. . Hornsea Three is unlikely to lead to temporary or permanent changes in the overall assessment of this QNB.
2. STRONG AND DISTINCTIVE LINKS BETWEEN LAND AND SEA *The area's distinctive and unique character is based on the visual, ecological, socio-economic and functional links between land and sea.*			
Ecological links are generally sound. A few species depending on both land and sea are under pressure, although not necessarily because ecological links are failing. Intertidal areas are a key component in the area's biodiversity and landscape / seascape character. Coastal wildlife and seascapes are strong factors in the local tourism industry. *Economic and social links with the sea remain strong, although different in emphasis from the past. Many local people maintain an active involvement with the coast e.g. through recreational activities such as sailing, through the 'longshore economy', including common rights (for example shellfish and samphire gathering), although wildfowling has decreased with increasing numbers of visitors. The local fishing industry, although employing few people, is relatively stable and continues to constitute a part of the area's character. Coastal water quality and the quality of beaches is generally good, providing a suitable environment for coastal recreation and bringing large numbers of visitors at peak times.* *Panoramic coastal views and seascapes remain distinctive in character, although the wilderness quality of the seascapes of the North Norfolk*	*GREEN*	*AMBER*	During construction, cable installation vessels would be present offshore and other plant machinery associated with cable installation would also be present in the intertidal area. This would result in some short term, temporary effects on the character of this area although following completion of the cable installation the intertidal area would be reinstated to its present condition and there would be no permanent change in character. As described in Section 2.7.2 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement (APP-062), the Hornsea Three intertidal area is characterised by naturally species-poor intertidal benthic communities and comprises of a shingle beach dominated by barren pebbles and cobbles. As a result of the sparse ecological communities at the Hornsea Three intertidal area, the impact of Hornsea Three construction activities on the sparse ecological communities at the Hornsea Three intertidal area have not been assessment in detail within the Hornsea Three Environmental Statement. As described in Section 3.11 of Volume 3, Chapter 3: Ecology and Nature Conservation of the Environmental Statement (APP-075) onshore construction works within the AONB may have some short-term effects on

Summary Assessment of QNB	*Assessment as presented in the AONB Management Plan prepared by NCP*		**Impacts of Hornsea Three on the QNB**
	Overall Assessment: Since Designation	*Overall Assessment: Currently*	
Heritage Coast has been affected recently by the development of offshore wind farms, with additional wind farms consented (see QNB 6).			ecological linkages through temporary disturbance to birds and severance of habitat (e.g. hedges). Impacts on hedgerows and watercourses are assessed as minor adverse in the absence of mitigation. Replanting of hedgerows with a more species-rich planting mix results in a minor beneficial impact once replacement planting matures. Impacts of habitat severance on great crested newts, breeding and wintering birds other than pink-footed goose, reptiles, water voles, otters, bats and badgers were assessed as between minor and negligible adverse significance. Impacts on wintering pink footed goose are potentially of moderate adverse significance if construction overlaps with the period highest use of fields around Kelling and Weybourne by this species, and a pink-footed goose mitigation plan would be produced to mitigate these short-term effects in this eventuality. There would not be long-term or permanent effects on ecological connectivity due to the implementation of the mitigation measures outlined in Table 3.19 and Paragraphs 3.11.1.93 to 3.11.1.95 of Volume 3, Chapter 3: Ecology and Nature Conservation of the Environmental Statement. As described in Volume 3, Chapter 6: Land Use and Recreation of the Environmental Statement (APP-078), impacts to recreation resources within the AONB will be mitigated such that any effects will be reduced as far as practicable. Whilst public access may be partially restricted during Hornsea three landfall construction activities, there remains large areas to the east and west that would remain accessible for fishing and other beach activities. If required, the mitigation measures would include the provision of dedicated diversions to Public Rights of Way, including Peddars Way & Norfolk Coast Path, along with measures to ensure the safety of pedestrians where Public Rights of Way cross the onshore cable corridor. If open cut technology is used at landfall, impacted sections of Peddars Way & Norfolk Coast Path would be reinstated to a condition commensurate to existing conditions.

Summary Assessment of QNB	*Assessment as presented in the AONB Management Plan prepared by NCP*		**Impacts of Hornsea Three on the QNB**
	Overall Assessment: Since Designation	*Overall Assessment: Currently*	
			Given the location of construction activity offshore and the limited impact on recreational assets, there will be negligible effect on the recreational use of the coast. Temporary presence of construction vessels and plant within the intertidal area would intrude on coastal views, although upon completion, this area would quickly revert to its natural state and there would be no change to existing views. As set out in Volume 6, Annex 4.7: Effects of the Offshore HVAC Booster Station of the Environmental Statement (APP-148), landscape and visual effects resulting from this element would be negligible due to it appearing as such a small and distant feature. Ørsted's response to the Examining Authorities question Q1.7.1 at Deadline 1 has provided clarification on the potential effects of lighting of the Offshore HVAC Booster Station and confirmed that the effects on the Norfolk Coast AONB from the offshore HVAC booster station remain negligible. Landward of this, within the Hornsea Three onshore cable corridor, there would be change to farmland where works to bury the export cable would be apparent. The Hornsea Three onshore cable corridor as it passes through the AONB generally follows low lying land however and often passes under or adjacent to woodland and so does not often feature within panoramic coastal views. One exception to this would be in views from Fox Hill/Muckleburgh Hill (Viewpoint CC2 presented in Volume 6, Annex 4.5: Photograph Panels, Wirelines and Photomontages (APP-146)) where construction activity would be visible, extending from the coast, wrapping round to the west of the hill and heading inland. Effects on this view would be temporary however, with land within the Hornsea Three onshore cable corridor being reinstated following construction, resulting in no change to views in the long term. Hornsea Three offshore wind farm including onshore elements lie outside the North Norfolk Heritage Coast (see Figure 4.1 on page 2 of Volume 3,

