

The Lake Lothing (Lowestoft)

Third Crossing Order 201[*]



Lake Lothing
**THIRD
CROSSING**

Document 7.1: Case for the Scheme

Planning Act 2008

Infrastructure Planning

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009**

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Foreword

This Case for the Scheme relates to an application ('the Application') submitted by Suffolk County Council ('the Applicant') to the Secretary of State (through the Planning Inspectorate) for a Development Consent Order ('DCO') under the Planning Act 2008.

If made by the Secretary of State, the DCO would grant development consent for the Applicant to construct, operate and maintain a new bascule bridge highway crossing, which would link the areas north and south of Lake Lothing in Lowestoft, and which is referred to in the Application as the Lake Lothing Third Crossing (or 'the Scheme').

This Case for the Scheme has been prepared in accordance with the requirements of Section 37(3)(d) of the Planning Act 2008 and regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 ('the APFP Regulations'), and in compliance with relevant guidance.

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Abbreviations

AADT	Annual Average Daily Traffic
AAP	Area Action Plan
ABP	Associated British Ports
APFP	Applications: Prescribed Forms and Procedure Regulations 2009
BCR	Benefit to Cost Ratio
CftS	Case for the Scheme
COBALT	Cost Benefit Analysis Light Touch
CoCP	Code of Construction Practice
CORE	Centres for Offshore Renewable Engineering
CPNI	Centre for the Protection of National Infrastructure
cSAC	candidate Special Area of Conservation
CWS	County Wildlife Site
DCO	Development Consent Order
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
DR	Design Report
EIA	Environmental Impact Assessment
EIEOMP	East Inshore and East Offshore Marine Plan
ES	Environmental Statement
FBC	Full Business Case
GI	Geotechnical Site Investigations
GYBC	Greater Yarmouth Borough Council
HAWRAT	Highways Agency Water Risk Assessment Tool
HRA	Habitat Regulations Assessment
HVM	Hostile Vehicle Mitigation
IMD	Indices of Multiples Deprivation
LEP	Local Enterprise Partnership
LLFA	Local Lead Flood Authority
LMVR	Local Model Validation Report
LNSR	Lowestoft Northern Spine Road

LSOA	Local Super Output Area
MMO	Marine Management Organisation
MPS	Marine Policy Statement
NALEP	New Anglia Local Enterprise Partnership
NIDP	National Infrastructure Delivery Plan
NNNPS	National Policy Statement for National Networks
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
O&M	Operations and Maintenance
OBC	Outline Business Case
PA2008	Planning Act 2008
PEIR	Preliminary Environmental Information Report
PHE	Public Health England
PINS	Planning Inspectorate
PNPS	National Policy Statement for Ports
pSPA	proposed Special Protection Area
SAC	Special Area of Conservation
SCC	Suffolk County Council
SEP	Strategic Economic Plan
SLRR	South Lowestoft Relief Road
SLTP	Suffolk Local Transport Plan
SoS	Secretary of State for Transport
SPA	Special Protection Area
SPD	Supplementary Planning Document
SPG	Supplementary Planning Guidance
SRN	Strategic Road Network
TA	Transport Assessment
TEMPRO	Trip End Model Presentation Program
TEN-T	Trans European Network–Transport
TUBA	Transport Users Benefit Appraisal
UKCP	UK Climate Projections

WDC

Waveney District Council

WFD

Water Framework Directive

Executive Summary

- E.S.1.** This Case for the Scheme has been prepared to accompany an application by Suffolk County Council (“the Applicant”) for a Development Consent Order in relation to the Lake Lothing Third Crossing (the “Scheme”) in Lowestoft.
- E.S.2.** The Scheme is located centrally between the current two Lake Lothing crossings in Lowestoft; Mutford Bridge in the west, and the A47 Bascule Bridge in the east at the entrance to the inner harbour of the Port of Lowestoft.
- E.S.3.** The highway network in Lowestoft is formed of the Strategic Road Network (SRN) and closely related County Council maintained roads. The highway network is significantly affected by congestion which is further exacerbated when either the A47 Bascule Bridge or the Mutford Bridge are lifted to allow access for vessels into or through the Port of Lowestoft. The height of the A47 Bascule Bridge requires it to open for any vessel, which also adds to delays, and reliability of the opening mechanism is a concern. The distance between the two existing crossings can make journeys unnecessarily long and inconvenient for people walking and cycling, discouraging these modes.
- E.S.4.** The National Policy Statement for National Networks (“NNNPS”) sets out the need for development of national networks together with the Government’s vision and strategic objectives. This states that *“the Government will deliver national networks that meet the country’s long-term needs; supporting a prosperous and competitive economy and improvement overall quality of life, as part of a wider transport system”*. The link between the economy and effective infrastructure is also made in the Government’s Industrial Strategy which seeks to *“help businesses to create high quality, well paid jobs right across the country”* and signifies a new approach to how *“government and business can work together to shape a stronger, fairer economy”*. The importance of infrastructure to the creation of jobs is recognised in the Strategy¹ where it states that *“infrastructure is the essential underpinning of our lives and work, and having modern and accessible infrastructure throughout the country is essential to our growth and prosperity”*. Furthermore, *“providing the right infrastructure in the right places boosts the earning power of people, communities and our businesses”*. One of the five foundations of the strategy is to deliver *“a major upgrade to the UK’s infrastructure”*.
- E.S.5.** The Department for Transport (DfT) has recently published a study into England’s port connectivity² stating that *“at present around 95% of all goods entering and leaving the UK are moved by sea and the UK port sector directly contributes £1.7billion to the UK economy”*. The study also notes that *“if our ports are to continue to thrive then the national, regional and local infrastructure supporting them has to be effective and efficient”*. The Study recognises that renewable energy sectors are closely linked to

¹ Department for Business, Energy and Industrial Strategy (November 2017) Industrial Strategy, Building a Britain fit for the future

² Department for Transport (April 2018), Transport Infrastructure for our global future, A Study of England’s Port Connectivity

the port industry and that “*port access will be an issue for their supply chains and their employees*”. Lowestoft has a growing role in the energy sector as the Port of Lowestoft is to be used as an operations, management and construction base for offshore windfarm projects. These developments, taken alongside planned future housing growth, are likely to lead to significant future traffic growth and the appropriate infrastructure needs to be in place to support this.

- E.S.6.** The Scheme will make a clear and direct contribution to upgrading infrastructure in line with the Government’s Industrial Strategy as it will provide a much needed third crossing across Lake Lothing in Lowestoft, a scheme that has been deemed to be nationally significant by the Secretary of State. This will help to remove the constraints on economic growth in Lowestoft (primarily caused by road network inefficiency), open up new opportunities for investment and growth (in housing and employment) and help to rebalance the UK economy.
- E.S.7.** This document sets out the urgent transport and regeneration need for the Scheme and provides an overview of the options and alternatives considered in order to determine the reference design for which development consent is sought. An overarching assessment of the Scheme against the relevant national and local planning policy is provided as well as a detailed assessment of how the Scheme complies with the NNNPS, which is set out in Appendix A.
- E.S.8.** This document sets out that the key benefits of the Scheme are the fulfilment of the following objectives and explains how they are met:
- To open up opportunities for regeneration and development in Lowestoft;
 - To provide the capacity needed to accommodate planned growth;
 - To reduce community severance between north and south Lowestoft;
 - To reduce congestion and delay on the existing bridges over Lake Lothing;
 - To reduce congestion in the town centre and improve accessibility;
 - To encourage more people to walk and cycle, and reduce conflict between cycles, pedestrians and other traffic;
 - To improve bus journey times and reliability; and
 - To reduce accidents.
- E.S.9.** In addition, other benefits include:
- An iconic bridge design, developed with a ‘marine tech’ concept which references both Lowestoft’s past as well as its growing role in the energy sector.
 - A high quality public realm, additional public space and landscaping.
 - Benefits to the Port, and their customers and supply chain, as a result of a reduction in congestion, improved journey times and journey time reliability. This is recognised in the Port Connectivity study which states that “*if our ports are to continue to thrive then the national, regional and local infrastructure supporting them has to be effective and efficient*”.

E.S.10. The Scheme delivers an essential piece of infrastructure in Lowestoft that delivers journey time savings on the SRN and as a result benefits other parts of the local highway network as well as enabling businesses to operate more effectively. The relationship between the provision of essential infrastructure and economic growth is well documented, notably in the NNNPS, the Government's Industrial Strategy and in the Port Connectivity study.

1 Introduction

1.1 Document Purpose

- 1.1.1 This document has been submitted under Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, as amended by The Infrastructure Planning (Applications: Prescribed Forms and Procedure) (Amendment) Regulations 2014 (“the APFP Regulations”) and in accordance with the Planning Inspectorate’s (“PINS”) Advice Note 6: Preparation and submission of application documents (Version 7, dated February 2016).
- 1.1.2 This document sets out the strategic context for the Scheme, the need for it, the benefits it will deliver, the Scheme’s status arising from the Secretary of State for Transport’s (“the SoS”) direction under section 35 of the Planning Act 2008 (as amended) (“the PA 2008”), and also provides a summary of how the Scheme has been developed including the option selection process and alternatives considered.
- 1.1.3 In addition, this document demonstrates how the Applicant has had regard to the decision-making criteria in the PA 2008 which sets out at sections 104(2) (a) and 104(2) (aa) that the application should be determined in accordance with the relevant National Policy Statements (“NPSs”) and the appropriate marine policy document, providing its benefits outweigh its adverse impacts and no legal obligations would require otherwise. In this case the relevant National Policy Statement is the National Policy Statement for National Networks (Department for Transport, January 2015). Although the Scheme is not port development, due to its location at the Port of Lowestoft, reference is also made to the National Policy Statement for Ports (“the PNPS”) (Department for Transport, January 2012) where relevant. Other matters potentially important and relevant are considered, including national and local planning policy, the findings of the consultation carried out by the Applicant, and environmental assessments. The relevant marine plan is The East Inshore Marine Plan (Defra, April 2014).

1.2 Document Structure

- 1.2.1 This document is structured as follows:
- Section 1 provides the purpose and structure of this document, as well as a summary of the direction issued by the SoS under section 35 of the PA 2008.
 - Section 2 contains the description of the Scheme.
 - Section 3 provides an overview of the site and sets out the relevant planning history for the Order Limits and its surrounds.
 - Section 4 sets out the transport and regeneration need for the Scheme and identifies the Scheme objectives.
 - Section 5 explains the evolution of the Scheme including development of Scheme options and sets out how the Scheme objectives are met.
 - Section 6 sets out the planning context with regard to the PA 2008 regime.

-
- Section 7 sets out the requirements of the NNNPS and demonstrates how the Scheme complies with these. An assessment of the Scheme against the ‘generic impacts’ as set out in Part 5 of the NNNPS and Part 5 of the PNPS is set out in Appendix A of this document. This section also contains an assessment of the Scheme against the Marine Policy Statement (“the MPS”) and the East Inshore and East Offshore Marine Plan.
 - Section 8 considers other relevant national and local policy, including the National Planning Policy Framework (“the NPPF”), the Local Development Plan and emerging Local Plan, as well as other relevant planning and transport related policy documents and strategies.
 - Section 9 weighs up the anticipated benefits and disbenefits of the Scheme and addresses the legal obligations relevant to decision-making, in recognition of the criteria in section 104 of the PA 2008.
 - Section 10 contains the overall conclusions of this document.

1.3 Direction from the Secretary of State under section 35 of the PA 2008

- 1.3.1 In his direction, dated 22nd March 2016, given under section 35 of the PA 2008, the SoS has directed that the Scheme is of national significance³ (i.e. a Nationally Significant Infrastructure Project (‘NSIP’) under the PA 2008) and so is to be treated as development for which Development Consent is required.
- 1.3.2 In the annex to his decision, the SoS stated that the Scheme “*provides a connection to/from Trans European Network–Transport (TEN-T) and the Strategic Road Network. The TEN-T link is to the A12/A47, one of only a limited number of routes in the East of England which is recognised as such.*”
- 1.3.3 Further, the SoS considered that the crossing “*would act as a tactical diversion route for the strategic road network, the A12/A47 when the Bascule Bridge, a nationally recognised pinch point, is closed thereby reducing delays and congestion on the SRN.*”
- 1.3.4 Finally, the SoS’s decision recognises the economic benefits of the Scheme associated with the support of “*national growth potential*”, the connectivity to and from the Great Yarmouth and Lowestoft Enterprise Zone, and the delivery of the “*Port of Lowestoft’s role in being the hub for the offshore wind farms that are part of the East Anglia Array, a major energy supplier for the UK*”. A copy of the S35 direction is set out at Appendix B.

³ There is no material difference in substantive or procedural terms between a DCO for a scheme for which a direction has been given by the SoS under section 35 of the PA 2008 and a DCO for a NSIP that meets that thresholds for national significance as set out in the PA 2008. Thus, for convenience, the Scheme will be referred to as an NSIP in this document.

2 The Scheme

- 2.1.1 The Scheme involves the construction, operation and maintenance of a new bascule bridge highway crossing linking the areas north and south of Lake Lothing in Lowestoft, hereafter referred to as the Lake Lothing Third Crossing ("the Scheme").
- 2.1.2 The Scheme would provide a new single-carriageway road crossing of Lake Lothing, consisting of a multi-span bridge with associated approach roads, and would comprise:
- an opening bascule bridge over the Port of Lowestoft, in Lake Lothing;
 - on the north side of Lake Lothing, a bridge over Network Rail's East Suffolk Line, and a reinforced earth embankment joining that bridge, via a new roundabout junction, to the C970 Peto Way, between Rotterdam Road and Barnards Way; and
 - on the south side of Lake Lothing, a bridge over the northern end of Riverside Road including the existing access to commercial property (Nexen Lift Trucks) and a reinforced earth embankment (following the alignment of Riverside Road) joining this bridge to a new roundabout junction with the B1531 Waveney Drive.
- 2.1.3 The Scheme would be approximately 1 kilometre long and would be able to accommodate all types of vehicular traffic as well as non-motorised users, such as cyclists and pedestrians.
- 2.1.4 The opening bascule bridge design would allow large vessels to continue to use the Port of Lowestoft.
- 2.1.5 A new control tower building would be located immediately to the south of Lake Lothing, on the west side of the new highway crossing, to facilitate the operation of the opening section of the new bascule bridge.
- 2.1.6 The Scheme would also entail:
- the following changes to the existing highway network:
 - the closure of Durban Road to vehicular traffic at its junction with Waveney Drive;
 - the closure of Canning Road at its junction with Riverside Road, and the construction of a replacement road between Riverside Road and Canning Road to the west of the Registry Office; and
 - a new access road from Waveney Drive west of Riverside Road, to provide access to property at Riverside Business Park;
 - improvements to Kimberley Road at its junction with Kirkley Run; and
 - part-signalisation of the junction of the B1531 Victoria Road / B1531 Waveney Drive with Kirkley Run;
 - the provision of a pontoon for use by recreational vessels, located to the east of the new highway crossing, within the Inner Harbour of Lake Lothing; and
 - works to facilitate the construction, operation and maintenance of the Scheme, including the installation of road drainage systems; landscaping and lighting;

accommodation works for accesses to premises; the diversion and installation of utility services; and temporary construction sites and access routes.

2.1.7 The works required for the delivery of the Scheme are set out in Schedule 1 to the draft DCO (document reference 3.1), where they are referred to as "the authorised development", with their key component parts being allocated reference numbers, which correspond to the layout of the numbered works as shown on the Works Plans (document reference 2.4). The General Arrangement Plans (document reference 2.2) illustrate the key features of the Scheme.

2.1.8 The figure below provides a diagrammatic representation of the Scheme:



Figure 2-1 - Location of the Scheme in Lowestoft

2.1.9 A summary of the Scheme is set out below. A full Scheme description is set out in Chapter 6 of the ES and Chapter 8 of the Design Report ("DR"), (document reference 7.4), which illustrates the reference design through images derived from a digital 3D model of the Scheme.

Design Standards

2.1.10 The Scheme has been broadly designed to facilitate:

- Design speed of 30mph (50kph).
- Carriageway width of 7.3m (2 x 3.65m wide traffic lanes), plus associated curve widening on tight radii at and around the roundabouts where appropriate.
- Safety strip between the proposed footway and carriageway to the east of the crossing and the combined footway/cycleway to the west of the crossing.
- Combined footway/cycleway on the east and a segregated footway and cycleway on the west.

Structures

- 2.1.11** A new bascule (lifting) bridge will be constructed to allow the passage of vessels within Lake Lothing. When closed, the bridge will have a clearance of no less than 12m above the Highest Astronomical Tide level which will enable smaller boats to pass under the bridge. This 12m clearance combined with its location west of some of the docks, means that it will have to open less frequently than the existing A47 Bascule Bridge at the harbour entrance. The frequency of opening will be determined through a scheme of operation for the Scheme bascule bridge which will be developed pursuant to the DCO. There is a clear span between the new bascule bridge piers of 35m, and a clear width of 32m between fenders.
- 2.1.12** Associated British Ports (“ABP”), in its capacity as Statutory Harbour Authority, has advised that the new bridge will require a continually staffed control tower and the Applicant has developed proposals for this to the south west of the bridge structure. The control tower will incorporate:
- A bridge control room and all associated welfare facilities;
 - Access to the bridge deck from ground level via a gantry to the embankment;
 - Bridge plant room; and
 - A sub-station.
- 2.1.13** A private means of access will be provided to the control tower building, for use by ABP. It is intended that once public access is delivered along the waterfront, which is envisaged in the Sustainable Urban Neighbourhood and Kirkley Waterfront Development Brief (see paragraph 4.3.9 of this document), access to the bridge deck for pedestrians with access via stairs or a lift will also be provided.
- 2.1.14** The concept design for the bridge has taken inspiration from the growing role of Lowestoft in the energy sector and the term ‘marine tech’ was identified to reflect this. This has resulted in a contemporary yet functional crossing with a single leaf lifting deck. In terms of its operation, the bridge structure forms the counterweight which enables the bridge opening and closing to occur.
- 2.1.15** To accommodate any waiting for recreational vessels between the A47 Bascule Bridge and the Scheme bridge, should a vessel be unable to transit the inner harbour⁴ a pontoon has been incorporated within the Scheme that will allow recreational vessels to moor safely outside of the navigation channel. Mooring at the pontoon will only be permissible temporarily whilst a recreational vessel is waiting for one of the bridges to open.