Summary Assessment of QNB	*Assessment as presented in the AONB Management Plan prepared by NCP*		**Impacts of Hornsea Three on the QNB**
	Overall Assessment: Since Designation	*Overall Assessment: Currently*	
			Chapter 4: Landscape and Visual Resources of the Environmental Statement (APP-076)). As described in paragraph 4.7.5.2 of Volume 3, Chapter 4: Landscape and Visual Resources of the Environmental Statement (APP-076) *"Given the limited spatial extent of the onshore cable corridor in relation to* [the Heritage Coast, AONB and other designated landscapes] *and the nature of potential effects (i.e. short-term construction activity followed by landscape reinstatement) it is unlikely that construction of the onshore cable corridor would undermine the special qualities or reasons for designation of these landscapes. Significant effects are therefore not anticipated …"* Hornsea Three may lead to a temporary change in the overall assessment of this QNB although following completion this would revert to the current assessment.
3. DIVERSITY AND INTEGRITY OF LANDSCAPE, SEASCAPE AND SETTLEMENT CHARACTER *Key quality is based on maintaining diversity of character types rather than uniformity across the area, including landscapes and seascapes, settlement pattern, building materials and styles.*			
Since designation in the 1960s some significant developments in the area have adversely affected the character of parts of the Norfolk Coast, mainly the A149 bypass in the western parts of the area and the expansion of some settlements outside or on the border of the AONB into the designated area – principally in the Cromer-Sheringham-Holt triangle. *Considerable development has taken place on the edge of the AONB, either straddling or just outside the boundary. Bacton Gas Terminal was anticipated at the time of designation and the boundary drawn on its anticipated western edge; the terminal exerts a strong influence on the character of this part of the area. Boundary settlements where particularly significant expansion has occurred include Dersingham, Snettisham, Heacham and the Woottons in the western part of the area; Holt, Sheringham and Cromer in the northern part of the area – although most boundary settlements have expanded*	*AMBER*	*AMBER*	Short term effects on landscape character would occur as a result of construction activity within the Hornsea Three onshore cable corridor. This would involve visible excavations and other construction activity along with the removal of some sections of hedgerows and individual trees – larger tree belts and areas of woodland would be crossed using Horizontal Directional Drilling (HDD) and would not be impacted. Existing landscape features, including farmland and hedgerows, would be reinstated following construction, resulting in no long term change in landscape character. Figure 1 attached to this document shows the location of trees and hedgerows within the onshore cable corridor within the AONB, and where HDD is proposed or to be considered in relation to these. Four trees that lie within the onshore cable corridor within the AONB would be removed (T15, T52, T53 and BA1AT45). T15 is a pedunculate oak

Summary Assessment of QNB	Assessment as presented in the AONB Management Plan prepared by NCP		Impacts of Hornsea Three on the QNB
	Overall Assessment: Since Designation	Overall Assessment: Currently	
noticeably. These have some impact on the setting of the AONB as well as adding to recreational pressures. *Within the AONB settlements have generally expanded to some extent, although designation of the cores of most AONB settlements as Conservation Areas has helped to maintain the character of these areas. Growth has not necessarily had a significant effect on the area's character in itself, although insensitive changes to building and settlement character from building alterations / extensions and security lighting are a concern.* *The wilderness character of seascapes on a large proportion of the undeveloped coast, principally the North Norfolk Heritage Coast, has been adversely affected by the development of offshore wind farms.* *Otherwise in the wider coast and countryside of the Norfolk Coast, diversity and integrity of character has remained relatively conserved, although agricultural production has generally intensified in line with national trends. Recent changes having a minor effect on character include agricultural irrigation reservoirs (relatively few) and onshore wind farms (none recently approved in the AONB, although some outside the area will be visible to some extent).*			approximately 11m tall, T53 is an ash approximately 7m tall, BA1AT45 is a pedunculate oak approximately 13m tall and the species and size of T52 is unknown (not recorded). Nine further trees may also be removed depending on whether they are crossed by HDD (where they are likely to be removed) or open cut (where they would be retained); these are T43 to T51 and BA1AT45. They are all pedunculate oak between approximately 10 and 15m tall except for T43 which is unknown (not recorded). All other trees and woodlands within or along the edge of the onshore cable corridor would be retained. Seven complete sections of hedgerow that lie within the onshore cable corridor within the AONB would be removed (1a - 1b, 9a - 9b, 10a - 10b, 11a - 11b, 12a - 12b, 18a - 18b and 25a - 25b). The majority of hedgerows 3a - 3b and 6a - 6b would be retained with short sections removed for access. Part of hedgerow 32a - 32b would be removed where it crosses the corridor with the section along the corridor boundary retained. Hedges 23a - 23b and 24a - 24b may also be removed depending on whether they are crossed by HDD (where they are likely to be removed) or open cut (where they would be retained). All hedgerows which may be removed are classified as species poor except for 11a - 11b and 12a - 12b which are classified as 'defunct hedge (species poor)'. A short section of hedge measuring 7m in length (18a - 18b) has not been surveyed. All surveyed hedgerows identified as 'important' hedgerows within the AONB as defined by The Hedgerows Regulations 1997 would be retained. The majority of woodland, trees and hedges within the onshore cable corridor within the AONB would be retained. It can be seen from Figure 1 and Figure 2 that the AONB within and alongside the onshore cable corridor is well vegetated with woodland, trees and hedgerows and the quantity and relative proportion which may be removed due to Hornsea Three is small.

Summary Assessment of QNB	*Assessment as presented in the AONB Management Plan prepared by NCP*		**Impacts of Hornsea Three on the QNB**
	Overall Assessment: Since Designation	*Overall Assessment: Currently*	
			Hedgerows removed to enable construction of the onshore cable corridor will be replanted as soon as practicable after each phase of cable installation. Newly planted hedgerows will have an instant effect in providing hedgerow continuity (resulting in short-term effects) and will mature over time. Species poor hedges will be replaced with a species-rich mix and, where practicable and agreed with the land owner, hedgerow enhancement will be undertaken within a 100m wide corridor that will contain the working corridor. Trees will not be planted above the cable corridor but, where practicable, broadleaf native trees will be planted along hedgerows elsewhere within the enhancement corridor. Information on hedgerow removal and replacement in order to reduce impacts is included in the Outline Ecological Management Plan (OEMP) (APP-180) and the Outline Landscape Management Plan (OLMP) (APP-181). This detailed clarification on hedgerow and tree removal and reinstatement supports the conclusion in paragraph 4.7.5.2 of Volume 3, Chapter 4: Landscape and Visual Resources of the Environmental Statement (APP-076) that *"Given the limited spatial extent of the onshore cable corridor in relation to* [the Heritage Coast, AONB and other designated landscapes] *and the nature of potential effects (i.e. short-term construction activity followed by landscape reinstatement) it is unlikely that construction of the onshore cable corridor would undermine the special qualities or reasons for designation of these landscapes. Significant effects are therefore not anticipated …"*. This applies to the construction, operational and decommissioning phases of Hornsea Three. Hornsea Three would not directly result in settlement expansion or change in settlement character, other than the temporary effects of construction activity described above, and would not adversely affect the diversity and integrity of character within the AONB. Temporary lighting may be required within the Hornsea Three onshore cable corridor, as described in the Outline Code of

Summary Assessment of QNB	*Assessment as presented in the AONB Management Plan prepared by NCP*		**Impacts of Hornsea Three on the QNB**
	Overall Assessment: Since Designation	*Overall Assessment: Currently*	
			Construction Practice (APP-179), although would be removed following construction resulting in no long term change. Details of lighting during construction will be set out in the Code of Construction Practice to be submitted for the approval of the local planning authority under DCO Requirement 17 (Code of Construction Practice). As described in Table 4.2 of Volume 3, Chapter 4: Landscape and Visual Resources of the Environmental Statement (APP-076), the only offshore element of Hornsea Three that would potentially be visible from the north Norfolk coast (and therefore the AONB) is the offshore HVAC booster station. As set out in Volume 6, Annex 4.7: Effects of the Offshore HVAC Booster Station of the Environmental Statement (APP-148), landscape and visual effects resulting from this would be negligible due to it appearing as such a small and distant feature. Orsted's response to the Examining Authorities question Q1.7.1 at Deadline 1 has provided clarification on the potential effects of lighting of the Offshore HVAC Booster Station and confirmed that the effects on the Norfolk Coast AONB from the offshore HVAC booster station remain negligible. The turbines themselves would not be visible and given the negligible impact of the offshore HVAC booster station there would be no addition to existing adverse effects on the wilderness character of seascapes. Hornsea Three may lead to a temporary change in the overall assessment of this QNB although following completion this would revert to the current assessment.

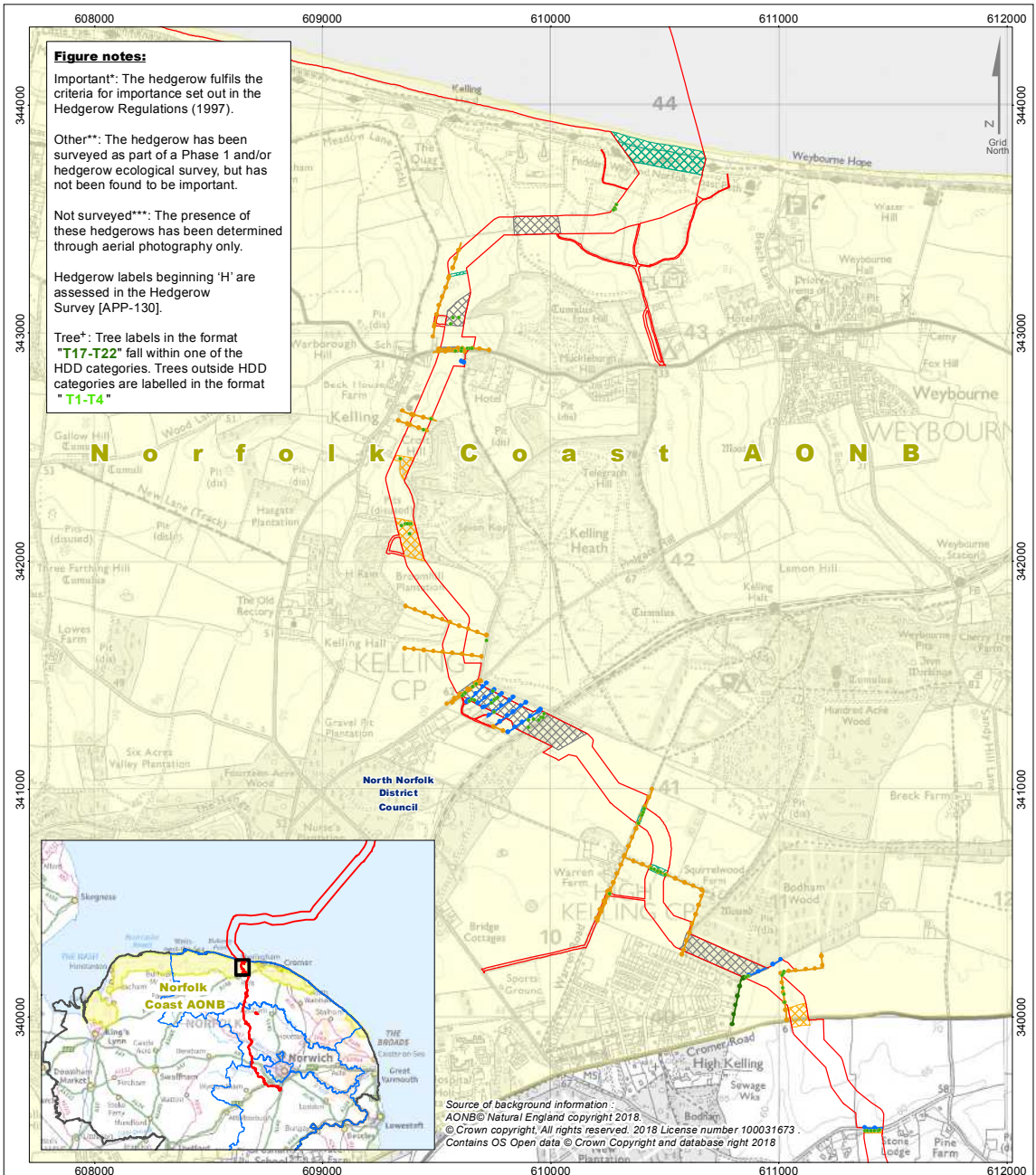
Summary Assessment of QNB	Assessment as presented in the AONB Management Plan prepared by NCP		Impacts of Hornsea Three on the QNB
	Overall Assessment: Since Designation	Overall Assessment: Currently	
4. EXCEPTIONALLY IMPORTANT, VARIED AND DISTINCTIVE BIODIVERSITY, BASED ON LOCALLY DISTINCTIVE HABITATS *Recognised by a range of national and international designations. Coastal habitats are particularly important and most famous for birds, supporting iconic species. Inland habitats and species are also important, particularly lowland heath.*			
Coastal nature reserves in the area were amongst the first to be established so sympathetic management by conservation organisations has long been in place. 95% of the area's Sites of Special Scientific Interest (SSSI), comprising approx 27% in total of the area, are in good condition, comparing very favourably with other AONBs and national parks in general. *Populations of most high profile, characteristic bird species are stable or increasing at present. Some of the relatively few exceptions are affected by pressure from coastal visitors, although this is not the only factor.* *50% of the area is covered by Environmental Stewardship agreements, including 29% of the area's Biodiversity Action Plan (BAP) habitats.* *The benefits of this on biodiversity in the wider countryside of the area are not quantified, however. Statistically valid data on farmland bird populations, a useful high level indicator, are not available for the AONB although individual species such as turtle dove, for which the Norfolk Coast has been known as something of a stronghold, are known to be much reduced in line with national trends.* *Assessment of the ecological status of the area's rivers under the Water Framework Directive suggests that 17% of their lengths are in poor condition, over 80% in moderate condition although initiatives are in progress to address these issues.*	*GREEN* *For designated sites*	*GREEN* *For designated sites*	The majority of the Hornsea Three onshore cable corridor passes through agricultural land, primarily arable but also pasture grassland. Within this agricultural landscape, the main habitats of conservation interest outside of designated sites are woodlands, hedgerows, ponds, and watercourses. The Hornsea Three onshore cable corridor has been selected to avoid direct impacts on designated sites, by avoidance where possible, and by HDD under designated sites where this is not possible. The most diverse and ecologically valuable habitats are therefore not directly affected. In the wider countryside, the Hornsea Three onshore cable corridor avoids or HDDs under all significant woodland blocks, all major watercourse crossings and the majority of minor watercourses. In addition, many sections of hedgerow are crossed via HDD, and therefore ecological connectivity is retained as far as is practicable. Where hedgerow removal occurs, replanting will occur after each phase, and therefore while there will be localised impacts on connectivity as the replacement planting matures, in the longer term there would be no adverse impact. Replanting of hedgerows will include replacement of species-poor hedges with a species-rich mix. Information on hedgerow removal and replacement in order to reduce impacts is included in the Outline Ecological Management Plan (OEMP) (APP-180) and the Outline Landscape Management Plan (OLMP) (APP-181). Impacts on species which use arable or grassland habitats, such as farmland birds, will not be affected beyond short-term disturbance or displacement because these habitats will be restored after construction.
	AMBER *For wider countryside*	*AMBER* *For wider countryside*	