The northern junction

- 2.1.16** On the northern side, a new roundabout is proposed to be installed to the west of the current Denmark Road roundabout to connect the Scheme with the existing road

⁴ The Inner Harbour is defined as consisting of Town Quay, South Quay, Silo Quay, North Quay, Shell Quay and the Lowestoft Haven Marina.

network. This will also necessitate a reduction in size of the existing Denmark Road roundabout. Heading south towards Lake Lothing, the new road layout will link into the construction of a new embankment which connects to the elevated bascule bridge, enabling users of the crossing to span Lake Lothing and connect into the new road layout on the southern bank.

- 2.1.17 The landscape and public realm has been designed to soften the connection between the Scheme and the surrounding local area. The northern approach area includes public space and planted drainage ponds to capture surface run-off and increase biodiversity. The area of public space features terraced steps built onto a structural embankment which provides access and allows for informal seating. A pedestrian and cycle path provides links with proposed crossing points. These crossing points reflect key desire lines for pedestrians and cyclists, enabling access from the proposed bridge towards the town centre, Lowestoft North Quay Retail Park, the existing play park, and nearby bus stops.

The southern junction

- 2.1.18 On the southern side, the new crossing will follow the line of Riverside Road, initially at a high level, descending to a new roundabout junction at the intersection of Riverside Road and Waveney Drive, west of the Motorlings showroom. The carriageway will be widened to two lanes in each direction between the southern roundabout and the existing A12 Tom Crisp Way roundabout. Local roads which presently connect directly to Riverside Road would be served from a new connection to Waveney Drive through the former Jeld Wen site. Durban Road will be turned into a cul-de-sac and a turning head provided at the limits of the new southern roundabout. Access will be maintained for emergency vehicles, pedestrians and cyclists.
- 2.1.19 The opportunity to accommodate landscaping and public realm design on the southern approach is limited due to the surrounding land uses and lack of space. Trees are proposed in the area of the Durban Road closure and along the new access road through the former Jeld Wen site. These measures would improve the appearance of this gateway area into Lowestoft.

Access to Waveney Drive Properties

- 2.1.20 A non-signalised 'T' junction will be provided on Waveney Drive which will provide a new access road into the remaining section of Riverside Road which passes the northern access to the Waveney District Council ("WDC") / SCC Offices.
- 2.1.21 The new connection to Canning Road will involve the relocation of the current southern access into the existing SCC and WDC car park.
- 2.1.22 Access to the existing Nexen site will be provided from the remaining section of Riverside Road below the new crossing through a bridge structure.
- 2.1.23 Access to Motorlings will be via a 'left in and left out' junction on Waveney Drive near the A12 roundabout. The two existing accesses from Riverside Road will be stopped up.
- 2.1.24 Access to the existing telephone mast and land adjacent to Riverside Road will be provided from the new access road connecting Riverside Road with Waveney Drive.

2.1.25 The vehicular access to 34 Waveney Drive will be removed.

2.2 Code of Construction Practice

2.2.1 The Applicant anticipates that the construction of the bascule bridge would include the installation of cofferdams and fender piles, construction of temporary decks during construction, piling and the use of mechanical and engineering equipment.

2.2.2 Environmental effects arising from construction will be mitigated and controlled through a Code of Construction Practice (“CoCP”). As a CoCP is bespoke and individual to each contractor based upon their methods of working, it is not possible to produce such a CoCP in advance of the appointment of each contractor. However, an ‘Interim CoCP’ accompanies the Environmental Statement (“ES”) at Appendix 5A which provides clear requirements for the Contractor and includes the mechanism for the development and approval of the ‘full CoCP’ that the Contractor would be responsible for. Compliance with the terms of the Interim CoCP is secured through the DCO.

2.3 Compulsory Acquisition

2.3.1 Land is required to be compulsorily acquired for the purpose of delivering the Scheme. Section 122 of the PA2008 sets out that compulsory acquisition will only be authorised by the SoS if there is a compelling case in the public interest. The Statement of Reasons for Compulsory Acquisition (document reference 4.1) sets out the justification in the public interest for the powers of compulsory acquisition sought in the DCO. The Statement of Reasons for Compulsory Acquisition also addresses the “without serious detriment” requirement in section 127 PA 2008 in relation to the compulsory acquisition of land held by statutory undertakers, including ABP in relation to the Port of Lowestoft.

3 Overview of the Site

3.1 The Site

3.1.1 This section provides an overview of the application site and the existing environment near the Scheme.

3.1.2 Lake Lothing is a saltwater waterbody linking the North Sea to The Broads National Park⁵ on an east-west axis and therefore dividing Lowestoft north to south by a water feature of up to 180m wide. Currently, there are two road crossings of Lake Lothing: Mutford Bridge (a lifting bridge on the A1117) to the west and the A47 Bascule Bridge (a lifting bridge on the A47) to the east. Mutford Bridge is the responsibility of SCC as highway authority, while the A47 Bascule Bridge, being on the SRN, is the responsibility of Highways England. The bridges are separated by a distance of approximately 3km. The location of the Scheme can be seen in Figure 2-1 of this document.

3.1.3 The local area is broadly characterised by a mixture of commercial and residential properties which flank both the north and south of Lake Lothing. The Port of Lowestoft, incorporates the whole of Lake Lothing and is owned and operated by ABP which is the Statutory Harbour Authority. The Port comprises the Outer Harbour consisting of Hamilton Dock, Waveney Dock, Trawl Dock and a yacht marina and the Inner Harbour consisting of Town Quay, South Quay, Silo Quay, North Quay, Shell Quay and the Lowestoft Haven Marina. The Outer Harbour is protected by the North Pier and South Pier.

3.2 Highway network in Lowestoft

3.2.1 The highway network in Lowestoft is formed of the SRN and closely related County Council maintained roads. The A47, managed by Highways England and part of the SRN, runs in an east west corridor through Peterborough, Kings Lynn, Norwich and Great Yarmouth. From Great Yarmouth the A47 runs in a north south corridor to Lowestoft, which is its most easterly point, terminating at the A47 Bascule Bridge. The A47 between Great Yarmouth and Lowestoft was previously known as the A12 but was renamed in March 2017. The main route south of Lowestoft towards Ipswich and Felixstowe, is the A12 Tom Crisp Way which was reclassified as a local road in 2001 and is managed by SCC. The A12 and the A47 provide an important north south route through Lowestoft, to the east of the town.

3.2.2 To the west of Lowestoft, the A1117, a main distributor road, also provides a north south route, crossing Lake Lothing at the Mutford Bridge. This route links the south of Lowestoft at the Bloodmoor Roundabout to its junction with the A47, north of the town. The A146 also lies to the west of Lowestoft, providing links to Beccles and onwards to Norwich. To the north of Lake Lothing, Peto Way and Denmark Road run east west,

⁵ The Broads National Park is not a national park in law but it has been accepted this is the brand name they are able to use.

providing a link from the town of Lowestoft to the A1117. To the south of Lake Lothing, the B1531 (Waveney Drive) also provides an east west route.

3.2.3 Within this document, and in the Transport Assessment (“TA”) (document reference 7.2), various terminology is used to describe routes and movements. Definitions of these are set out in Table 3-1 below.

Table 3-1 – Route/Movement Descriptions

Terminology	Description	Routes Included
SRN	Strategic Road Network, managed by Highways England	A47
Local highway network	Local highways in Lowestoft, managed by SCC	The B1531, C909, A146, A1117, A1144, A1145 and the B1532 and all other highways in Lowestoft that do not form part of the SRN.
Lowestoft highway network	The highway network in Lowestoft, including the SRN and the Local Highway Network	The Local Highways Network and the SRN
Strategic Routes	Route across/through Lowestoft of wider importance to the region	A47 - A12 and the A1117
Key Routes	Key routes in the Lowestoft Highway Network for assessment in the TA	Route 1 - A146-Fairfield Rd Junction to A12 Katwijk Way / A1144 St Peter's Street Junction Route 2 - A12 St Peters Street / Jubilee Way Junction to A12 Tom Crisp Way / Blackheath Road Junction Route 3 – A1117 / Victoria Road Junction to A 12 Tom Crisp Way / B1531 Waveney Drive Route 4 - A1117 Normanston Drive / Peto Way Junction to A12 Waveney Road / Station Square Junction
Key Movements	Movements to/from various points around the highway network around the east of Lowestoft, with no specific routing (i.e. vehicles can travel on any route between the points)	A – A12 Tom Crisp Way (south of Blackheath Road) B – A47 Jubilee Way (at St. Peter's Street) C – B1532 London Road South (at St. Peter's Road)

3.3 Rail network in Lowestoft

3.3.1 Running almost in parallel with the northern edge of Lake Lothing and Denmark Road, the East Suffolk Line connects Lowestoft railway station to Ipswich and the Wherry

Line connects to Norwich. The East Suffolk Line crosses Lake Lothing on a swing bridge at its western end adjacent to the A1117 at Mutford Bridge. Two railway level crossings are located in close proximity to the Mutford Bridge, one to the south of Lake Lothing on Waveney Drive and one to the north at Bridge Road, referred to as Oulton Broad North. Broadly, the level crossings each close twice an hour to allow trains to pass in each direction.

3.4 Adjacent land uses

- 3.4.1 To the north of Lake Lothing is Peto Way which provides access to the Lowestoft North Quay Retail Park, an out of centre retail park housing amongst others, Carphone Warehouse, Pets at Home and TK Maxx. Peto Way becomes Denmark Road, which has residential use on one side. There are also industrial and commercial facilities and a playground. A roundabout on Denmark Road provides an exit to Rotterdam Road, which heads north to Normanston Drive (A1144) and comprises a two-lane carriageway with parking on the western side. To the south of the roundabout are areas of vacant hardstanding with some hedgerow. A fence restricts access to this area.
- 3.4.2 Travelling southwards towards Lake Lothing the East Suffolk Line runs parallel to Denmark Road and Peto Way, providing access to Lowestoft Station. Commercial Road provides access to the Port of Lowestoft where land is used for port operations along the northern quay of Lake Lothing. A grain silo building approximately 50m in height is a dominant feature in the northern quay area.
- 3.4.3 Within Lake Lothing there is a navigation channel together with existing quays to the east and west of the Scheme. The navigation channel is used 24 hours a day by both ABP and other maritime users.
- 3.4.4 The quays on the south side of Lake Lothing are presently unused for port operations, although a quay wall is present. Nexen, a manufacturer of fork lift trucks, operates from a building to the immediate east of the Scheme and buildings which house SCC and WDC operations are located to the west of the Scheme.
- 3.4.5 Further south, and to the east is the Lings Motor showroom, whilst to the west are buildings which house office based operations of Essex and Suffolk Water, and the Riverside Business Centre. Further to the east of the motor showroom is an Asda Superstore which is open 24 hours a day from Monday to Friday, until 10PM on Saturday and restricted hours on Sunday. Also to the south is Waveney Drive (B1531), where there are residential properties, as well as a beauty clinic business. Durban Road provides access south to the Waveney Gymnastics Club and the residential streets of Kimberley Road and Notley Road. Running broadly parallel to Durban Road is Tom Crisp Way (A12) which connects to Waveney Drive at a roundabout near to the Asda Superstore.

3.5 Wider land uses

- 3.5.1** Beyond the area of the Scheme there is a mix of transport, residential, commercial and industrial uses. The total port acreage covers an area of approximately 97 acres⁶ (39.25 hectares) and includes industrial/ commercial and recreational uses. A range of activities take place at the Port including the handling of dry bulks (including grain and cement) and the handling of general cargo (e.g. forest products, steel and general cargo). The Port is also the operation and maintenance base for the Greater Gabbard Offshore windfarm and East Anglia ONE windfarm.
- 3.5.2** Besides these uses are areas of vacant industrial land on the south side of Lake Lothing. On the north side of Lake Lothing lies Normanston Park, which provides facilities for football and cricket; and Leathes Ham, a Local Nature Reserve, to the north-west. Further west on the south side of Lake Lothing is the Lowestoft Haven Marina which provides berthing facilities and a boat hoist. North of Lake Lothing in this location are other marinas including Lowestoft Yacht Services.
- 3.5.3** Further afield, approximately 1.5km west of the Order Limits, lies The Broads, administered by the Broads Authority, holding similar roles to National Park Authorities but with additional purposes relating to navigation, agriculture and forestry.

3.6 Socio Economic Context

- 3.6.1** Lowestoft is an area of significant deprivation and has been since the demise of the fishing industry in the 1960s. The decline in employment in key industries has been a particular problem for over 20 years. The last shipyard closed in the mid-1990s and, from a peak in the 1950s and 1960s, Lowestoft's offshore fishing fleet is now reduced to only a small number of inshore vessels.
- 3.6.2** In September 2015, the Department for Communities and Local Government published the latest version of the Indices of Multiple Deprivation (IMD). Waveney District was placed as the 95th most deprived local authority in England (from a total of 326 local authorities). In comparison with an earlier edition of the IMD in 2010, where it was the 112th most deprived local authority in England (from a total of 326 local authorities), deprivation has worsened. According to the 2015 IMD, nine Local Super Output Areas (LSOA) in Lowestoft are within the 10% most deprived areas nationally. A further seven LSOAs are within the 10% - 20% most deprived nationally.
- 3.6.3** Eleven wards within Lowestoft have been granted Assisted Area Status. Assisted Areas are recognised as being less economically advantaged places that would benefit from additional support for development. The wards of Oulton Broad, Normanston and Harbour which lie to the north of Lake Lothing and the wards of Whitton and Kirkley which lie to the south of Lake Lothing are included.
- 3.6.4** The revised 2016 Mid-Year Population Estimates show that as of 2016 there were an estimated 117,200 residents living in Waveney District, which is similar to 2006 when

⁶http://www.abports.co.uk/Our_Locations/Short_Sea_Ports/Lowestoft/ (see Appendix G for full text)

there were 117,231 residents. Parish population estimates for Lowestoft indicate a mid-year population estimate of 57,663⁷.

3.6.5 In 2016, there were 21,380 jobs in Lowestoft, notably in wholesale and retail, health and social work, the accommodation and food sector and education, together employing some 10,930 people. However, employment in Lowestoft has declined since 2009 when there were 22,340 jobs; the greatest losses were seen in manufacturing and construction (1,225 jobs). The Port of Lowestoft is important to both the employment and economic status of Lowestoft in so far as 1,174 jobs and £79 million contributed to the local economy because of the Port's operations.⁸

3.6.6 The manufacturing sector has also continued to decline and employment has depended increasingly upon a small number of larger employers, particularly in engineering and food processing such as Bird's Eye. The more recent decline in oil and gas exploration in UK waters has impacted on economic and employment levels but the growth of offshore energy generation now provides significant potential for future growth.

3.7 Planning and Environmental Designations

3.7.1 The Order Limits do not take in any national or local environmentally designated sites; however, a number of designated sites are present within the wider area and these are summarised in Table 3-2 and Table 3-3, with reference to the relevant chapters in the ES. Where environmental aspects are not included in the table below, there are no designated sites within the study area.

Table 3-2 - Statutory Designated Sites

Environmental aspect	Study area (from Scheme boundary)	Statutory designated sites
Cultural heritage (Chapter 9 of the ES)	500m	South Lowestoft Conservation Area Wellington Esplanade (Grade II listed) Ashurst (Grade II listed) 9, 10 and 11 Waterloo Road and 16-28 Victoria Terrace (Grade II listed)
Townscape and visual impact (Chapter 10 of the ES)	3km	The Broads
Nature conservation (Chapter 11 of the ES)	Main study area – 500m from the order limits Broad study area - 2km for nationally designated sites and Extended study area - 30km for	Leathes' Ham Local Nature Reserve The Broads Special Area of Conservation (SAC) Broadland Special Protection Area (SPA) Broadland Ramsar Southern North Sea cSAC Outer Thames Estuary SPA

⁷ <https://www.suffolkobservatory.info/population/reports> (see Appendix G for full text)

⁸ http://www.abports.co.uk/admin/content/files/assets/PDF%27s/EastAnglia_insert_4pp_proof6.pdf (see Appendix G for full text)

Environmental aspect	Study area (from Scheme boundary)	Statutory designated sites
	internationally designated sites	Outer Thames Estuary pSPA Extension Alde-Ore Estuary SPA Benacre to Easton Important Bawents SPA
Noise and vibration (Chapter 13 of the ES)	2km	Noise Important Area 5003 Noise Area 5004 Noise Important Area 11285
Water environment (Chapter 17 of the ES)	2km	Lake Lothing Main River Kirkley Stream Main River

Table 3-3 - Non-Statutory Designated Sites

Environmental aspect	Study area (from Scheme boundary)	Non-statutory designated site
Nature conservation (Chapter 11 of the ES)	2km	Brooke Yachts and Jeld-Wen Mosaic County Wildlife Site Kirkley Ham County Wildlife Site Harbour Kittiwake Colony County Wildlife Site

- 3.7.2** National Cycle Route 517 passes through the application site on the northern side along Denmark Road and a local cycle route is located on the southern side on Waveney Drive. Lowestoft's wider cycle network comprises sections of National Cycle Network Route 517, and the Regional Cycle Network, as well as other signposted on-road cycle routes, advisory cycling routes and some traffic free cycle routes.
- 3.7.3** The majority of the site is within Flood Zone 3a, but there are some areas within Flood Zone 2. Refer to Figure 18-1 in the ES (Flood Zones 2 and 3) which shows the extent of these flood zones.
- 3.7.4** The spatial framework for the revitalisation of the Lake Lothing area of Lowestoft is set out in WDC's Lake Lothing and Outer Harbour Area Action Plan ("AAP")⁹. This is described in more detail in Section 8 of this document which also provides details on other elements of the statutory development plan for the area. This document articulates a vision for employment-led regeneration and notes the particular opportunity for Lowestoft to build on its existing strengths in the energy sector. The AAP identifies a number of significant development sites, providing a detailed policy framework for each and setting out the contribution their delivery would make towards achieving the vision for employment-led regeneration. The AAP designates the following sites that lie within close proximity to the Scheme:

⁹Waveney District Council (January 2012) Lowestoft Lake Lothing & Outer Harbour Area Action Plan Development Plan Document

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- Policy SSP2 – Peto Square and South Quay. The AAP allocates Peto Square, which lies to the east of the Scheme on the north of Lake Lothing, for retail, leisure and hotel development. The South Quay site, which also lies to the east of the Scheme but on the south of Lake Lothing, has been allocated in the AAP for commercial and port related activities. The AAP notes at paragraph 4.2.3 that Peto Square suffers from “*the effects of through-traffic on the A12*”, and many buildings are in a poor condition.
 - Policy SSP3 – Kirkley Waterfront and Sustainable Urban Neighbourhood. The AAP allocates the site, which lies to the south of Lake Lothing partly within the Order Limits, for residential, employment and community facilities. Once developed, the site will provide for approximately 1,380 dwellings and approximately 12 hectares of reconfigured employment land, but access to the site is a major issue because it sits between the two existing crossing points of Lake Lothing, both of which are severely congested, as set out below and in the Transport Assessment (document reference 7.2).
 - Policy SSP5 - Kirkley Rise, to the south of the Asda supermarket, near to the A47 Bascule Bridge and accessed close to the Scheme, is also a mixed-use site in need of regeneration, which also suffers the effects of traffic, poor townscape and underinvestment.
 - Policy SSP9 – Peto Way/ Denmark Road Corridor. The AAP allocates the site, which lies to the north of Lake Lothing for B1, B2 and B8 employment uses. Denmark Road is an employment site in the centre of Lowestoft. Policy SSP9 (page 103 of the AAP) states that “*this location will be used as a priority relocation space for appropriate businesses that will be displaced by other strategic site proposals as set out in the Area Action Plan*”. Access is via the A47 Bascule Bridge from the south, so is difficult throughout the day.