Summary Assessment of QNB	*Assessment as presented in the AONB Management Plan prepared by NCP*		**Impacts of Hornsea Three on the QNB**
	Overall Assessment: Since Designation	*Overall Assessment: Currently*	
			As described in Section 2.7.2 of Volume 2, Chapter 2: Benthic Ecology (APP-062) of the Environmental Statement, the Hornsea Three intertidal area is characterised by naturally species-poor intertidal benthic communities and comprises of a shingle beach dominated by barren pebbles and cobbles. As a result of the sparse ecological communities at the Hornsea Three intertidal area, the impact of Hornsea Three construction activities on the sparse ecological communities at the Hornsea Three intertidal area have not been required to be assessed in detail within the Hornsea Three Environmental Statement. Therefore there will be no significant effects on biodiversity following restoration. Hornsea Three may lead to a temporary change in the overall assessment of this QNB although following completion this would revert to the current assessment.
5. NATIONALLY AND INTERNATIONALLY IMPORTANT GEOLOGY *Mainly based on past glaciation and current coastal processes. Includes landforms and landscape scale features as well as individual sites.*			
At least partly because of the relatively undeveloped nature of the area, large-scale geological formations, features and landforms are largely intact and visible in the landscape, and most are accessible. Coastal geomorphological features are dynamic and internationally known as classic examples (see QNB1). Individual sites are mostly the result of extractive activity, now almost all inactive. Many of these provide sites for geological record and study although not all are accessible or in good condition, and few have interpretation.	GREEN	GREEN	As described in Volume 3, Chapter 1: Geology and Ground Conditions of the Environmental Statement (APP-073), the Hornsea Three onshore cable corridor does not pass through any of the designated national or internationally important geologically important sites. Although it does pass within close proximity to the Kelling SSSI, the impact on the geological aspects of the SSSI are considered to be low and short term. As described in Table 1.15 of Volume 3, Chapter 1: Geology and Ground Conditions, construction methods will be employed which reduce the impact on the wider area and therefore limiting the effect on the geological features.

Summary Assessment of QNB	Assessment as presented in the AONB Management Plan prepared by NCP		Impacts of Hornsea Three on the QNB
	Overall Assessment: Since Designation	Overall Assessment: Currently	
			Hornsea Three is unlikely to lead to a temporary change in the overall assessment of this QNB.
6. SENSE OF REMOTENESS, TRANQUILLITY AND WILDNESS *A low level of development and population density for lowland coastal England, leading to dark night skies and a general sense of remoteness and tranquillity away from busier roads and settlements and, particularly for undeveloped parts of the coast, of wildness.*			
Given the amount of development in and bordering the AONB since designation in 1968, the population both in and close to has clearly increased significantly, although it is still arguably of low density compared with lowland England as a whole. *Recent trends suggest a slight reduction in the population of some coastal parishes, possibly because of second / holiday homes. This may contribute to a sense of tranquillity but also has negative impacts on local services and communities and increases the pressure for developments including affordable housing.* *Visitor numbers have increased significantly since designation and pressures arising from this were the main reason given for the foundation of the Norfolk Coast Project in the early 1990s. Evidence for the last five years suggests that visitor figures are stable, with a large difference between peak and low season numbers on the coast.* *Most of the area has been objectively assessed as tranquil or very tranquil in a 2006 national study by CPRE, with western and eastern outliers and the North Norfolk Heritage Coast being the most tranquil areas, although the study has not been repeated to enable an assessment of trends.* *Recent night sky surveys show dark skies away from the larger settlements of a quality to compare with areas that have been certified as 'dark sky reserves', although no data is yet available to show trends. Recent development of wind farms off the north Norfolk coast have had a significant*	*AMBER*	*AMBER*	Construction of the onshore export cable will lead to a temporary reduction in relative tranquillity over a very localised area within the AONB due to the presence of ongoing construction activity.; This would move progressively along the Hornsea Three onshore cable corridor such that any area would only be affected for a very short period of time. The presence of cable installation vessels offshore may also temporarily impact on the sense of wildness of this section of the coast. The effect of construction noise associated with the installation of the onshore cable corridor including at HDD locations and landfall on receptors sensitive to noise are predicted to be negligible to minor adverse. Mitigation measures include core working hours as set out in the Outline CoCP [APP-179] and the implementation of Best Practicable Means. Construction lighting may result in some temporary impact on the dark sky quality of some areas within the AONB. However, lighting would generally only be used in times with limited visibility or low light, be task orientated and directional to minimise light spill to the local area. The only construction compound within the AONB is the landfall construction compound. A construction compound is also located just outside the southern edge of the AONB east of High Kelling. Details of lighting during construction will be set out in the Code of Construction Practice to be submitted for the approval of the local planning authority under DCO Requirement 17 (Code of Construction Practice).