3.7.5 A map of the AAP and its allocations is shown in Figure 3-1 below.

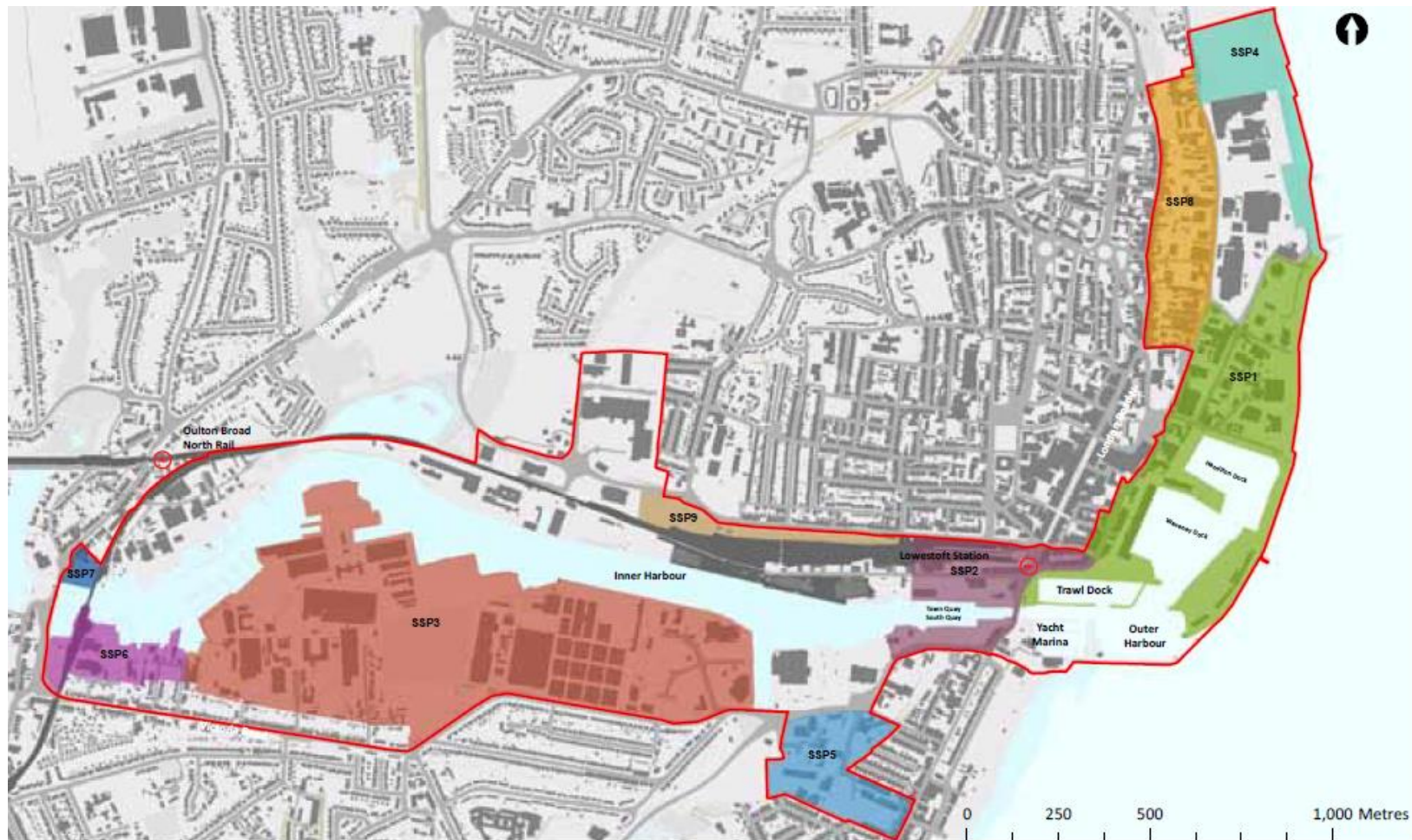


Figure 3-1 - AAP site allocations

(Source: Lake Lothing and Outer Harbour Area Action Plan page 11)

3.7.6 The sites with planning permission demonstrate that since the adoption of the AAP in January 2012 by WDC, the area is increasingly characterised by commercial (including class A1, A2, A3, A5 uses), business (class B1 uses) and general industrial (class B2 uses) uses. An assessment of the Scheme against the relevant policies of the AAP and other documents within the development plan is set out in Section 8.4 of this document. A more detailed planning history of sites within the Order Limits is set out below.

Table 3-4 - Planning History

Application Ref.	Description	Address	Decision	Implemented
North side				
DC/13/0110/OUT	Outline Application - Construction of a retail warehouse development with associated car parking and access arrangements	Denmark Road / Peto Way Lowestoft Suffolk NR32 2EU	Granted on Appeal ref. APP/045/2013 on 22 July 2014	Site forms the northern landing point for the Scheme. Planning permission therefore unable to be implemented.
DC/16/3844/OUT	Outline Application - Construction of 651sqm of Class A1 retail warehouse floorspace, 279 sq m of Class A1 / A3 / A5 floorspace, and a 338 sqm Class A3 / A5 'drive-thru' fast food restaurant (note: this relates to the same site as DC/13/0110/OUT and is proposed to complement the facilities approved by appeal)	Coal Stacking Ground Denmark Road Lowestoft Suffolk NR32 2EG	Approved 15 December 2016	Site forms the northern landing point for the Scheme. Planning permission therefore unable to be implemented.
South side				
DC/12/1186/COU	Change of use to vehicle rental office	Lings Honda, Riverside Business Centre 1 Riverside Road Lowestoft Suffolk NR33 0TQ	Approved 6 February 2013	Implemented
DC/12/1391/FUL	Construction of an office building with associated works including means of	Land off Waveney Drive	Approved 15 February 2013	Implemented

Application Ref.	Description	Address	Decision	Implemented
	access, vehicle parking & service yard, storage area, substation and generator housing, hard and soft landscaping & means of enclosure (Essex & Suffolk Water).	Lowestoft Suffolk		
DC/13/0234/COU	Change of Use from B1 to A2, financial and professional services	2 Canning Road Lowestoft Suffolk NR33 0TU	Approved 11 April 2013	Implemented
DC/13/0295/FUL	Construction of a Vehicle Sales Showroom	Land at Riverside Road, Lowestoft Suffolk	Approved 25 April 2013	Implemented
DC/13/0743/RG3	Construction of offices for Council accommodation with associated access and external landscaping	Land at Canning Road and Riverside Road Lowestoft Suffolk NR33 0EQ	Approved 19 September 2013	Implemented
DC/14/2364/FUL	Proposed Class B2 Autocentre for MOT and repairs	Land at Site of Former 26 Waveney Drive Lowestoft Suffolk	Approved 5 December 2014	Not implemented
DC/15/2758/FUL	Construction of a two-storey office and storage building	Land Adjacent to Waveney Drive Lowestoft Suffolk	Approved 4 November 2015	Not implemented
DC/16/3806/RG3	Extension of existing car park area to gain an additional 13 spaces	2 Canning Road Lowestoft Suffolk NR33 0EQ	Approved 1 November 2016	Implemented

3.7.7 Other relevant planning applications that lie outside of the Order Limits but near the application site are as follows:

- The Sanyo Site which lies to the west of the Scheme (planning application reference: DC/15/2004/RG3). Outline planning permission was granted in January 2017 for up to 252 residential units and associated infrastructure. The site is located adjacent to Brooke Peninsula and the Jeld Wen site. The development

lies in the Kirkley Waterfront and Sustainable Urban Neighbourhood site (Policy SSP3 of the AAP) and has not yet been implemented.

- The Brooke Peninsula and Jeld Wen development lies to the west of the Scheme (planning application reference DC/13/3482/OUT). Planning permission was granted in August 2015 for the demolition of the existing industrial units and residential-led mixed use redevelopment for residential use (use class C3) of up to 850 dwellings or 950,000 sq ft. (whichever is the greater), up to 1774sqm commercial (use classes A1-A5), marina building (sui generis), 1.5 form entry primary school, together with associated infrastructure including a new spine road access and open space (as amended). The development lies in the Kirkley Waterfront and Sustainable Urban Neighbourhood site (Policy SSP3 of the AAP) and has not yet been implemented.
- The South Quay site lies to the east of the Scheme and is covered by an extant planning permission (W17366/1). Reserved matters were granted in February 2005 for Phase 1 of a mixed-use development incorporating a food store and retail outlet units, access, servicing, landscaping, car parking and pedestrian and cycle routes. The development lies in the Peto Square and South Quay site, as allocated in the AAP which sets out at paragraph 4.2.15 that the permission has *“been part implemented by the development of the Asda store and vacant factory outlet building”*.

4 The Need for the Scheme

4.1 Introduction

4.1.1 Part 2 of the NNNPS sets out the need for development of national networks together with the Government's vision and strategic objectives. This states (on page 9) that *"the Government will deliver national networks that meet the country's long term needs; supporting a prosperous and competitive economy and improvement overall quality of life, as part of a wider transport system. This means:*

- *Networks with the capacity and connectivity and resilience to support national and local economic activity and facilitate growth and create jobs.*
- *Networks which support and improve journey quality, reliability and safety.*
- *Networks which support the delivery of environmental goals and the move to a low carbon economy.*
- *Networks which join up communities and link effectively to each other".*

4.1.2 Paragraph 2.13 of the NNNPS recognises the importance of the SRN setting out that it *"provides critical links between cities, joins up communities, connects our major ports, airports and rail terminals"* and that *"it provides a vital role in people's journeys and drives prosperity by supporting new and existing development, encouraging trade and attracting investment"*. It further states that *"A well-functioning Strategic Road Network is critical in enabling safe and reliable journey sand the movements of goods in support of the national and regional economies"*.

4.1.3 Paragraph 2.22 of the NNNPS states that *"without improving the road network, including its performance, it will be difficult to support further economic growth, employment and housing and this will impede economic growth and reduce people's quality of life. The Government has therefore concluded that at a strategic level there is a compelling need for development of the national road network"*.

4.1.4 Paragraph 2.27 of the NNNPS recognises that capacity improvements on the existing network may not be sufficient to all needs and *"In those circumstances new road alignments and corresponding links, including alignments which cross a river or estuary, may be needed to support increased capacity and connectivity"*.

4.1.5 The recognition in the NNNPS of a linkage and dependency between improved transport infrastructure and successful economic growth is reflected across a range of other more recent Government strategy documents, including the key documents discussed below.

4.2 The Government's Industrial Strategy (2017)

4.2.1 In the foreword to the Government's Industrial Strategy¹⁰ (on page 4) the Prime Minister states that *"one of my first actions as Prime Minister was to begin the development of a modern Industrial Strategy that would help businesses to create high quality, well*

¹⁰ HM Government (November 2017) Industrial Strategy, Building a Britain fit for the future

paid jobs right across the country” and that the strategy *“heralds a new approach to how government and business can work together to shape a stronger, fairer economy”*. The strategy (on page 10) identifies five foundations which align to the vision to create a transformed economy.

- *“Ideas – the world’s most innovative economy*
- *People – good jobs and greater earning power for all*
- *Infrastructure – a major upgrade to the UK’s infrastructure*
- *Business environment the best place to start and grow a business*
- *Places – prosperous communities across the UK”*

4.2.2 The importance of infrastructure to the creation of jobs is recognised in the Strategy which seeks to help businesses create high quality, well paid jobs across the country. It states (on page 128) that *“infrastructure is the essential underpinning of our lives and work, and having modern and accessible infrastructure throughout the country is essential to our growth and prosperity”*. The Strategy goes on to state (on page 129) *“Efficient transport systems bring a wide range of work within people’s reach, and bring goods from suppliers to markets”*. Furthermore, (also on page 129) *“providing the right infrastructure in the right places boosts the earning power of people, communities and our businesses”*.

4.3 The Government’s Transport Investment Strategy

4.3.1 In July 2017, the Government published the Transport Investment Strategy¹¹, which sets out how it plans to invest in transport infrastructure. The Strategy is seen as an enabler to help deliver the Industrial Strategy which, by improving connections between communities and businesses, will help to deliver planned growth across the country. The executive summary of the Transport Investment Strategy outlines aspirations to:

- create a more reliable, less congested, and better-connected transport network that works for the users who rely on it.
- build a stronger, more balanced economy by enhancing productivity and responding to local growth priorities.
- enhance our global competitiveness by making Britain a more attractive place to trade and invest.
- support the creation of new housing.

4.4 The Government’s National Infrastructure Delivery Plan (2016 – 2021)

4.4.1 The National Infrastructure Delivery Plan (NIDP) brings together the Government’s plans for economic, housing and social infrastructure investment. Its aim is to support economic growth, create jobs, raise the productive capacity of the economy, drive efficiency and boost international competitiveness. In the executive summary of the

¹¹ Department for Transport (July 2017) Transport Investment Strategy, Moving Britain Ahead

NIDP, it is recognised that *“infrastructure is the foundation upon which our economy is built”*. Paragraph 13.31 of the NIDP sets out that the government has now *“confirmed it will also provide £151 million to fund new river crossings at both Lowestoft and Ipswich”*.

4.5 Ports Connectivity Study

- 4.5.1 The DfT has recently published a study into England’s port connectivity¹² stating in paragraph 1 of its executive summary that *“at present around 95% of all goods entering and leaving the UK are moved by sea and the UK port sector directly contributes £1.7billion to the UK economy”*. The study also notes in paragraph 3 of the executive summary that *“if our ports are to continue to thrive then the national, regional and local infrastructure supporting them has to be effective and efficient”*. The Study recognises that renewable energy sectors are closely linked to the port industry and states at paragraph 2.56 that *“port access will be an issue for their supply chains and their employees”*. In Lowestoft the SRN plays an important role in relation to the Port and the Scheme is identified in the study as a port connectivity project, being funded by the Large Local Majors Fund.

4.6 The Transport Case

- 4.6.1 The need for the Scheme has arisen from congestion issues on the highway network in Lowestoft which is formed of the SRN and closely related County Council maintained roads. The network is significantly affected by congestion which is further exacerbated when either the A47 Bascule Bridge or the Mutford Bridge are raised to allow access for vessels into the inner harbour of the Port of Lowestoft.
- 4.6.2 The need for an additional crossing was established in 1989 in the Roads for Prosperity White Paper as part of a scheme that included the South Lowestoft Relief Road (“the SLRR”) and the Lowestoft Northern Spine Road (“the LNSR”). The SLRR was promoted, constructed and part-funded by SCC, and opened to traffic in 2006. A similar arrangement has followed for the LNSR, the final phase of which opened in 2015. There is a central gap of less than 650m between these two roads, as the crow flies, but the actual driving distance (via the A47 Bascule Bridge) is nearly 2km. A new crossing of Lake Lothing, effectively linking these highway schemes, is the crucial remaining piece of the jigsaw to address congestion, reliability and resilience issues in Lowestoft.
- 4.6.3 The DfT publication Action for Roads¹³ (2013) identified capacity issues of increasing severity on the A12 south of Great Yarmouth into Lowestoft (including the A47 Bascule Bridge), with congestion predicted to be ‘severe’ on most of that section by 2040. This is further illustrated in Annex A of the NNNPS.

¹² Department for Transport (April 2018), Transport Infrastructure for our global future, A Study of England’s Port Connectivity

¹³ Department for Transport (July 2013), Action for Roads, A Network for the 21st Century

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- 4.6.4 Consequently, Highways England's 2015 Route Strategy for the East of England¹⁴ identifies river crossing capacity on the A12, now the A47, at Lowestoft to be a key challenge in the region. Evidence prepared to support the Route Strategy in 2014, states in paragraph 2.1.6 that the *"bascule bridge significantly influences capacity, speed and reliability of the route in Lowestoft"*¹⁵ and is the least reliable section of the SRN in the east of England, recording average peak (defined as Monday to Friday 7-10am and 4-7pm) speeds of less than 20mph and in the top 10% for vehicle hours delay. (See Appendix C of this document).
- 4.6.5 DfT's Road Investment Strategy¹⁶, in confirming a £300m improvement package for the A47/A12, recognised the importance of improving connectivity to Lowestoft to support growth in that corridor and as part of those proposals set out an intention to renumber the A12N between Lowestoft and Great Yarmouth as the A47. Page 25 of the Investment Strategy states that renumbering this route will *"better reflect the route's nature as a continuous corridor"*, which has been implemented in March 2017.
- 4.6.6 It was announced in the summer budget 2015 that the Government would commit £4m to develop Outline Business Cases ("OBC") for the Lowestoft Third River [Lake Lothing] Crossing and the Wet Dock Crossing in Ipswich, recognising that its long term economic plan for the east was reliant on good transport links.¹⁷ OBCs for both schemes were submitted to DfT in December 2015, and funding of £73.5 million was secured for the Scheme in the March 2016 budget. Funding was also obtained for the Ipswich scheme, which is being progressed as a separate project.
- 4.6.7 The various aspects of the transport case are set out in detail below.
- The role of the SRN, how it functions between Great Yarmouth and Lowestoft and the issues arising from the A47 Bascule Bridge*
- 4.6.8 The SRN is an important route between Great Yarmouth and Lowestoft and beyond to Norwich and Peterborough. It also forms part of the TEN-T¹⁸ which connects into the SRN making the A47 a significant route, both nationally and within Europe. The efficient operation of the TEN-T relies on the smooth running of the SRN.
- 4.6.9 Lowestoft is the eastern-most terminus of the SRN, with its end point being the A47 Bascule Bridge. Following the de-trunking of the A12 between Seven Hills near Ipswich and the A47 Bascule Bridge in 2001, access to Lowestoft via the SRN is by the A47 from Great Yarmouth. Conversely, traffic wishing to access the SRN from the south is directed over the A47 Bascule Bridge. The SRN in the East of England is shown in

¹⁴Highways England (April 2015), East of England Route Strategy

¹⁵Highways Agency (April 2014), East of England Route Strategy Evidence Report

¹⁶Department for Transport (March 2015), Road Investment Strategy: for the 2015/16-2019/20 Road Period

¹⁷HM Treasury (July 2015), Summer Budget 2015

¹⁸ The TEN-T is a European Commission policy directed towards the implementation and development of a Europe-wide network of roads, railway lines, inland waterways, maritime shipping routes, ports, airports and rail-road terminals.

Source: Highways England (April 2015), East of England Route Strategy

- 4.6.10 The A47 Bascule Bridge, one of few lifting bridges on the SRN, is a major obstacle for strategic traffic travelling from the south to Great Yarmouth, as congestion is regularly experienced in its vicinity, which is exacerbated when the bridge needs to be lifted or maintained.
- 4.6.11 The TA (document reference 7.2), at Paragraph 1.5.3, sets out that the conclusions of strategic traffic modelling using a SATURN model, microsimulation assessments of the local road network using a VISSIM traffic model, and detailed junction modelling are that congestion is a significant issue on key routes (including routes which form part of the SRN) and become worse when the existing lifting bridges are closed to traffic, leading to increased queuing and delay. This should be seen in the context of historic traffic data obtained from the DfT, which shows an increase in traffic of 11.5% on the A47 Bascule Bridge between 2011 and 2015.
- 4.6.12 Section 3.14 of the TA provides information related to existing queueing and journey times on the Lowestoft highway network. There are significant queues on the A47 Bascule Bridge in the AM and PM peak. Figure 3.27 of the TA shows a significant queue of around 200m on the A47 Bascule Bridge in the northbound direction during the Base 2016 AM Peak scenario. Figure 3.33 of the TA shows extensive traffic queueing of around 300m at the Station Square/A47 junction in the PM peak.

4.6.13 In the East of England Route Strategy evidence report, the Highways Agency as it was, noted long term maintenance issues with the A47 Bascule Bridge which undoubtedly continue to contribute to journey time unreliability for travellers on this section of the network. The report notes that a number of major mechanical and electrical defects have been ongoing and more generally that the A47 Bascule Bridge is characterised by mechanisms which render it vulnerable to incidents. It was reported in 2012 that the bridge was closed for 151 nights in the preceding five years for maintenance¹⁹. Furthermore, the report notes that the A47 Bascule Bridge gets flooded by exceptionally high tides rendering the rise mechanism temporarily inoperable while emergency maintenance is undertaken. This happened most recently in December 2013, and, with climate change predictions, this would be expected to happen more frequently. In June 2017 the bridge was closed for around an hour after the summer heat caused the hinges to expand and jam.²⁰

4.6.14 There are currently 10 windows of opportunity for recreational craft to pass through the A47 Bascule Bridge every day, but it can be opened on demand for large commercial vessels (50t). The SRN is closed temporarily as the bridge lifts, which can cause significant delay to road users. Each bridge opening is in the region of five to ten minutes at which point, depending on the time of day, queues build up which take some time to dissipate. With increasing activity in the Port, in particular associated with its role in supporting offshore windfarms increasing frequency of openings of the A47 Bascule Bridge can reasonably be anticipated, as can increasing traffic on the surrounding highway network, further exacerbating existing congestion issues. Figures 4-2, 4-3, 4-4 and 4-5 have been taken from Section 3.14 of the TA and show the average journey time on two key north south routes, and delay experienced, when the bridge is open for traffic, lifted for 5 minutes and lifted for 10 minutes. The routes referred to are as follows:

- Route 2A – Northbound route from approximately 200m south of the junction of A12 Tom Crisp Way and Blackheath Road to the roundabout of A47/ St Peters St.
- Route 2B – Southbound route from the roundabout of A47 /St Peters St to approximately 200m south of the junction of A12 Tom Crisp Way and Blackheath Road.

¹⁹<http://www.bbc.co.uk/news/uk-england-suffolk-17059491> (see Appendix G for full text)

²⁰<http://www.lowestoftjournal.co.uk/news/extreme-summer-heat-causes-bascule-bridge-in-lowestoft-to-get-stuck-causing-traffic-delays-1-5066858> (see Appendix G for full text)

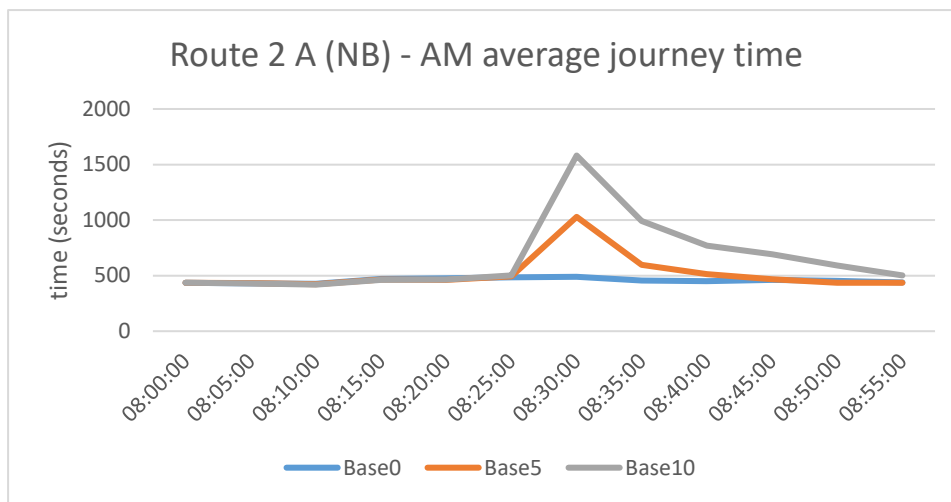


Figure 4-2 – Route 2A (NB) - AM average journey time

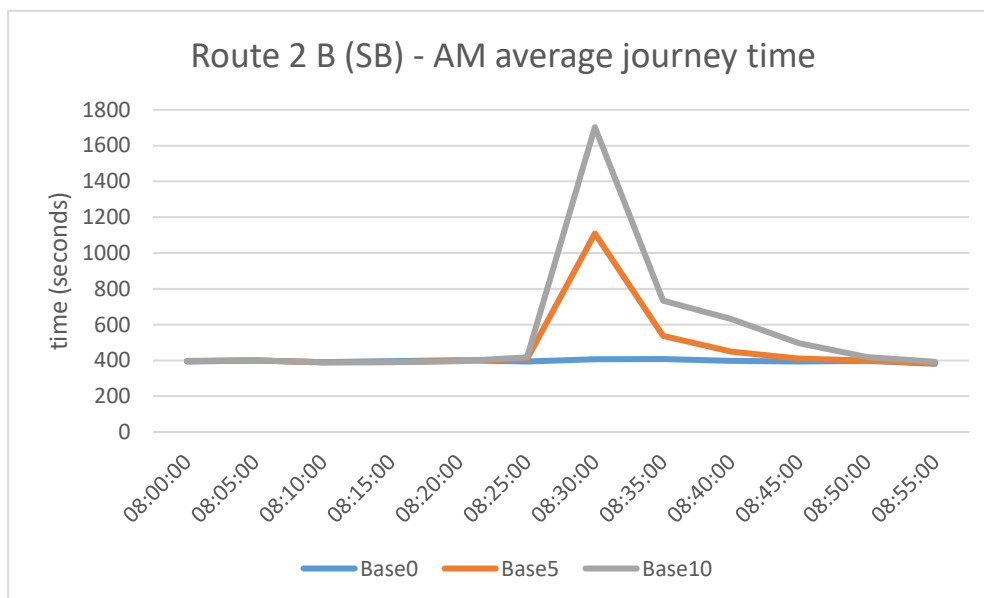


Figure 4-3 – Route 2B (SB) - AM average journey time

4.6.15 Paragraph 3.14.31 of the TA reports that it is clear from the graphs that the lifting of the A47 Bascule Bridge (at around 08:30) has a large impact on the average journey time on the routes identified. Routes 2A and 2B are directly affected as they cross the A47 Bascule Bridge. On route 2A (northbound), average journey time increases from around 500 seconds (8 minutes, 20 seconds) and peaks at 1000 seconds (16 minutes 40 seconds) when there is a five-minute lift, and 1500 seconds (25 minutes) when there is a ten-minute lift. After the bridge opens to traffic, journey time decreases to normal by 08:45 with a five-minute lift. With a ten-minute lift, journey time decreases but is still higher than normal at the end of the modelled period. A similar pattern is seen on route 2B (southbound). Normal journey time is around 400 seconds (6 minutes 40 seconds), whereas peak journey time is around 1100 seconds (18 minutes 20 seconds) with a five-minute lift and over 1600 seconds (26 minutes 40 seconds) with

a ten-minute lift. In the ten-minute lift scenario, journey time goes back to normal by around 08:50.

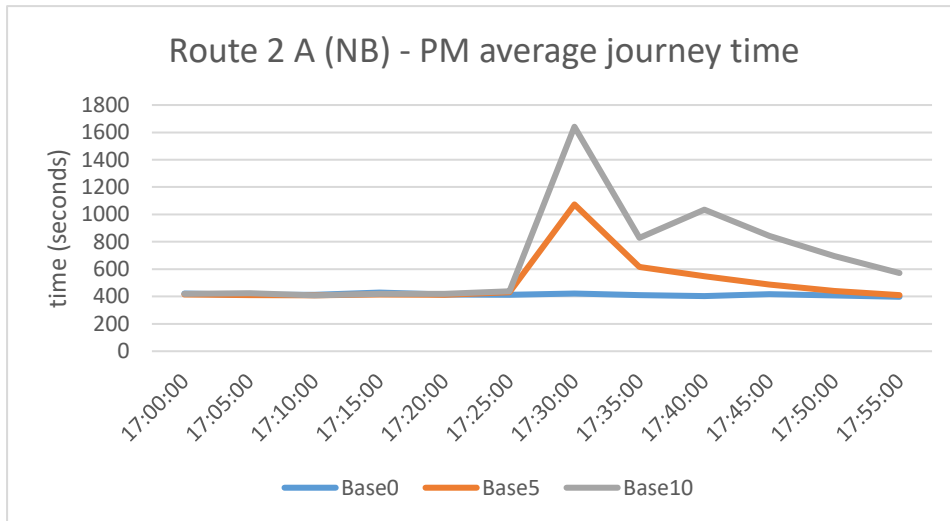


Figure 4-4 – Route 2A (NB) - PM average journey time

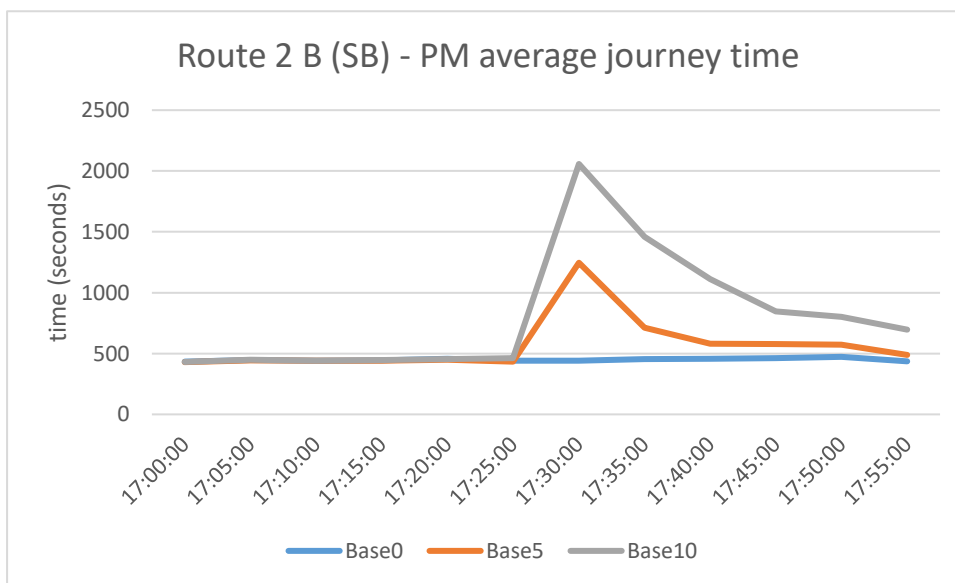


Figure 4-5 – Route 2B (SB) - PM average journey time

4.6.16 The TA sets out at Paragraph 3.14.34 that a similar pattern can be seen in the PM peak on the key north south routes as in the AM peak. Journey time increases to a peak of four times the normal value in the ten-minute lift scenario: 400 seconds (6 minutes 40 seconds) to 1600 seconds (26 minutes 40 seconds) on the northbound route, and 500 seconds ((8 minutes, 20 seconds) to 2000 seconds (33 minutes 20 seconds) on the southbound route. In the five-minute lift scenario, journey time on both routes more than doubles at the time of the lift. Journey time decreases gradually and in the five-minute lift scenario is back to normal on both routes by the end of the modelled hour. In the ten-minute lift scenario, journey time is around 50% higher than

normal at the end of the modelled hour, meaning the lift affects traffic across the entire latter half hour. The TA also presents similar graphs for east west movements, refer to section 3.14 of that document.

4.6.17 In summary, the graphs above show the delay experienced when the A47 Bascule Bridge is lifted, where in the worst scenario, this amounts to a delay of over 30 minutes due to a build-up of congestion. The SRN through Lowestoft has been recognised by both Highways England and DfT as a major pinch point in the east of England, indeed being identified as the most unreliable part of that network.²¹ Implementation of the Scheme would provide an alternative route choice for those currently using the A47 Bascule Bridge and the Mutford Bridge. This route will be available for drivers when the existing bridges are lifted and since bridge lifts in connection with the Scheme will be fewer (due to the greater air draught which allows more vessels to gain access) the likelihood of delay occurring is reduced. As such there is a strong case for a new crossing of Lake Lothing to mitigate against the increasing congestion and diminished resilience in the SRN through Lowestoft.

Local Highway Network

4.6.18 In addition to effects on the SRN, the local highway network in Lowestoft is also severely affected by congestion, which is exacerbated when the bridges are lifted. The situation is worsened at the west of Lake Lothing, when the railway level crossings are closed to traffic and congestion and delays are further exacerbated. The TA sets out at paragraph 3.14.6 that the closure of the Oulton Broad North level crossing together with a lift of the Mutford Bridge results in severe delays on the A1117 Normanston Drive. Paragraph 3.13.28 of the TA sets out that north of Mutford Bridge the network is operating significantly above its congestion reference flow (an estimate of the AADT flow at which the carriageway is likely to be congested in the peak periods on an average day)²², and traffic flows south of Mutford Bridge are also relatively high. The Base 2016 VISSIM model shows extensive queuing and delays across the existing network in the vicinity of the Scheme, set out in detail in Section 3.14 of the TA.

4.6.19 To the east of Lake Lothing, the road network is also affected by congestion and delay. The TA sets out at paragraph 3.14.15 queue lengths in this location highlighting that in the PM peak, there is currently extensive traffic queuing of around 300m at the Station Square/A47 junction (highlighted in Paragraph 4.6.12 above), which blocks back to the north all the way to the Denmark Road/A47 junction. The consequence of this is traffic cannot exit Katwijk Way due to the queuing along Denmark Road. The southern section also blocks back across the Bascule Bridge from the Station Square junction with a queue of around 200m, impacting upon the Pier Terrace/Belvedere Road junction.