Summary Assessment of QNB	Assessment as presented in the AONB Management Plan prepared by NCP		Impacts of Hornsea Three on the QNB
	Overall Assessment: Since Designation	Overall Assessment: Currently	
negative impact on the wilderness quality of the undeveloped coast, as noted by local observers.			The offshore wind turbines would not be visible from the AONB. The only part of the operational wind farm that may be visible from the AONB is the offshore HVAC booster station and effects are set out in Volume 6, Annex 4.7: Effects of the Offshore HVAC Booster Station of the Environmental Statement (APP-148). Clarification on potential effects due to lighting of the offshore HVAC booster station are provided in response to the Examining Authorities written question Q1.7.3. Landscape and visual effects resulting from the offshore HVAC booster station would be negligible due to it appearing as such a small and distant feature in conjunction with other existing elements including shipping and offshore wind farms. On the basis of the above, the operational Hornsea Three offshore wind farm would not impact on the wilderness quality of the undeveloped coast. Hornsea Three may lead to a temporary change in the overall assessment of this QNB although following completion this would revert to the current assessment.
7. RICHNESS OF ARCHAEOLOGICAL HERITAGE AND HISTORIC ENVIRONMENT, PARTICULARLY THAT RELATING TO THE COAST AND ITS CHARACTER. *Evidence and features of human use of the area since prehistoric times and links to current uses and features.*			
Of the large number of designated heritage assets from a range of periods in the AONB, only around 1.5% are assessed as being 'at risk', which is at the lower end of the range for English AONBs as a whole. Two of the heritage assets 'at risk' assessments appear to be because of their vulnerability to coastal change / flooding. *Although agri-environment schemes have assisted in providing beneficial management for some archaeological sites, archaeological damage has occurred from ploughing and continues in some cases. There has also been some loss of historic landscape patterns, for example field boundaries since*	*GREEN*	*GREEN*	The onshore cable corridor largely passes through agricultural land, mostly arable, with some pasture and further areas of woodland. No designated assets are recorded within or adjacent to the Hornsea Three onshore cable corridor within the AONB. Those undesignated assets recorded as lying within the Hornsea Three onshore cable corridor mostly represent the remains of first and second world war defences, although earlier remains, including the cropmarks of a ring ditch and evidence of possible Roman and Anglo-Saxon period activity are also recorded. The Hornsea Three onshore cable corridor includes the burial of the onshore export cable along its length, including within the AONB. Where Hornsea Three would result in the removal of field boundaries within the AONB,

Summary Assessment of QNB	*Assessment as presented in the AONB Management Plan prepared by NCP*		**Impacts of Hornsea Three on the QNB**
	Overall Assessment: Since Designation	***Overall Assessment: Currently***	
designation although this has also been reduced by changes in agricultural grants and incentives. *Coastal and offshore development such as wind farms has affected the setting of some coastal heritage assets.*			hedgerows would be reinstated following construction and there would be no permanent effect on or loss to the overall historic landscape. The assessment of effects presented in Volume 3, Chapter 5: Historic Environment (APP-077) of the Environmental Statement indicates that there would be no significant effects on heritage assets within the AONB, either involving direct impacts on heritage assets or impacts on their settings. Neither would there be any significant effects on the overall historic landscape. Hornsea Three is unlikely to lead to a temporary change in the overall assessment of this QNB.



Legend

- Order Limits
- Norfolk Coast Area of Outstanding Natural Beauty (AONB)

Hedgerows

- Important*
- Other**
- Not Surveyed***

Tree

- Tree+

HDD Category Description

- Horizontal Directional Drilling only
- Horizontal Directional Drilling with haul road over
- Horizontal Directional Drilling with haul road over or Open Cut

Reference System : OSGB36
Projection : BNG
Vertical reference: ODN

Scale@A4: 1:30,000

0 0.2 0.4 0.6 0.8 1 Kilometres

0 0.1 0.2 0.4 0.6 Miles

Hornsea Three

Figure 1 – Hedgerows and Trees within the Norfolk Coast AONB

Index Sheet

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Approved by: CELGO

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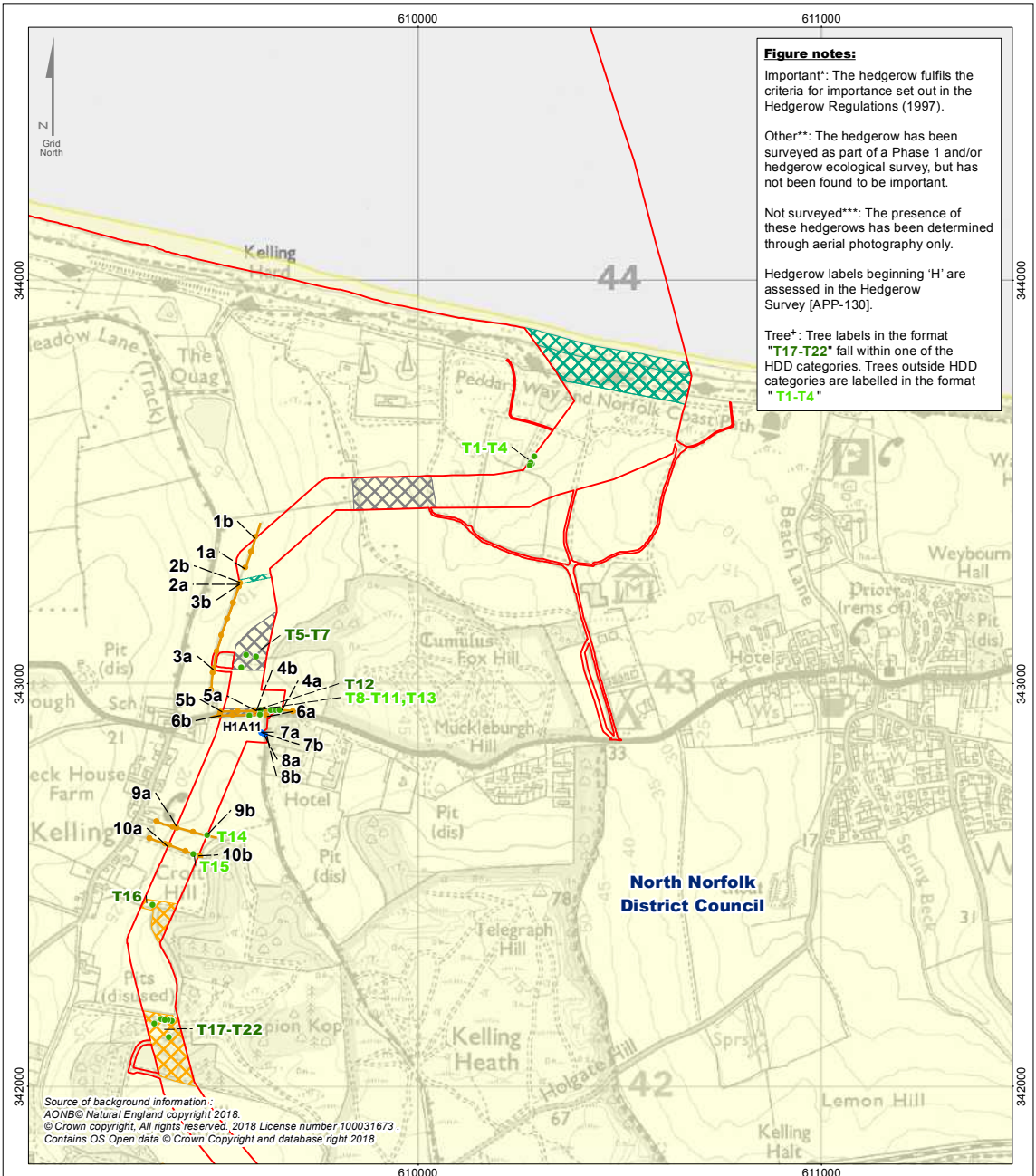