²¹Highways Agency (April 2014), East of England Route Strategy Evidence Report

²² North of the Mutford Bridge on the A1117 Bridge Road (north) there is a two-way average annual daily flow of 25,645. This is operating significantly above its theoretical capacity which is in the range of 22,000-23,000. (refer to paragraph 3.13.28 of the TA)

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- 4.6.20 Congestion in this area is expected to worsen in the future which is shown in several Do Minimum scenarios set out in Section 7.4 of the TA. In the 2022 Do Minimum scenario, when the A47 Bascule Bridge is open to traffic, queues on the A12 northbound extend approximately 400m in the AM peak (Figure 7.2 of the TA). When the bridge is lifted for five minutes, the queue extends towards Asda (approximately 650m) (Figure 7.3 of the TA). When the bridge is lifted for 10 minutes, northbound traffic held up at the Bascule Bridge creates a queue that extends back onto Waveney Drive (approximately 1.2km). Southbound traffic queues back to the roundabout on A47 at Battery Green Road, a distance of around 750m, and along Denmark Road/Katwijk Way for around 600m as shown in Figure 7.4 of the TA.
- 4.6.21 The TA sets out at paragraphs 3.14.10 to 3.14.11 that at the Normanston Drive/ Gorleston Road junction, traffic queueing on the A1117 makes it difficult for traffic from the B1375 to enter the roundabout in the AM peak. This is exacerbated when the level crossing at Oulton Broad is in operation, with queues on Bridge Road of around 200m in both directions. Conditions in the PM peak are similar, particularly when the level crossing is in operation.
- 4.6.22 The TA considers existing journey time and delay on key routes/ movements around Lake Lothing at Paragraph 3.14.26. One such route on the A12 northbound (A12 Tom Crips Way/ Blackheath Junction and A47 St Peters Street/ Jubilee Way) comparison shows that there is an average delay of approximately three minutes when the A47 Bascule Bridge is lifted and approximately two minutes when the bridge remains open to traffic in both the AM and PM peaks. Therefore, there is a 50% increase in the typical delay for users of this route.

Local Connectivity and severance

- 4.6.23 The TA states at Paragraph 1.5.5 that “*Community severance is a serious problem in Lowestoft. Lake Lothing and The East Suffolk Line act as major barriers to movement between the north and south sides of the town. This north/south divide is made worse by traffic congestion. Severance restricts economic growth and business development, and discourages new business from moving into the area. The Scheme is needed to allow the road network to operate more efficiently and provide extra capacity*”.
- 4.6.24 Community severance has several undesirable impacts for Lowestoft:
- It increases the length of journeys to work, increasing fuel consumption and emissions for car trips;
 - It makes non-car modes of travel, such as walking and cycling, less attractive for work and other trips;
 - It reduces people’s access to local services; and
 - it creates a physical separation between the businesses within the AAP area, despite their apparent proximity, making it harder for the area to function as a coherent whole.

Barriers to Walking and Cycling

- 4.6.25 Lowestoft is divided by Lake Lothing and the opportunities for pedestrians and cyclists to make north south crossings are limited to the existing bridges at either end. The two existing crossings have a distance of 3km between them which increases the length of some cycling and walking journeys, making these sustainable modes of travel less attractive. This is especially problematic for people walking between the central part of south Lowestoft, the town centre, or residential areas in north Lowestoft. The TA sets out at Paragraph 11.3.2 that a resident of Burnham Way, south of Lake Lothing, wishing to travel to the North Quay Retail Park, north of Lake Lothing, would have to travel 3.5km via the A47 Bascule Bridge, even though the distance 'as the crow flies' is only about 1km. Currently, the journey would take about 9 minutes by car or 44 minutes on foot.
- 4.6.26 In terms of provision for cyclists, at Mutford Bridge there is a shared pedestrian / cycle path on both sides of the carriageway, whilst the A47 Bascule Bridge to the east has shared pedestrian and cycle paths although the widths are below standard. There are other existing national, regional and local cycle routes near the Scheme and these can be seen at Figure 3.15 in the TA. This shows that there is currently provision around Lake Lothing but no other opportunity to cross apart from at Mutford Bridge and the A47 Bascule Bridge.
- 4.6.27 The TA sets out at Paragraph 3.11.13 that on a typical weekday there are 2,245 cycle movements on both bridges but there are 296 fewer cycling movements at the weekend (paragraph 3.11.14 of the TA). This suggests that cycle use of the crossing is based more on journeys to work and local amenities rather than on leisure trips. Due to the limited opportunities to cross Lake Lothing by cycle, the town's cycle network is currently unlikely to fulfil its potential to carry a greater proportion of work, leisure and other trips. The need to enhance accessibility for non-motorised users is recognised in the NNNPS at Paragraph 2.9. Further to this at Paragraph 3.17, the NNNPS states that "*there is a direct role for the national road network to play in helping pedestrians and cyclists*". Paragraph 3.21 of the Transport Investment Strategy also states that "*Providing new cycle-ways and road networks that accommodate the needs of cyclists and walkers can encourage people to shift from cars to more sustainable and healthy forms of travel, particularly for short local trips that make up the bulk of personal trips*".

Difficulties for Public Transport

- 4.6.28 Bus services in Lowestoft cover key corridors through the town, with all serving the town centre from outer lying areas. However, the severance caused by Lake Lothing and railway line, and limited crossing points constrains accessibility and north south movements. Delay to journey times occurs when traffic is disrupted by congestion around the A47 Bascule Bridge, particularly when this is lifted. The public transport network has evolved around the two existing bridges, which means that north-south services tend to be peripheral to the built-up area (and especially to the area around Lake Lothing). Section 3.8 of the TA provides greater detail on the bus network and includes a plan showing existing bus routes. The TA considers at Paragraph 3.8.5 that

the “current routing strategy developed by the bus operators is likely to be influenced by the poor journey time reliability and congestion between the two sides of the Lake”.

4.7 The Regeneration Case

4.7.1 Lowestoft has a growing role in the energy sector, particularly in the delivery of consented NSIPs for offshore windfarms as well as a key role in the delivery of sites in the Great Yarmouth and Lowestoft Enterprise Zone and the AAP. Because of congestion and unreliable journey times (set out in the transport case), fulfilling these roles will be challenging. The relationship between the provision of essential infrastructure and economic growth is well documented, notably in the NNNPS, the Government’s Industrial Strategy and in the Ports Connectivity Study, which is set out at Section 4 of this document. In addition, the need for the Scheme is required at a sub-national level as it would expedite the delivery of growth in housing and employment. Paragraph 6.38 of the New Anglia Local Enterprise Partnership’s (NALEP) Strategic Economic Plan (SEP) sets out that *“housing growth includes plans for around 2,000 dwellings in Great Yarmouth and 2,700 in Lowestoft”* and further states at paragraph 6.39 that *“The two towns suffer from congestion arising from bottlenecks at key locations, including North Quay and Haven Bridge in Great Yarmouth and Lowestoft Bascule Bridge. Both towns have limited river crossings forcing traffic onto a few congested routes”*.

4.7.2 The highway network in Lowestoft also provides connections to the Port of Lowestoft, the Enterprise Zone and sites that are allocated for development in the Area Action Plan. These areas rely upon the effective operation of the highway network in Lowestoft to conduct their businesses and facilitate development in an efficient manner.

Suffolk Growth Strategy

4.7.3 The Suffolk Growth Strategy (2013) was developed by the local authorities in Suffolk, including SCC and WDC. Paragraph 1.2 of the Growth Strategy sets out that the strategy *“provides the broad framework showing how the county, district and borough councils – working together – intend to do “whatever they can” to enable business to be successful”*. The strategy contains many objectives, including securing inward investment, enabling Suffolk companies to increase their exports to the rest of the world and improving business resource efficiency, all of which are considered to support the Scheme for the reasons set out above.

4.7.4 Paragraphs 7.2 and 7.4 of the strategy identify the Lowestoft and Great Yarmouth Enterprise Zone as one of the principal economic growth locations in Suffolk, noting in Paragraph 7.4 that these locations are *“all suitable for investments by globally-competitive companies that will help drive the growth of Suffolk and the UK economy as a whole”*. Paragraphs 7.17 – 7.23 detail the potential for growth within the Enterprise Zone and highlight the importance of the energy sector in Lowestoft locally, regionally and nationally. Paragraph 8.1 goes on to state that *“infrastructure is crucial to future economic growth in Suffolk. Some of the county’s key advantages stem from its location and existing infrastructure such as its ports. However, poor infrastructure is increasingly holding Suffolk back. Underinvestment and congestion in road and rail*

networks are a key obstacle for businesses looking to expand in Suffolk. The perception of poor infrastructure is deterring inward investors". Strategic road improvements are identified as being of key importance for economic growth, and the document states that efficient freight and goods travel and connections to Suffolk's ports is a key transport priority to enable green economic growth.

East Suffolk Economic Growth Plan, 2018 – 23 (Draft v7, January 2018)

4.7.5 The East Suffolk Economic Growth Plan sets out a five-year vision for economic growth in East Suffolk²³. The vision focusses on building business confidence, to create better opportunities for the people and communities of East Suffolk and in turn allow more people to enjoy a higher quality of life. The related strategy has three overarching priorities:

- Encouraging entrepreneurs and entrepreneurship in East Suffolk.
- Encouraging established businesses to invest and grow.
- Attracting inward investment to East Suffolk.

4.7.6 The Growth Plan identifies a range of strengths and opportunities on which it can build and it identifies that regeneration plans are progressing, and cites the Scheme as an example of this. Also recognised as strengths are the marine cluster that is emerging in and around Lowestoft, its role in the development of the East Anglia Array and with its strong focus on the energy sector, the Enterprise Zone is making good progress. Furthermore, in relation to the emerging Waveney Local Plan, the Growth Plan states on page 14 that *"there will be significant change and regeneration opportunities created by the Third Crossing over Lake Lothing"*.

4.7.7 The Growth Plan has identified that the energy sector is crucial for East Suffolk, identifying that Lowestoft already has an Enterprise Zone and provision for small businesses in this field and it will be crucial that both continue to develop. The Growth Plan also highlights on page 23 that the *"possibility of developing a marine cluster around Cefas is potentially game-changing for East Suffolk in general (and Lowestoft in particular)"*. Cefas is an executive agency of Defra with substantial expertise in marine science and technology.

Local Business Survey

4.7.8 Concerns in relation to the effects of infrastructure constraints on economic growth have been identified by local businesses. As set out in section 6.7.3 of the OBC a survey of local businesses was undertaken in October 2015 which was carried out by the Suffolk Business School. The survey sought to understand the impact of congestion on existing business activities and the extent to which it constrains growth as well as understanding the likely value that a third crossing would add for local businesses. 151 businesses responded to the survey and the following key findings were recorded:

²³ East Suffolk comprises Suffolk Coastal District Council and Waveney District Council

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- Most respondents reported that traffic congestion causes 'very significant problems' to their business;
 - If there is no new crossing of Lake Lothing, businesses expected a mean turnover growth of 5%. If there was a new crossing of Lake Lothing, businesses expected a mean turnover growth of 23%. The Business Survey states on page 6 that, *"it is clear from these results that businesses in the area consider a new crossing to bring very great economic benefits to their organisations"*²⁴.
 - If there is no new crossing of Lake Lothing, businesses expected a mean growth in employment of 0.02 full time equivalents. If there is a new crossing of Lake Lothing, businesses expected a mean growth in employment of 8.1 full time equivalents, which is substantial in the context of those businesses that responded (70% of responses were from businesses with fewer than 24 employees). The Business Survey states on page 7 that, *"the presence of a new crossing is predicted to lead to much greater employment and is associated by respondents with prosperity and economic growth"*.

4.7.9 The results from this consultation gave a clear and strong message in support of a new crossing. Businesses that responded to the survey, or that came along to the consultation event (or both) could provide clear descriptions of the problems that they face because of traffic congestion in the town and the many ways in which this impacts on their capacity to run businesses effectively and efficiently. Their views indicate that congestion is a deterrent to future investment and depresses productivity in existing business.

The role of Lowestoft as a 'hub' for energy NSIPs

4.7.10 The Port of Lowestoft is already established as a hub for offshore wind operations and this is set to increase further. Presently the Operations and Maintenance ("O&M") base for the Greater Gabbard Offshore Windfarm (comprising 140 turbines capable of providing enough renewable energy to supply around 530,000 homes each year) is located at Lowestoft. The O&M base has created around 100 permanent jobs, 95% from the local area²⁵. In addition, the Galloper Offshore Windfarm and East Anglia ONE offshore windfarm will be using the Port as a construction coordination base over a two-year period bringing jobs into the area and acting as a catalyst for further growth in the sector. Furthermore in November 2015 ScottishPower Renewables announced a thirty-year agreement with the Port of Lowestoft for it to act as a construction and operations hub for the East Anglia ONE offshore windfarm.²⁶ The East Anglia ONE offshore windfarm is the first phase of the East Anglia Array, a 7.2GW Round 3

²⁴ Suffolk Business School (October 2015) Business Consultation on Lake Lothing Crossing (Appendix C of the OBC)

²⁵ <http://sse.com/whatwedo/ourprojectsandassets/renewables/GreaterGabbard/> (see Appendix G for full text)

²⁶ http://www.scottishpowerrenewables.com/news/pages/scottishpower_renewables_agrees_thirty_year_deal_with_port_of_lowestoft.asp (see Appendix G for full text)

allocation²⁷ which received development consent in June 2014.²⁸ East Anglia ONE is currently under construction and has been identified in the National Infrastructure Plan²⁹ as a key project.

- 4.7.11 A number of other offshore wind farms may also be supported from Lowestoft. Development consent was granted in August 2017 for the East Anglia THREE windfarm; and ScottishPower Renewables is currently in the process of revising agreements with the Crown Estate which are likely to see two further phases of development in the southern half of the East Anglia Array, while Vattenfall is developing its own proposals for the northern portion of the Array. This represents a development pipeline of more than ten years which Lowestoft is well positioned to have a crucial role in delivering.
- 4.7.12 The focus of activity associated with the existing and prospective NSIPs is around the Port of Lowestoft and associated development sites centred both north and south of Lake Lothing in the AAP area. As such, reliable access to this area both for commercial traffic and the necessary workforce will help facilitate the successful delivery of these projects. However, as has been highlighted, congestion is a significant issue which is further exacerbated during times when the A47 Bascule Bridge opens, making north-south movements difficult and journey times unreliable.
- 4.7.13 The Scheme would be completed by 2022 and therefore would support the confirmed O&M base of the Greater Gabbard windfarm and the Offshore Construction Coordination Base for the Galloper Offshore Windfarm and further offshore wind NSIPs that may use Lowestoft. ABP believe there is also potential that the Port of Lowestoft may be used to transport construction materials for the Sizewell C nuclear reactor development.

Enabling Wider Sub-National Growth

- 4.7.14 As set out in Section 3.6 of this document, Lowestoft is an area of significant deprivation but the growth of offshore energy generation provides significant potential for economic growth, as set out above. NALEP's Economic Strategy recognises the opportunities that exist in the energy sector, stating on page 12 that *"the coast around Great Yarmouth and Lowestoft is at the centre of the world's largest market for offshore wind"* and that *"capital investment in clean energy worth £50bn is planned in the region by 2020"*³⁰. The Economic Strategy also identifies on page 14 that *"Great Yarmouth and Lowestoft ports have a more regional focus relating to the offshore energy sector"*. This was also recognised in 2015 in the long term economic plan for the East of

²⁷http://www.scottishpowerrenewables.com/news/pages/scottishpower_renewables_and_vattenfall_to_develop_major_offshore_windfarms_off_the_coast_of_east_anglia.asp (see Appendix G for full text)

²⁸<http://infrastructure.planningportal.gov.uk/projects/eastern/east-anglia-one-offshore-windfarm/>

²⁹Infrastructure and Projects Authority (March 2016), National Infrastructure Delivery Plan 2016-2021

³⁰ New Anglia Local Enterprise Partnership (November 2017) The East, Norfolk and Suffolk Economic Strategy, A Strategy for Growth and Opportunity

England which aims to capitalise on the inherent strengths of the East and “*reaping the benefits of more than £50bn that will be invested in the energy sector over the next 20 years*”³¹.

- 4.7.15** In 2011, the Government announced a series of partnerships between Central and Local Government and Local Economic Partnerships (“LEPs”) were set up to ensure that businesses seeking to invest in manufacturing for the offshore renewables industry receive the most comprehensive support possible. These relationships were formalised with the identification of Centres for Offshore Renewable Engineering (“CORE”) of which Great Yarmouth and Lowestoft was one. CORE status reflected the capabilities and commitment of the local area to the offshore sector, recognising the access to skilled labour and an established supply chain. CORE status very much complemented the designation of the Enterprise Zone (see below) in signposting the area for future investment in offshore engineering.
- 4.7.16** A further incentive to investors in Lowestoft has been the granting of Assisted Area status to a number of its wards; this permits the public sector to provide certain types of assistance if it wishes and increases businesses’ entitlements to a greater percentage of funding from New Anglia’s Growing Business Fund and European State Aid.³²
- 4.7.17** The NALEP Economic Strategy is based on the NALEP SEP which notes that Lowestoft is already a major base for the construction, operations and maintenance and servicing of offshore energy production (oil, gas, wind and tidal energy) in the North Sea. There is also a broader supply chain of energy-related businesses, including design, engineering and manufacturing for the energy industry. The SEP identifies Lowestoft as a key growth location and also identifies the Scheme as one of its transport priorities.³³
- 4.7.18** In summary, Lowestoft is a major player in supporting the energy sector nationally, with a distinguished history in supporting economic activity in the southern North Sea. While oil and gas exploration is currently waning, there is massive potential in renewable and low carbon technologies which Lowestoft is ideally positioned to exploit and continue to make not just a regional, but a nationally significant, contribution to supporting this sector. However, this potential will not be realised if the traffic problems identified in Section 4.6 of this document are not overcome. The business survey (Paragraphs 4.7.8 and 4.7.9 of this document) has highlighted that traffic congestion causes very significant problems for business efficiency. This is inconsistent with the Government’s Industrial Strategy which recognises that infrastructure is essential to growth and prosperity.

³¹ <https://www.gov.uk/government/news/prime-minister-announces-long-term-economic-plan-for-the-east-of-england> (see Appendix G for full text)

³² Department for Business Innovation and Skills (October 2014), An Introduction to Assisted Areas

³³ New Anglia Local Enterprise Partnership for Norfolk and Suffolk (December 2014) New Anglia Strategic Economic Plan

The Enterprise Zone and the challenges to its fulfilment

- 4.7.19** Enterprise Zones are at the heart of the Government's long term economic plan, supporting businesses to grow.³⁴ The Great Yarmouth and Lowestoft Enterprise Zone opened in April 2012 with a focus on supporting energy-related business and has since attracted 39 companies employing 1,895 people and £30.6m of private sector capital investment. An extension to the existing Enterprise Zone announced in March 2016 will create space for 30 more business and 1,219 jobs³⁵.
- 4.7.20** The Enterprise Zone is a collection of six sites; four in Lowestoft (see Appendix D of this document) and two in Great Yarmouth. Three of the sites in Lowestoft are to the south of Lake Lothing and access to the SRN and the Port of Lowestoft from them is principally via the A47 Bascule Bridge. The two towns of Lowestoft and Great Yarmouth are identified as priority places in the NALP Economic Strategy where it states on page 6 that *"our priority places are interconnected, dependent on transport links and draw on many of the same labour markets and supply chains"*. As such there needs to be strong connectivity between the two towns and currently due to congestion and delays created by the A47 Bascule Bridge, there is not.
- 4.7.21** The Enterprise Zone is anticipated to deliver 9,000 direct jobs and 4,500 indirect jobs³⁶ and while the region is on target to deliver this, paragraph 6.39 of New Anglia's SEP recognises that Lowestoft suffers from congestion resulting from *"limited river crossings forcing traffic onto a few congested routes"* and therefore the Scheme is identified as a transport priority.
- 4.7.22** There remain significant opportunities within the Enterprise Zone and beyond for businesses to grow, but access issues must be resolved to complement the fiscal and policy incentives that exist through the Enterprise Zone, the designation of Lowestoft wards of Assisted Area Status³⁸ and by Lowestoft being designated as a CORE centre³⁹ and to enable travel between these areas and beyond. The Scheme has been

³⁴<http://enterprisezones.communities.gov.uk/about-enterprise-zones/> (see Appendix G for full text)

³⁵ <http://enterprisezones.communities.gov.uk/enterprise-zone-finder/great-yarmouth-and-lowestoft-enterprise-zone/> (see Appendix G for full text)

³⁶<https://www.suffolk.gov.uk/assets/planning-waste-and-environment/major-infrastructure-projects/More-Key-Facts.pdf> (see Appendix G for full text)

³⁷ It is noted that the SoS's direction refers to the Scheme *"directly delivering over 9,000 jobs with a further 3,500 indirect jobs thus supporting the proposed employment growth"*. For clarification, the application for a direction submitted to the SoS stated that *"the Enterprise Zone is anticipated to deliver 9,000 direct jobs and 4,500 indirect jobs"* (paragraph 51), rather than stating that 9,000 jobs would be directly and 3,500 would be indirectly delivered by the Scheme. The application also explained (paragraphs 55, 84, and 112) the linkage between the need for improved access and the success of the Enterprise Zone, which the Scheme could help to deliver.

³⁸<http://www.eastsuffolk.gov.uk/assets/Business/Great-Yarmouth-and-Waveney-Proposed-Assisted-Area-Map-2014-2020.pdf> (see Appendix G for full text)

³⁹Department for Business, Skills and Innovation (2011) HM Government Centre for Offshore Renewable Engineering

developed in order to support the Enterprise Zone in fulfilling its potential for economic growth and job creation by directly contributing to resolving the existing issues of access and congestion, hence the reference to this in the S35 application and subsequent direction where it is noted that the Scheme “*supports national growth potential*” and “*improves connection to/from the Great Yarmouth and Lowestoft Enterprise Zone*”.

Area Action Plan development potential

- 4.7.23 For Lowestoft to experience more inward investment, regeneration and growth, it is essential that brownfield sites, especially those vacated by declining industries in the area around Lake Lothing, are redeveloped to attract new investment, create new jobs and enhance the built environment. For these developments to be successful and sustainable in the long term, they need high quality infrastructure, including excellent transport facilities (roads, public transport, and provision for people walking and cycling) within an attractive and inspiring environment.
- 4.7.24 Paragraph 3.2 of the adopted Core Strategy for Waveney sets out the vision which is to have “*Prosperous, attractive and vibrant communities with good access to jobs, services and facilities and where everybody can feel safe, be healthy and happy*”. The first objective, set out at paragraph 3.28, identified to deliver the vision is “*Promoting the regeneration and renaissance of the Lowestoft sub-regional area (with Great Yarmouth), in particular the central area of Lowestoft in and around Lake Lothing and the harbour*”. The importance of this area is such that the Core Strategy required the production of an Area Action Plan for the Lake Lothing area to address economic difficulties and tackle the need for growth and the number and quality of jobs. The Core Strategy further states at Paragraph 5.24 that “*innovative ways of funding and delivering the Area Action Plan will be sought, in particular to achieve long held ambitions for a third crossing of Lake Lothing, as a means of improving connections between communities*”.
- 4.7.25 The AAP identifies a number of sites in close proximity to Lake Lothing which WDC is seeking to bring forward for development. This includes the PowerPark, located at the Outer Harbour, where there is potential for a cluster of businesses focused upon the energy sector in this location. Peto Square and South Quay lie to the north west of the A47 Bascule Bridge and the AAP anticipates that in this location the waterfront could be revitalised and vacant properties brought back into leisure, retail and commercial uses. The most significant strategic site in relation to the Scheme is the Kirkley Waterfront and Sustainable Urban Neighbourhood which is approximately 60 hectares comprising of mostly underused or unoccupied brownfield land on the south bank of Lake Lothing. The site stretches from the Riverside Road Business Park in the east to Nelson’s Wharf in the west, including the former Jeld Wen and former Sanyo sites. The AAP anticipates a new mixed-use community that integrates with the surrounding land uses and is supported by the necessary infrastructure.
- 4.7.26 The Kirkley Waterfront and Sustainable Urban Neighbourhood site has not yet come forward for development but WDC consider that “*the separate access road proposed [as part of the Scheme] for the existing businesses will also help directly support the development of the new employment uses and housing on the former Jeld Wen*”.

*Site*⁴⁰. Furthermore, the necessary infrastructure needs to be in place when development occurs to avoid exacerbating the current congestion issues as a result of the additional traffic and movement of people and goods in and out of Lowestoft that would be generated by development on this scale.

4.7.27 Paragraph 3.7.4 of this document and Appendix E of this document describes these sites further and how the Scheme would contribute to their delivery. In brief, it is the alleviation of congestion, particularly in the vicinity of the A47 Bascule Bridge, that would improve access to and between these sites. Objective 1 on page 17 of the AAP sets out that *“proposals within the AAP area will enhance Lowestoft as a location for business with a focus for expansion in environmental and energy businesses leading to the creation of at least 950 direct jobs and some 4,000 indirect jobs”*. Objective 2 on page 18 of the AAP sets out that within the AAP area *“some 1,500 homes”* will be delivered.

4.7.28 The AAP will be replaced in its entirety in due course by the Waveney Local Plan, which is currently at Final Draft stage and due to be submitted for examination in summer 2018. The AAP is considered further in Chapter 8 of this document.

4.8 Scheme Objectives

4.8.1 Following identification of the nature and extent of current problems, as described above, the objectives for the Scheme were determined. The overall aim of the Scheme at the outset of the development of the OBC, set out in paragraph 1.6.4, was *“to stimulate regeneration, sustain economic growth, and enhance Lowestoft as a place to live and work in, and to visit”*. The Scheme objectives are:

- To open up opportunities for regeneration and development in Lowestoft;
- To provide the capacity needed to accommodate planned growth;
- To reduce community severance between north and south Lowestoft;
- To reduce congestion and delay on the existing bridges over Lake Lothing;
- To reduce congestion in the town centre and improve accessibility;
- To encourage more people to walk and cycle, and reduce conflict between cycles, pedestrians and other traffic;
- To improve bus journey times and reliability; and
- To reduce accidents.

⁴⁰ Report to Waveney District Council Planning Committee on 10 October 2017, Item 11, Application Number DC/17/3902/CCC, The Lake Lothing Third Crossing public consultation

5 Scheme Evolution, Assessment of Options and how the Scheme meets the need case

5.1.1 This section provides an overview of the Scheme's evolution, the development and assessment of options and how the Scheme objectives have been addressed. As set out in Section 7 of this document, the primary planning policy framework for the Scheme contained within the NNNPS requires applicants to comply with requirements on the assessment of alternatives, particularly the EIA Directive including an outline of the main alternatives and the main reasons for the applicant's choice, and any other legal requirements for the consideration of alternatives such as under the Habitats and Water Framework Directives. The NNNPS in Paragraph 4.27 also states that all projects should be subject to an options appraisal, however for schemes such as national road schemes, where option appraisal of alternatives is part of the investment decision *"it is not necessary for the Examining Authority and the decision maker to reconsider this process, but they should be satisfied that this assessment has been undertaken"*.

5.1.2 Paragraph 1.6 of the NNNPS makes it clear that highway schemes proceeding under a section 35 direction are regarded as part of the national road network, and in this case the DfT made its investment decision to support the Scheme after consideration of the option appraisal work in the OBC. This section therefore sets out the option assessment that has been undertaken but does not seek to repeat or rework that exercise by reference to the current traffic modelling. The ES (document reference 6.1) addresses the main alternatives that have been considered and the reasons for the choice of the Scheme.

5.2 Identification of strategic options

5.2.1 A full options appraisal report was produced before a preferred option was determined. The different options were costed and tested and a Benefit to Cost Ratio ("BCR") calculated to provide a comparison. The preferred central option generated the highest BCR, was feasible and offered value for money. The full options assessment report is attached to the OBC in Appendix A.

5.2.2 The consideration of alternatives in the development of the Scheme has covered four main issues:

- The broad location and nature of the intervention of the Scheme i.e. an eastern, western or central crossing of Lake Lothing;
- The constraints associated with the chosen option corridor;
- Waveney Drive access arrangements; and
- Bascule bridge design alternatives.

5.2.3 In order to produce options to align with the Scheme objectives, set out in Section 4.8 of this document, a combination of desktop studies, historical studies and site observations were used to produce a list of spanning bridge, tunnel, non-road and low-cost alternative options. Having taken into account the principal physical and

environmental constraints of the scheme, suitable 'corridors' were considered which broadly categorised the scheme into three distinct locations:

- A western crossing, linking Peto Way with Waveney Drive;
- A central crossing, linking Denmark Road with Waveney Drive;
- An eastern crossing, close to the existing A47 Bascule Bridge.

5.2.4 The following sections follow these general corridor categorisations to more effectively describe how final options were selected and rejected by reference to the scheme objectives.

5.2.5 Two initial public consultation events on options were held in June 2014 to address the congestion issues identified (including option type, location and option development), with the public being invited to complete questionnaires to capture their opinions (for full details see Appendix O of the OBC). An extensive engagement exercise was undertaken with local businesses in September 2015, involving an online survey and a business consultation event in Lowestoft (for full details see Appendix C of the OBC).

5.3 Options generation

5.3.1 Using the locational distinctions outlined above, a 'long-list' of 15 options was compiled. For the purpose of option comparison, a set of parameters was developed, enabling all locations and design possibilities to be thoroughly examined against each other. New road options were required to provide a 7.3m single carriageway road with footways and cycle facilities; connect to the existing network with at-grade junctions wherever possible; provide clearance above or under the East Suffolk Line; allow large vessels to turn within the confines of the channel; relate logically to the existing network; have minimal impact on existing development; and avoid conflicting with planned new development, as envisaged in the AAP.

5.3.2 The long list of options comprised of bridges, tunnels, junction improvements and road pricing, and are set out in Table 5-1 below.

Table 5-1 - OBC scheme options

	Type	From (N)	To (S)
W1	Bascule bridge	Peto Way	Waveney Drive
W2	Bascule bridge	Peto Way/ Denmark Road	Waveney Drive
W3	Bascule bridge	Peto Way/ Denmark Road	Waveney Drive/ Riverside Road
C1	Bascule bridge	Peto Way/ Denmark Road	Waveney Drive/ A12 Horn Hill
C3	Bascule bridge	Denmark Road	Waveney Drive/ A12 Horn Hill
C4	Bascule bridge	Denmark Road	Waveney Drive/ A12 Horn Hill
E1	Bascule bridge	Commercial Road	Belvedere Road
E2	Bascule bridge	Katwijk Way/ Denmark Rd	Belvedere Road
E3	Bascule bridge	Katwijk Way	Belvedere Road
E4	Bascule bridge	Commercial Road	Belvedere Road

	Type	From (N)	To (S)
L1	Lock / flood barrier with lifting bridges	Denmark Road	Waveney Drive
T1	Road tunnel	Peto Way/ Denmark Way	Waveney Drive
J1	Junction improvement	Various measures	Considered as an alternative to a crossing
S1	Smarter choices	Various measures	Considered as an alternative to a crossing
P1	Road pricing	Introduce road pricing to discourage traffic	Considered as an alternative to a crossing

5.3.3 During an initial sift of options, J1, S1, P1 and L1 were not considered to address satisfactorily the scheme objectives and a long list of 11 remained.

5.4 Discounted options and the three final options

5.4.1 Having selected a long-list of 11 remaining options, it was necessary to identify which did not represent feasible solutions. The need for the scheme to perform well across economic, environmental and social indicators required a process of sifting and discarding of options to ensure that final options made a significant contribution to achieving the scheme objectives.

5.4.2 During the next stage of selection some further potential options were discarded because they either did not achieve scheme objectives, fit with existing local or national strategies and priorities, would cause severe adverse impacts, were not considered to be technically sound, were unlikely to be affordable, or were unlikely to be acceptable to stakeholders and the general public.

5.4.3 Following the discounting of options stage, three proposals were progressed to consideration within the OBC submission to DfT. These were a western bridge option, a western tunnel option, and a central bridge option.

5.4.4 The western bridge option would run from a new roundabout at Peto Way, to the north of Leathes Ham, and span both the East Suffolk Line and Lake Lothing on a north-south alignment. In order for the new roundabout and bridge to not sever Peto Way, the existing Peto way traffic would be diverted under a new underbridge and connect into a new roundabout. To the south of the Lake, the new crossing would connect into Waveney Drive, to the east of Kimberly Road. Option W3 was considered a viable option and was selected to have further assessment undertaken. Options W1 and W2 were eventually rejected as the assessment undertaken for the OBC process as they were considered likely to cause adverse impacts on local residents and the environment.

5.4.5 The tunnel option (an evolution of T1) was at a very similar alignment to the western bridge option⁴¹, running from a new roundabout on Peto Way, to the north east of Leathes Ham, passing beneath both the East Suffolk Line and Lake Lothing on a north-south alignment. The existing alignment of Peto Way would be altered so that it can adjoin the newly created roundabout. To the south of Lake Lothing, the tunnel would connect to Waveney Drive to the east of Kimberly Road.

5.4.6 The central option followed the same alignments as all central bridge options, although this specific option connected into Denmark Road to the north and into Riverside Road to the south by means of a bascule bridge. The finished bridge height would need to be elevated to span across the East Suffolk Line, before linking into a new roundabout and road layout near Denmark Road.

5.4.7 The selection of the scheme was based on a combination of seven aspects; delivery of scheme objectives, user benefits, time and vehicle operating cost savings, cost of construction BCR, traffic impacts, environmental impacts; and public and stakeholder support. Each of the three final options were assessed further, with consideration against these seven aspects.

5.5 Preferred option

5.5.1 The assessment demonstrated across a number of criteria that the central bridge option should form the preferred scheme on account of it being the least expensive and delivering the highest cost benefit, whilst having fewer environmental impacts and a high level of public and stakeholder support. It was however identified during the course of stakeholder engagement in both 2014 and 2015 that a central option could have an impact on the operation of the Port of Lowestoft which would need to be mitigated through the design and planning processes.

5.6 Central option design alternatives

5.6.1 The consideration of alternative arrangements within the central corridor were constrained by a number of parameters including the existence of a service tunnel, Network Rail minimum clearance requirements, Lake Lothing minimum clearance requirements for vessels, existing ground levels, carriageway gradient, carriageway bend radius and keeping land take to a minimum. These constraints, when viewed together, have resulted in a very narrow horizontal and vertical corridor in which the scheme can be constructed which demonstrates that there are no viable main alternatives to the location of the scheme. The consideration of main alternatives within the central crossing corridor has therefore been focused upon the width of the carriageway (including provision for cyclists and pedestrians), the junction arrangements and the design of the bascule bridge, including pier arrangements. The central option design alternatives are set out in full in Chapter 3 of the ES.

⁴¹While it was initially assumed that a tunnel might follow either a western or a central alignment, a central option was ruled out due to the difficulty in achieving a satisfactory vertical alignment.

5.7 How the Scheme addresses the Transport Need Case

Transport Need

- 5.7.1 The transport need case is set out in Section 4 of this document and this demonstrates that there are both national and local issues which the Scheme is required to address. The national need relates to the operation of the SRN during the periods when congestion occurs, and how this affects the wider transport network. The local need primarily relates to existing congestion issues that are exacerbated when the A47 Bascule Bridge and Mutford Bridge are lifted. This reflects the close relationship that the SRN has with the local highway network.
- 5.7.2 The Government's Industrial Strategy identifies upgrading infrastructure as one of its five foundations. The Scheme will make a clear and direct contribution to upgrading infrastructure as the scheme will provide a much needed third crossing across Lake Lothing in Lowestoft, a scheme that was deemed to be nationally significant by the SoS. This will help to remove the constraints on economic growth in Lowestoft (primarily caused by road network inefficiency) and open up new opportunities for investment and growth (in housing and employment).
- 5.7.3 The Government's Transport Investment Strategy outlines aspirations to create a better-connected transport network and build a stronger economy. The Scheme will help to reduce congestion, improve journey times and journey time reliability, improve safety and make better connections between communities and businesses. This in turn will enhance business productivity and help to deliver regional economic growth, supporting aspirations for a balanced economy.
- 5.7.4 The Government's NIDP recognises the importance of infrastructure to the economy. The transport need for the Scheme, in terms of its national significance, derives from its benefit to the effective functioning of the SRN. For this reason, it has been identified by the SoS as a NSIP and is included in the NIDP and its associated National Infrastructure Pipeline⁴². The Scheme will contribute to increasing productivity (by improving the efficiency of the highway network), and helping to deliver growth in housing and employment (as network inefficiency improves - which could be contributing to 'market failure' as businesses decide to relocate from Lowestoft in response to increased transport costs) and improving transport and thus economic efficiency in Lowestoft.