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Scale@A4: 1:17,000

0 200 400 Meters
0 100 200 400 Yards

Hornsea Three

Figure 1 – Hedgerows and Trees within the Norfolk Coast AONB

Map 1 of 3

Doc no: HOW03GJ280
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Approved by: CELGO

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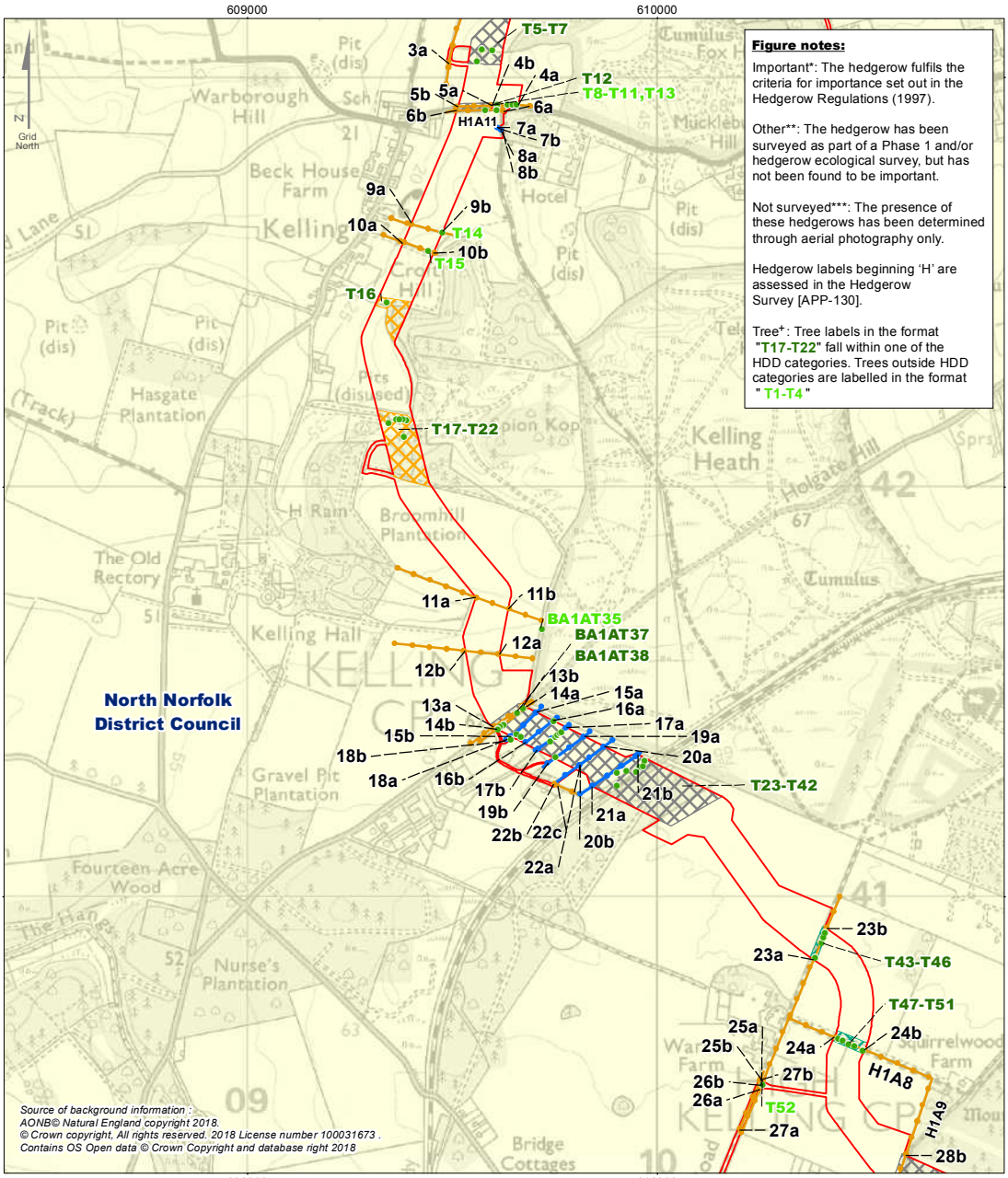

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0 200 400 Meters
0 100 200 400 Yards

Hornsea Three

Figure 1 – Hedgerows and Trees within the Norfolk Coast AONB

Map 2 of 3

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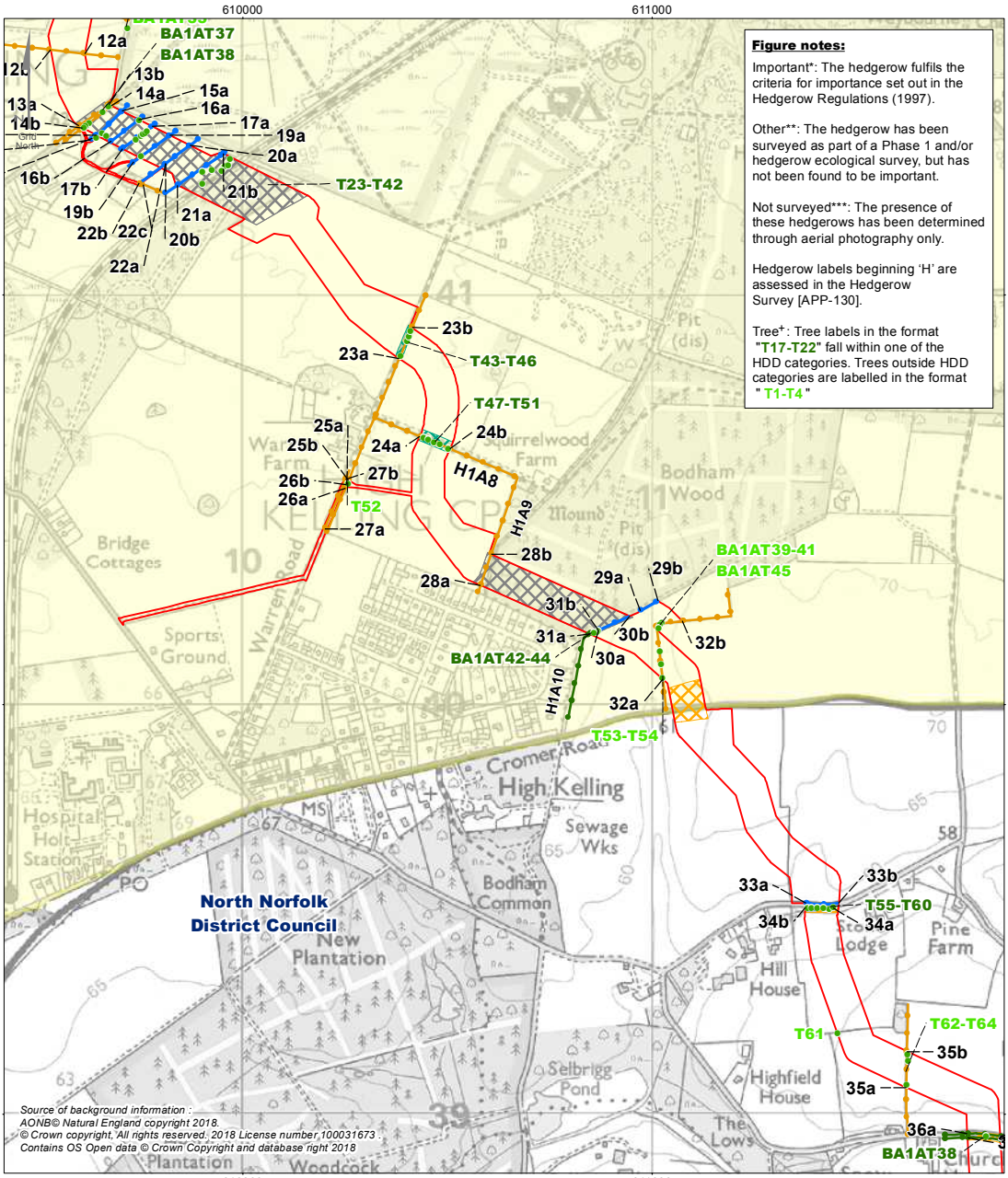