The role of the SRN, how it functions between Great Yarmouth and Lowestoft and the issues arising from the A47 Bascule Bridge.

- 5.7.5 Section 6 of the TA sets out the strategic impact of the Scheme, and considers the Annual Average Daily Traffic ("AADT") flows on strategic and key routes and journey time savings. Figure 6-1 of the TA shows the AADT flows which demonstrates a significant reduction in traffic flows on the A47 Bascule Bridge and the Mutford Bridge as traffic reassigns to the Scheme Bridge. The AADT data also shows that traffic flows

⁴² HM Treasury (2017), National Infrastructure and Construction Pipeline Autumn 2017

increase on the A1117 Millennium Way and Peto Way to the north of the Scheme and the A12 to the south.

- 5.7.6** In terms of journey time savings on strategic routes, which are achieved due to less congestion, Table 5-2 below (replicated from Figure 6-1 of the TA), shows a reduction in northbound and southbound journey times in both the AM and PM peak, demonstrating that with the Scheme in place the SRN is operating with greater efficiency.

Table 5-2 - Journey Time Savings on Strategic Routes (A12 and A47)

AM	Northbound	Southbound
Journey Time without Bridge (m:s)	14:54	14:12
Journey Time with bridge (m:s)	14:19	13:04
Time Savings (m:s)	0.35	1:08
% Change	-4%	-8%
PM	Northbound	Southbound
Journey Time without Bridge (m:s)	15:03	15:29
Journey Time with bridge (m:s)	13:19	14:52
Time Savings (m:s)	1.44	1:17
% Change	-12%	-4%

- 5.7.7** Journey time savings on the strategic routes as a result of introduction of the Scheme are significant and are detailed further in Section 6 of the TA. The highest reduction is 12% for a PM northbound journey, with a time saving of 1 minute 44 seconds. The TA states at Paragraph 6.3.6 that *“given the relatively short journey lengths assessed, this is a considerable improvement for drivers using these strategic routes”*.
- 5.7.8** The TA also sets out in detail at Section 7 the impact on journey times on key routes and movements in the vicinity of the Scheme assessed against several scenarios and timings of bridge openings in 2022 with and without the Scheme in place. The overall conclusions of the assessment are set out in Table 5-3 below.

Table 5-3 - Journey Time Savings on Key Routes and Movements

Assessment Scenario	Overall Conclusions
Mutford Bridge Open; Scheme Lifted (6 mins); A47 Bascule Bridge Lifted (5 mins) (bridge lift offset 1.5 minutes westbound)	<p>In the AM peak, with the Scheme in place, there is an overall decrease in journey time across all key movements with significant savings between B1532 London Road South and A47 Jubilee Way (43%) (See Table 7.4 in the TA).</p> <p>In the PM peak, with the Scheme in place, there are savings in journey time on northbound movements with a significant decrease in journey time for northbound traffic to A47 Jubilee Way from A12 Tom Crisp Way (20%) and London Road South (46%) (See Table 7.6 of the TA).</p>
Mutford Bridge Open; Scheme Lifted (6 mins); A47 Bascule Bridge Lifted (5 mins) (bridges opened simultaneously)	<p>In the AM peak, with the Scheme in place, there is an overall decrease in journey time on all movements with the Scheme in place compared to the Do Minimum scenario, with a significant decrease in journey time (resulting from redistributed traffic using the Scheme) for traffic between London Road South and the A47 Jubilee Way (44%) (See Table 7.8 in the TA).</p> <p>In the PM peak there is an overall decrease in journey time on most movements with a significant decrease in journey time for traffic between London Road South and A47 Jubilee Way (45%). There is an increase in journey time on A47 southbound as a result of the closure of both bridges together. (See Table 7.10 of the TA).</p>
Mutford Bridge Open; Scheme Lifted (6 mins); A47 Bascule Bridge Lifted (10 mins)	<p>In the AM peak, there is an overall decrease in journey time across all key movements with significant savings between London Road South and A47 Jubilee Way (25%) and A12 Tom Crisp Way to A47 Jubilee Way (15%). (See Table 7.12 of the TA).</p> <p>In the PM peak, that there is an overall reduction in journey time across all the key movements with a significant decrease in journey time for northbound movements to A47 Jubilee Way which is consistent with the AM peak scenario. (see Table 7.14 of the TA).</p>
Mutford Bridge Open; Scheme Lifted (10 mins); A47 Bascule Bridge Lifted (10 mins)	<p>In the AM peak, with the Scheme in place, there is an overall decrease in journey time across all key movements with significant savings between London Road South and A47 Jubilee Way (31%) (See Table 7.16 of the TA).</p> <p>In the PM peak, with the Scheme in place, there is a significant decrease in journey time for northbound traffic to the A47 Jubilee Way from A12 Tom Crisp Way and London Road South (see Table 7.18 of the TA).</p>

Assessment Scenario	Overall Conclusions
Mutford Bridge Open; Scheme Open; A47 Bascule Bridge Open	<p>In the AM peak, that there is an overall decrease in journey time across all key movements with significant savings between London Road South and A47 Jubilee Way (35.2%) (See Table 7.20 of the TA).</p> <p>In the PM peak, there is an increase in journey time for southbound traffic between A47 Jubilee Way and A12 Tom Crisp Way and Marine Parade and there is a substantial decrease in journey time from London Rd South to A47 Jubilee Way (see Table 7.22 of the TA).</p>
Mutford Bridge Open; Scheme Open; A47 Bascule Bridge Lifted (5 mins)	<p>In the AM peak, with the Scheme in place, there is an overall decrease in journey time across all key movements with significant savings between London Road South and A47 Jubilee Way (43.8%). (See Table 7.26 of the TA).</p> <p>In the PM peak, with the Scheme in place, there continues to be a significant decrease in journey time for northbound traffic between the A47 Jubilee Way from A12 Tom Crisp Way and London Road South (see Table 7.28 of the TA).</p>
Mutford Bridge Open; Scheme Open; A47 Bascule Bridge Lifted (10 mins)	<p>In the AM peak, with the Scheme in place, there is an overall decrease in journey time across all key movements with significant savings between London Road South and A47 Jubilee Way (34.8%) and A12 Tom Crisp Way to A47 Jubilee Way (25.6%) (See Table 7.32 of the TA).</p> <p>In the PM peak, with the Scheme in place, there is a significant decrease in journey time for northbound traffic between the A47 Jubilee Way from A12 Tom Crisp Way and London Road South. (See Table 7.34 of the TA).</p>

5.7.9 The TA concludes in Paragraph 7.9.2 that that there will be a significant decrease in journey time for traffic between London Road South and A47 Jubilee Way across all scenarios in the AM and PM peaks. This shows that following completion of the Scheme, a large proportion of trips between these two areas will be using the new alternate route.

5.7.10 In summary the implementation of the Scheme would enable a reduction in congestion, improved journey times and improved journey time reliability which would lead to a significant improvement in the operation of the SRN in this location.

Local Highway Network

5.7.11 The SRN and local highway network are closely linked and as such, the Scheme delivers the same benefits. As above, the local highway network will benefit from reduced congestion, improved journey times and improved journey time reliability. Table 5-4 below (replicated from Table 6-2 of the TA) shows journey time savings on

the A146/A1117 which are significant as a result of introduction of the Scheme. The highest reduction is 14% for an AM southbound journey, with a time saving of 1 minute 51 seconds.

Table 5-4 - Journey Time Savings for the A1117

AM	Northbound	Southbound
Journey Time without Bridge (m:s)	13:03	13:05
Journey Time with bridge (m:s)	12:09	11:14
Time Savings (m:s)	0:54	1:51
% Change	-7%	-14%
PM	Northbound	Southbound
Journey Time without Bridge (m:s)	14:34	15:46
Journey Time with bridge (m:s)	13:26	14:08
Time Savings (m:s)	1:08	1:38
% Change	-8%	-10%

5.7.12 As set out above in paragraph 5.7.9 of this document, following completion of the Scheme, a large proportion of trips making a north south journey would be using the new alternate route. Paragraph 7.9.2 of the TA states that vehicles using the northbound route via the Scheme will experience significant saving on their journey time compared to the existing northbound A12/A47 route in the AM peak. The Scheme will also reduce congestion on the A47 Battery Green Road in the AM and PM peak hours.

5.7.13 Paragraph 7.9.4 of the TA sets out that there is also a significant decrease in journey time along the eastbound approach of Denmark Road in both the AM and PM peaks as a result of traffic which previously travelled along Denmark Road to access the A47 Bascule Bridge finding the route via the Scheme more favourable. This will reduce congestion on Denmark Road eastbound and surrounding roads. Paragraph 7.9.7 states that overall, the Scheme provides significant benefits by improving journey time and link speeds, and reducing congestion on the key route corridors through the town.

5.7.14 Section 8.4 of the TA concludes that implementation of the Scheme leads to a significant improvement to the operation of the A47 Waveney Road / Station Square / Commercial Road signalised junction which will benefit the Port of Lowestoft and the town centre presenting opportunities to improve the town centre and public realm where traffic volumes are reduced.

Local Connectivity and severance

5.7.15 The Scheme will provide a direct, safe and secure route to cross the Lake by foot and by bicycle at a central location between the north and the south of Lowestoft. This will reduce community severance in Lowestoft. It will provide an additional link between the north and south of the town, completing a significant gap in the pedestrian and cycle network. This will integrate a greater proportion of the community with

employment areas and commercial services within the town, as well as improving accessibility to regeneration sites around the Lake.

- 5.7.16 For vehicle users, Table 5-3 of this document sets out the journey time savings on key routes and movements as a result of the Scheme.

Walking and Cycling

- 5.7.17 The barriers to walking and cycling are set out in Paragraphs 4.6.25-4.6.27 of this document. The Scheme provides significantly improved footway and cycling provision by providing a better and safer route across Lake Lothing for many journeys. The new link would also enable quicker journey times to those living more centrally, eliminating the need to have to travel to either the east or west of Lowestoft to use either the A47 Bascule Bridge or the Mutford Bridge. Pedestrian and cycle routes are integral to the Scheme design and as well as improving connections in the central area of Lake Lothing also add to increased health and wellbeing for local residents.

- 5.7.18 The TA at Paragraph 11.3.3 sets out existing journey times for pedestrians accessing various locations both north and south of Lake Lothing along with the revised journey time crossing Lake Lothing via the Scheme. This is set out below and shows significant savings, especially the journey from Rotterdam Road to WDC.

Table 5-5 - Pedestrian Distances to Key Destinations

Origin	Destination	Existing Route		Future Route		Reduction	
		Distance	Time	Distance	Time	Distance	Time
Burnham Way (south of Lake)	North Quay Retail Park	3.5km	44mins	1.9km	24mins	1.7km	20mins
	Lowestoft 6th Form College	3.4km	43mins	2.0km	25mins	1.4km	18mins
Rotterdam Road (north of Lake)	Waveney District Council Offices	2.5km	31mins	0.9km	11mins	1.6km	20mins
	Asda	2.0km	25mins	1.2km	15mins	0.8km	10mins

- 5.7.19 Section 11.4 of the TA sets out that census data has been analysed to further understand the impact of the Scheme on pedestrians and cyclists. Paragraph 11.4.4 of the TA states that *“The Scheme can be seen to put an additional 2,884 people within walking distance and 6,942 people within cycling distance of the northern employment zone. For the southern employment zone, the Scheme can be seen to enable an additional 2,580 pedestrians and 2,212 cyclists to access the zone on foot / by bike. This analysis clearly highlights the improved pedestrian and cyclist connectivity and reduced severance as a result of the Scheme”*. Isochrones which illustrate this analysis are set out in Appendix J of the TA. Furthermore, the Economics Report (document reference 7.3) considers severance at Section 9.4 and paragraph 9.4.7 sets out that there is a high concentration of households without cars in close vicinity and

to the east of the Scheme and therefore it is reasonable to assume that there will be an above average number of pedestrian trips in the area. Paragraph 9.4.7 further sets out that because of the Scheme, pedestrian trips will experience a significant reduction in severance.

- 5.7.20** The additional connectivity across Lake Lothing, and the consequent reduction in journey time for walking and cycling trips to employment and retail destinations offers significant opportunities for more sustainable development within the AAP area, more trips being made by active modes and hence leading to an even greater reduction in congestion.

Public Transport

- 5.7.21** The difficulties with public transport are set out in section 4.6.28 of this document. The Scheme will directly benefit the commercially operated public transport services. Existing bus services will benefit from reduced congestion around the south of Lowestoft, especially around the A47 Bascule Bridge. This will enable operators to provide an enhanced service to passengers through greater journey time reliability. The provision of the new crossing will also provide an opportunity for operators to provide additional or alternative bus routes in the future, to take advantage of the increased connectivity between north and south Lowestoft.

Collisions

- 5.7.22** The Economics Report (document reference 7.3) sets out that an assessment of the Scheme safety benefits was undertaken using COBALT. Combined links and junctions were assessed and the COBALT analysis estimated that over a 60-year period (2022 to 2081) 169 accidents and 294 casualties would be saved as a result of the Scheme. The economic benefit of the accident savings has been calculated to be £21.930 million over the 60-year appraisal period. The Scheme has been designed to standards set out in DMRB and has been subject to a Stage 1 Safety Audit. It is recognised that the beneficial effects in terms of collisions is a supporting factor rather than a primary part of the transport need case for the Scheme.

5.8 How the Scheme Addresses the Regeneration Need Case

- 5.8.1** Access to regeneration sites in Lowestoft would be improved by the Scheme since it will reduce congestion as well as improve journey times and journey time reliability across the network, including on the SRN. The concentration of economic activity within the AAP, the Enterprise Zone and Port can be improved by the Scheme as accessibility between businesses and workers is improved by reduced journey times, which generates productivity benefits through 'closer' proximity (which are termed agglomeration benefits). Similarly, the reduction in transport costs (for business and freight) will allow businesses to profitably increase their output (goods and services) that require the use of transport in their production. And finally, improving the efficiency of the transport network (which reduces transport costs) affects the decisions of business about where to locate and work. Lower transport costs can incentivise

individuals to work, the number choosing to work and thus the amount of labour supplied in the economy (this creates opportunities for additional jobs within the area).

5.8.2 These wider economic benefits have been quantified within the Economics Report (document reference 7.3) and contribute up to £9.65m to the total Scheme benefits. Overall, the infrastructure improvements will significantly enhance Lowestoft growing role in the energy sector. Furthermore, improvements to the local highway network through implementation of the Scheme has benefits for the town centre as the re-assignment of traffic onto alternative routes presents opportunities to improve the town centre and public realm where traffic volumes are reduced.

5.8.3 Furthermore, the Economics Report (document reference 7.3) sets out at Section 9.2 the distributional analysis of user benefits. Figure 9-1 of the Economics Report shows that income is unevenly distributed in Lowestoft with the most deprived areas to the east of the town and around Lake Lothing and the Outer Harbour. This means that different income groups experience the benefits of the Scheme differently. The Scheme is nearest to the areas in the lowest income quintile and as sustainable travel modes are most attractive for short journeys, it is likely that the lowest income quintiles will benefit most from the Scheme for short distance journeys. Paragraph 9.2.6 further states that the Scheme mainly benefits the less well-off sectors of the local population, which is a pattern that is consistent across the AM, interpeak and PM peak periods of travel demand.

The role of Lowestoft as a 'hub' for energy industries and other NSIPs and the current difficulties in delivering that role

5.8.4 As above, reduced congestion, improved journey time savings and journey time reliability will support Lowestoft's growing role in the renewable sectors, particularly its role in relation to other NSIPs. The relationship between the provision of essential infrastructure and economic growth is well documented, notably in the NNNPS, the Government's Industrial Strategy and in the Ports Connectivity Study. The Scheme will support the economic growth ambitions of Lowestoft, locally and in the wider sub-region, particularly in the energy sector by improving productivity through the agglomeration and the reduction in transport costs which can increase output between businesses within the energy sector, and induce additional labour into the market.

Enabling Wider Sub-National Growth

5.8.5 Reduced congestion, improved journey time savings and journey time reliability would support wider sub-national growth in the area. This is supported by the transport modelling undertaken for the Scheme and the Waveney Local Plan Final Draft which demonstrates that with the Scheme in place the additional capacity needed to deliver planned growth is provided, see Section 8.3 of this document. The Scheme allows future businesses and commuters to reduce their travel time and improves route choice and general accessibility.

The role of the Enterprise Zone and the challenges to its fulfilment

5.8.6 Reduced congestion, improved journey time savings and journey time reliability would enable existing and future businesses located in the Enterprise Zone to run more

effectively and efficiently. It has been demonstrated from the business survey described in Paragraphs 4.7.8 and 4.7.9 of this document that currently congestion is a deterrent to future investment and depresses productivity in existing business. Additional capacity and the effective functioning of the SRN and local highway network would therefore provide the scope for businesses to grow further through increased investment and productivity.

Area Action Plan development potential

- 5.8.7 The Scheme provides a new access from Riverside Road to Waveney Drive through the former the Jeld Wen site. The provision of the access road plays a key role in delivering the Kirkley Waterfront site, identified in the AAP for redevelopment.
- 5.8.8 In terms of the benefit to individual AAP sites, further analysis of user benefits directly attributable to the Scheme (i.e. journey time savings and congestion relief) has been undertaken in the Economics Report (document reference 7.3) to identify the spatial distribution of economic benefits within the AAP regeneration area. The analysis indicated that £46.5 million of economic benefit would be realised within the AAP regeneration area, which accounts for 18% of total user benefits attributable for the Scheme. Furthermore, Paragraphs 4.7.8 and 4.7.9 of this document sets out the key findings of a survey of local businesses where the majority of respondents said that traffic caused very significant problems to their business and that they anticipated further growth in turnover and number of employees with the Scheme in place. This is consistent with the economic theory that transport problems (i.e. and inefficient transport network subject to significant congestion and delay) can constrain or negatively impact on the economy, and introducing a transport intervention (i.e. the Scheme) can remove this constraint.
- 5.8.9 In terms of providing additional capacity for future planned growth in the AAP area, the Scheme creates capacity in the provision of additional road space and through other junction improvements. This also allows existing traffic to use the highway network more efficiently due to the increased number of north-south crossing points across Lake Lothing and an increased number of multi-directional route choices, allowing for more direct journeys to a range of destinations. This reduces the impact of traffic demand on available road space across Lowestoft, especially in existing congested areas (such as the current Lake Lothing crossing points).
- 5.8.10 The additional capacity and more efficient network created by the Scheme will allow future businesses and commuters to reduce their travel time, and improve route choices and general accessibility and increase their productivity through more efficient trading. Growth in traffic has been taken into consideration within the Scheme transport assessments, with all future development trips being included in the forecast (future) traffic analysis. These assessments have demonstrated traffic and economic benefits for both existing and future transport users as a direct result of the Scheme. This is set out in Section 8.3 of this document as well as detail around the transport modelling assumptions underpinning the AAP which did not include the Scheme and which concluded in Paragraph 3.5.9 of that document that only 80% of development within the area could be delivered over the Plan period.