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Hornsea Three

Figure 1 – Hedgerows and Trees within the Norfolk Coast AONB

Map 3 of 3

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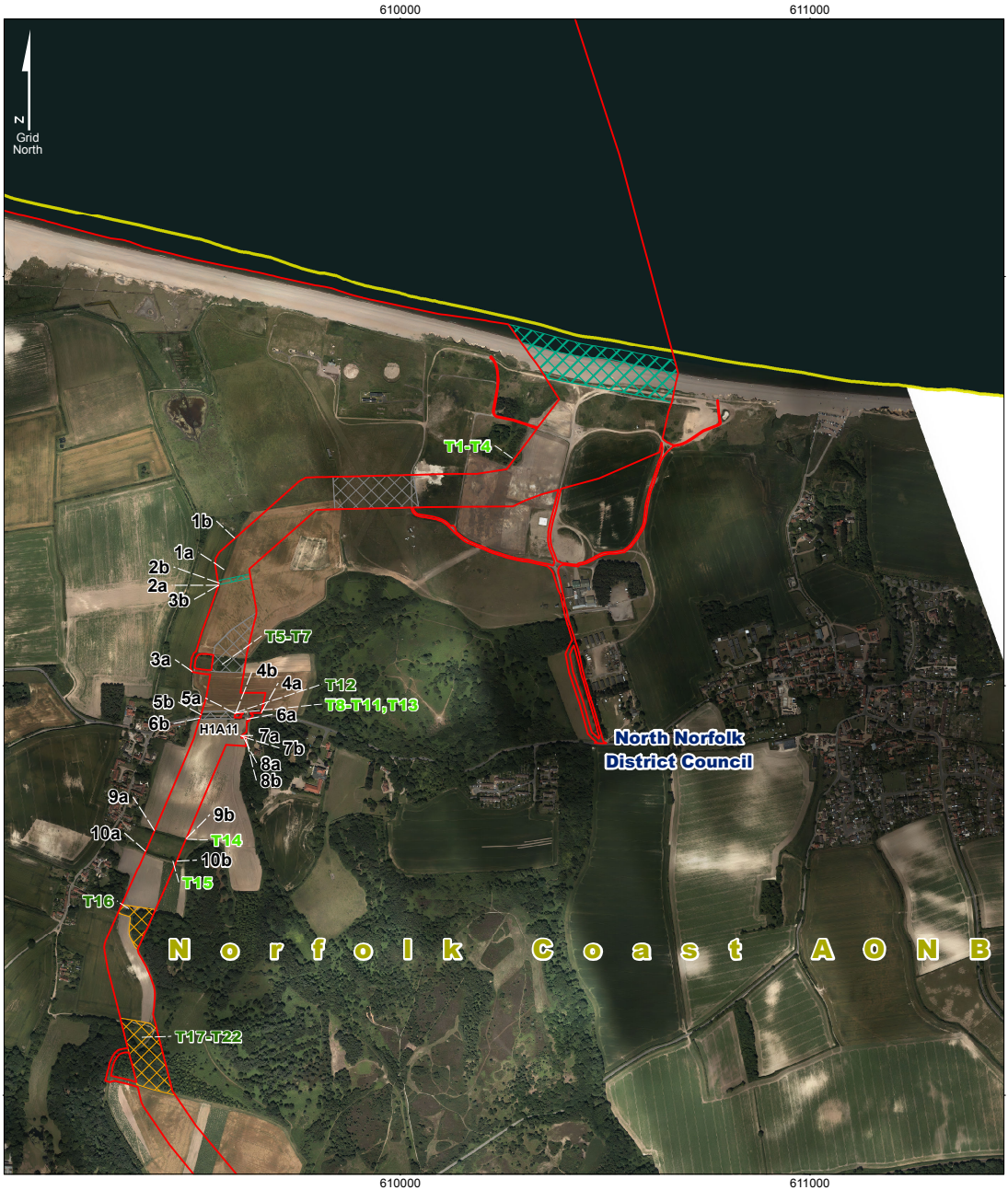

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0 200 400 Meters

0 100 200 400 Yards

Hornsea Three

Figure 2 – Aerial Imagery of the Norfolk Coast AONB

Map 1 of 3

Doc no: HOW03GJ280 (Aerial Background)
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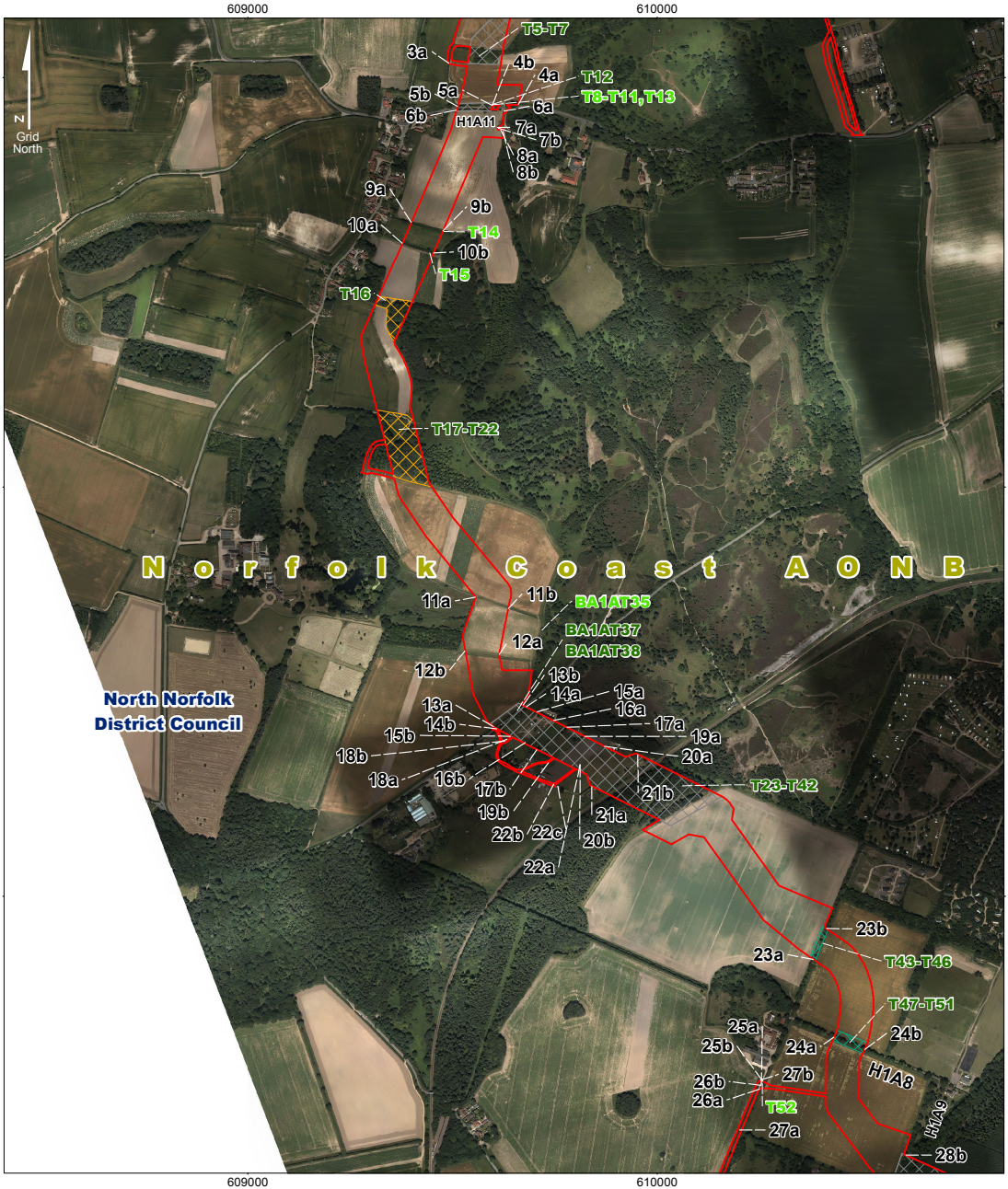

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0 200 400 Meters
0 100 200 400 Yards

Hornsea Three

Figure 2 – Aerial Imagery of the Norfolk Coast AONB

Map 2 of 3

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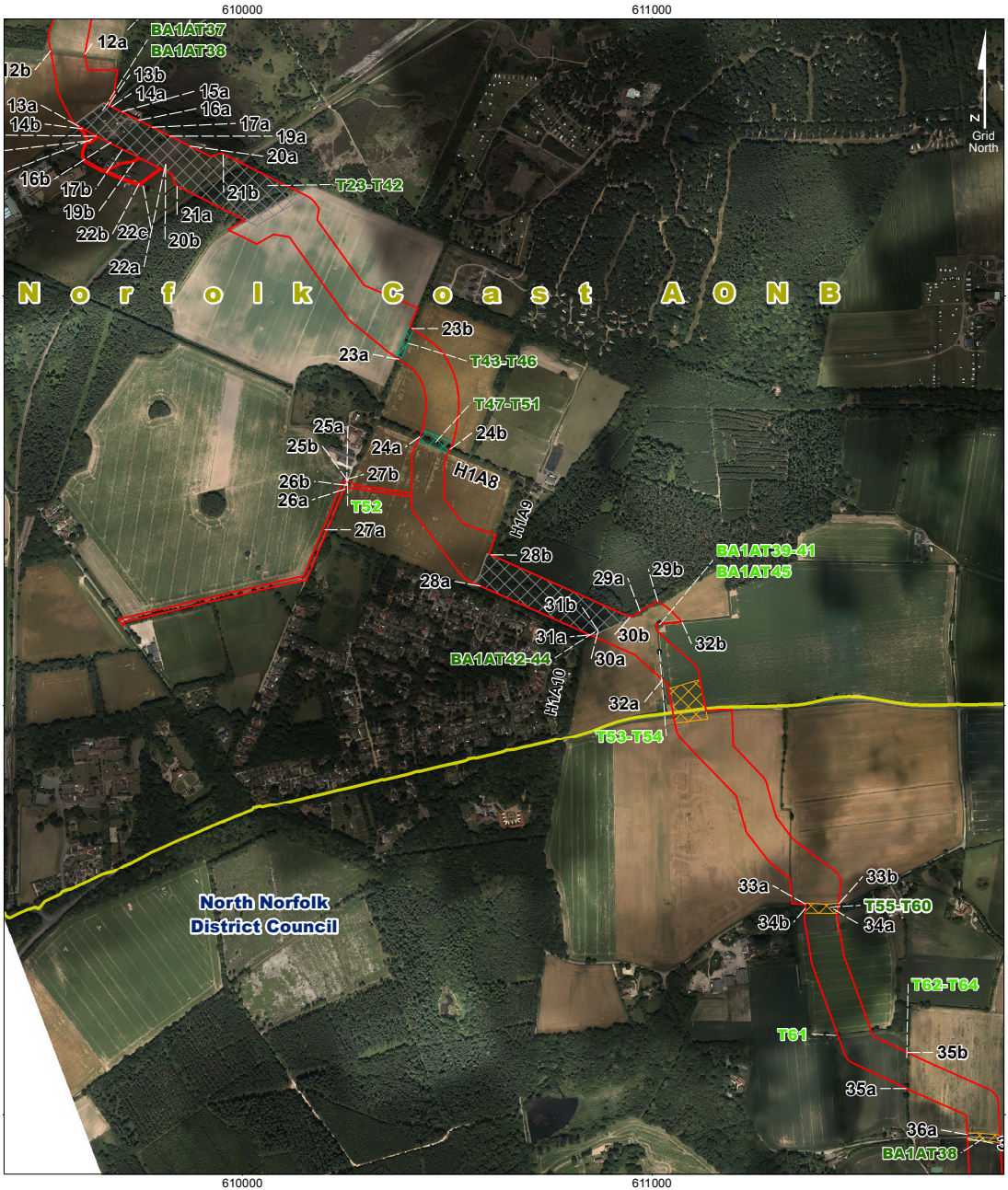

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Hornsea Three

Figure 2 – Aerial Imagery of the Norfolk Coast AONB

Map 3 of 3

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