6 Planning Context

6.1 Decision making under the Planning Act 2008

- 6.1.1 Section 104 of the PA 2008 provides that DCO applications must be determined in accordance with the relevant NPS unless certain exceptions (discussed below) apply. For highway schemes, the relevant NPS is the NNNPS. The Secretary of State will use this NPS as the primary basis for the decision on the DCO application.
- 6.1.2 This document provides an assessment of the Scheme against relevant planning policy, including, at Appendix A, an assessment of the Scheme against the requirements of the NNNPS.
- 6.1.3 Under section 104 of the PA 2008, the SoS must determine applications in accordance with the relevant NPS unless doing so would:
- lead to the UK being in breach of its international obligations;
 - be unlawful;
 - lead to the SoS being in breach of any duty imposed by or under any legislation;
 - result in adverse impacts of the development outweighing its benefits;
 - be contrary to legislation about how the decisions are to be taken.
- 6.1.4 Under section 104, the SoS must also have regard to the appropriate marine policy documents, any local impact report, any matters prescribed in relation to development of the description to which the application relates, and any other matters which the SoS thinks are both important and relevant to their decision. Matters of importance and relevance might include relevant policies in the NPPF and in the local development plan documents, which are covered in section 7 and 8 of this document.
- 6.1.5 In the event of a conflict between these or any other documents and an NPS, the NPS prevails for purposes of decision making given the national significance of the infrastructure.
- 6.1.6 Whilst there is a similarity between the status of NPSs under the PA 2008 regime and the statutory development plan under the regime of the Town and Country Planning Act (as amended), it is important to recognise that the requirement (as set out in the Planning and Compulsory Purchase Act 2004) of planning applications to be decided in accordance with the development plan unless material considerations indicate otherwise, does not apply to applications made under the PA 2008, which means that the two regimes are not in conflict.

7 National Policy and Marine Policy

7.1 National Policy Statement for National Networks

- 7.1.1** The NNNPS sets out the need for, and Government's policies to deliver development of, NSIPs on the national road and rail networks in England. It provides planning guidance for promoters of NSIPs and the basis for the DCO examination by the Examining Authority and decision by the SoS.
- 7.1.2** The thresholds for nationally significant road, rail and strategic rail freight infrastructure projects are defined in the PA 2008 as amended (for highway and railway projects) and by The Highway and Railway (Nationally Significant Infrastructure Project) Order 2013. As set out in Section 1.3 of this document, the Scheme did not meet all the relevant thresholds and requirements, but due to its benefits to the SRN was deemed to be a NSIP by way of a direction given by the SoS under section 35 of the PA 2008.
- 7.1.3** The NNNPS is used as the primary basis for making decisions on DCO applications for national networks NSIPs in England.
- 7.1.4** The objectives of the NNNPS are aligned with those contained in the National Infrastructure Delivery Plan 2016 – 2021 ("the NIDP") (published March 2016 by the Infrastructure and Projects Authority for HM Treasury and the Cabinet Office), which states in paragraph 3.2 that the SRN is *"vital to businesses and the successful functioning of the economy"*. Paragraph 5.16 recognises that *"with two thirds of all freight being carried on the Strategic Road Network, effective road links to ports are vital to allow goods and services to be moved into and around the country efficiently and reliably"*. The Scheme, in improving connectivity to and from the Port of Lowestoft, is fully supported by the NIDP, which lists the Scheme in Table ES.1 as a "Large Major Transport Project" as a Scheme for which, together with a new river crossing in Ipswich, the Government will provide £151 million of funding. It is further supported by DfT's port connectivity study which recognises that if ports are to continue thriving, then the infrastructure supporting them has to be effective and efficient.
- 7.1.5** The conformity of the Scheme with Section 4 of the NNNPS is demonstrated below. Assessment of the Scheme against the requirements of Section 5 of the NNNPS, is contained in Appendix A of this document.

7.2 NPS for Ports

- 7.2.1** The PNPS sets out the framework for making decisions on proposals for new port development, recognising the essential role they play in the UK economy and the wider economic benefits that they can bring. In addition, it sets out the vital role that UK ports play in the energy sector, in terms of import and export of energy supplies, in the construction and servicing of offshore energy installations and in supporting oil and gas pipelines. It is also noted that port handling needs for energy may change as renewables play an increasingly important part as an energy source.
- 7.2.2** Whilst the DCO does not propose new port development, the Scheme does cross Lake Lothing and interfaces with the Port of Lowestoft. Therefore, assessment of the

Scheme against relevant paragraphs within the PNPS is provided within Appendix A and in the assessment of the Scheme set out below.

7.3 General principles of Assessment

General principles of assessment (policies 4.1 – 4.6 of the NNNPS)

- 7.3.1 Section 4 of the NNNPS sets out assessment principles relating to national networks infrastructure which form a basis for decision making. The assessment principles, and an assessment of the Scheme against these principles, is set out below.
- 7.3.2 Subject to the detailed policies and protections in the NNNPS, and the legal constraints set out in the PA 2008, there is a presumption in favour of granting development consent for national networks NSIPs that fall within the need for infrastructure established in the NNNPS (Paragraph 4.2 of the NNNPS).
- 7.3.3 According to Paragraph 4.3, in considering any development, and in particular, when weighing its adverse impacts against its benefits, PINS and the SoS should take into account:
- *“its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long-term or wider benefits; and*
 - *its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts”.*
- 7.3.4 The anticipated benefits and disbenefits of the Scheme are set out in Section 9 of this document.
- 7.3.5 The NNNPS states that *“in this context, environmental, safety, social and economic benefits and adverse impacts as identified within the NNNPS or elsewhere, should be considered at national, regional and local levels”* (Paragraph 4.4).
- 7.3.6 Paragraph 4.5 of the NNNPS states that applications for road projects *“will normally be supported by a business case prepared in accordance with Treasury Green Book principles”* and *“based on the Department’s Transport Business Case guidance and WebTAG guidance”*. The NNNPS further states that the economic case needs to assess the economic, environmental and social impacts of a development, and that the information provided will need to be proportionate to the development. The NNNPS also states that this information will be important for the Examining Authority and the SoS’s consideration of the adverse impacts and benefits of a proposed development. The NNNPS explicitly states that schemes brought forward through the development consent order process by virtue of section 35 of the PA 2008 should also meet this requirement.
- 7.3.7 The OBC that has been prepared for the Scheme and was scrutinised by DfT is in accordance with the above principles and guidance⁴³. The Scheme was considered to

⁴³See in particular paragraphs 1.1, 3.3.1 and 6.8 of the OBC.

be feasible, affordable, deliverable and offered value for money and was subsequently awarded Programme Entry status and provisionally allocated £73.5m of funding through the Local Majors Fund. The business case was produced in line with the DfT WebTAG Guidance on Transport Business Cases (following the 5-case model: strategic, economic, financial, commercial, and management), which adheres to the principles set out within the HM Treasury Green Book. The welfare impacts (social, environmental and economic) were also considered within the economic case, and these will be updated further within the Full Business Case (FBC) which is to be submitted to DfT in 2019 should development consent be granted.

- 7.3.8** Paragraph 4.6 of the NNNPS notes that applications for road projects should usually be supported by a local transport model (including national level factors around the key drivers of transport demand such as economic growth, demographic change, travel costs and labour market participation, as well as local factors) to provide sufficiently accurate detail of the impacts of a project. It goes on to state that the Examining Authority and the SoS “*do not need to be concerned with the national methodology and national assumptions around the key drivers of transport demand*”. The NNNPS encourages an assessment of the benefits and costs of schemes under high and low growth scenarios, in addition to the core case and notes that the modelling should be proportionate to the scale of the Scheme and include appropriate sensitivity analysis to consider the impact of uncertainty on project impacts. As part of the DCO process updates have been made to the economic case in light of revised modelling work but the basic elements remain the same. The Economics Report is submitted as part of the DCO application (document reference 7.3).
- 7.3.9** A strategic highway assignment model built in the software SATURN was used to assess the impact of the Scheme on the highway network. The data collected to build, calibrate and validate the model has been described in the Data Collection Report (Appendix D to the TA). A Local Model Validation Report (LMVR) further describes how well the model validates, and a model Forecasting Report describes how future demand was calculated. All of these documents were used to support the OBC and were deemed acceptable by DfT to recommend the Scheme for programme entry. The LMVR has been updated since OBC stage and is located at Appendix E to the TA.
- 7.3.10** The SATURN model outputs (the difference between the Do Minimum and Do Something scenarios) were fed into cost benefit analysis software models (TUBA for User benefits, COBALT for accident benefits), and along with the Scheme costs were used to calculate the BCR. This process is described within the economic case of the OBC which has been further updated in the Economics Report (document reference 7.3). The BCR generated was within the high value for money category. In addition to the core model scenario, both high and low growth sensitivity analysis was performed and is reported on within the forecasting report and the economic case within the OBC. High and low growth scenarios were tested in the OBC but as this did not produce significantly different outputs from the core scenario this exercise has not been repeated, refer to Section 11.3 of the Economics Report.
- 7.3.11** Paragraphs 4.1.1 – 4.6.5 of the PNPS contains assessment principles related to port related development and are therefore not relevant to this assessment.

Environmental Impact Assessment (4.15 – 4.16, 4.18 – 4.19 of the NNNPS; 4.7.1 – 4.7.5 of the PNPS)

- 7.3.12** The NNNPS sets out in Paragraph 4.15 that all proposals for projects that are subject to the European Union’s Environmental Impact Assessment Directive (“the EU Directive”) and “*are likely to have significant effects on the environment*”, must be accompanied by an ES, describing the aspects of the environment likely to be significantly affected by the Scheme. The paragraph goes on to describe the requirements of the EU Directive and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009. Although these regulations were replaced in 2017, they remain the operative regulations for the purposes of the Scheme as explained in Chapter 1 of the ES (document reference 6.1).
- 7.3.13** An ES has been prepared as part of the DCO application, the scope of which has been agreed with key stakeholders, statutory consultees and PINS through a formal scoping opinion (dated April 2017) and the statutory consultation process, and in accordance with the requirements of the EU Regulations. The ES includes a cumulative effects assessment in Chapter 20, in accordance with Paragraph 4.16 of the NNNPS.
- 7.3.14** Paragraph 4.18 acknowledges that “*in some instances it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case*”. Article 5 of the DCO explains the limits of deviation and the DR sets out how these were determined as well as those elements of the Scheme that are fixed.
- 7.3.15** Paragraph 4.19 goes on to state that the ES should set out, to the best of the applicant’s knowledge, what the maximum extent of the Scheme may be and assess the potential adverse effects accordingly. The ES has been prepared taking this into account, alongside the ‘Rochdale Envelope’ in accordance with Advice Note 9 (April 2012), as explained in Chapter 1 of the ES.
- 7.3.16** Paragraphs 4.7.1 – 4.7.5 of the PNPS contains assessment principles related to EIA that are not materially different to those set out above.

Habitat Regulations Assessment (4.22 – 4.25 of the NNNPS; 4.8.1 of the PNPS)

- 7.3.17** Paragraph 4.22 of the NNNPS states that the SoS must, under the Conservation of Habitats and Species Regulations 2010⁴⁴ and the Offshore Marine Conservation (Natural Habitats &c) Regulations 2007 (as amended)⁴⁵ (“the Habitat Regulations”), “*consider whether it is possible that the project could have a significant effect on the objectives of a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects*”. Both

⁴⁴ Replaced by the Conservation of Habitats & Species Regulations 2017 with effect from 30 November 2017 but with substantively the same requirements in relation to Habitats Regulation Assessment.

⁴⁵ Replaced by the Conservation of Offshore Marine Habitats & Species Regulations 2017 with effect from 30 November 2017 but with substantively the same requirements in relation to Habitats Regulation Assessment.

of these regulations have been replaced by the 2017 regulations although the substantive position remains the same. The NNNPS asks applicants to seek the advice of Natural England in this regard.

- 7.3.18** Paragraph 4.23 requires applicants to provide sufficient information with their application to enable the SoS to “*carry out an Appropriate Assessment if required*”, which needs to “*include details of any measures that are proposed to minimise or avoid any likely significant effects on a European site*”. Paragraph 4.8.1 of the PNPS broadly contains the same requirements.
- 7.3.19** A Habitats Regulations Assessment (“HRA”) Report has been prepared due to the proximity of Natura 2000 sites, (document reference 6.5). The report examines sites of European importance for nature conservation (termed Natura 2000 sites) within the vicinity of the Scheme, in order to assess whether the proposals would be likely to have a significant effect on those sites or the ecological resources for which they have been designated. The report concludes that the Scheme would have no likely significant adverse effects upon a European site, or its qualifying features or conservation objectives.
- 7.3.20** Natural England was consulted on a draft of this Report at statutory consultation. In their consultation response dated 16th October 2017 Natural England requested an update of the Site’s qualifying features and the HRA Report was updated accordingly for the Application. Its conclusions remained the same following these updates.
- 7.3.21** As there would be no significant effects upon a European site, Paragraph 4.24 which relates to derogations does not apply to the Scheme. Similarly, Paragraph 4.25 which relates to developments negatively affecting any priority habitat or species on a site for which they are a protective feature, does not apply, as the HRA and ES demonstrate that the Scheme would not result in such effects.
- 7.3.22** Paragraph 4.8.1 of the PNPS also makes reference to the need to consider effects on European sites which is not materially different to the requirement set out in the NNNPS.

Alternatives (4.26 – 4.27 of the NNNPS; 4.9.1 – 4.9.3 of the PNPS)

- 7.3.23** Paragraph 4.26 sets out that applicants should comply with requirements on the assessment of alternatives, particularly the EIA Directive including an outline of the main alternatives and the main reasons for the applicant’s choice, and any other legal requirements for the consideration of alternatives such as under the Habitats and Water Framework Directives.
- 7.3.24** The ES sets out in detail the alternative options that have been considered by the applicant, including the reasons for the applicant’s choice of option, taking into account the environmental effects. As the HRA Report has concluded no likely significant adverse effects, this has not been considered further in relation to alternatives. In terms of the Water Framework Directive, refer to the WFD assessment which is set out in Appendix 17A of the ES and which concludes that the Scheme does not

jeopardise achievement of the WFD objectives and therefore is not required to consider alternatives.

- 7.3.25 The NNNPS in Paragraph 4.27 states that all projects should be subject to an options appraisal. The Examining Authority and the SoS are not required to reconsider this process but instead need to be satisfied that this assessment has been undertaken.
- 7.3.26 The PNPS, in Paragraph 4.9.1, states that *“this NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option”*. However, Paragraph 4.9.2 notes that applicants are obliged to include in their ES factual information about the main alternatives they have studied, including an indication of the main reasons for the applicant’s choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility. It also notes that in some circumstances there are specific legislative requirements for the applicant and decision-maker to consider alternatives which should be identified in the ES. Paragraph 4.9.3 provides a number of principles to be followed, subject to any legal requirements, when deciding what weight should be given to alternatives.
- 7.3.27 A full options assessment report in relation to the Scheme was produced before a preferred option was determined. As set out above, these options were assessed in accordance with guidance set out within WebTAG. The options considered bridge locations to the west, centre and east of Lake Lothing. Options other than a bridge were also considered including the use of a tunnel underneath Lake Lothing. The different options were costed and tested within the model and a BCR calculated to compare. The preferred option generated the highest BCR, was feasible and offered high value for money. A summary of the findings of the options assessment report is contained in section 5 of this document, and the full options assessment report is attached to the OBC in Appendix A (Document 7.5).
- 7.3.28 For the reasons set out, the Scheme is considered to be fully compliant with the above paragraphs.
- Criteria for ‘good design’ for national network infrastructure (4.28 – 4.35 of the NNNPS; 4.10.1 – 4.10.5 of the PNPS for new port infrastructure)*
- 7.3.29 Paragraphs 4.28 and 4.29 require applicants to include design as an integral consideration from the outset of a proposal, noting at paragraph 4.29 that *“visual appearance should be a key factor in considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost”*.
- 7.3.30 Paragraph 4.30 the NNNPS acknowledges that given the nature of national network infrastructure, the extent to which it can contribute to the enhancement of the quality of an area may be limited, and Paragraph 4.34 states that there may be limited choice in the physical appearance of some national network infrastructure, whilst acknowledging the design opportunities related to siting and design measures relative

to existing landscape and historical character and function, landscape permeability, landform and vegetation.

- 7.3.31** Further, Paragraph 4.31 requires that identified problems of a Scheme should be eliminated or substantially mitigated by improving operational conditions and simultaneously minimising adverse impacts through good design. This mitigation should, wherever possible, address any existing adverse impacts. The paragraph goes on to state that *“a good design will also be one that sustains the improvements to operational efficiency for as many years as is practicable, taking into account capital cost, economics and environmental impacts”*.
- 7.3.32** Paragraph 4.32 reiterates that Scheme design will be a material consideration in decision making and states that national networks infrastructure projects need to be *“sustainable and as aesthetically sensitive, durable, adaptable and resilient as they can reasonably be (having regard to regulatory and other constraints and including accounting for natural hazards such as flooding)”*.
- 7.3.33** Paragraph 4.33 requires applicants to take into account (as far as possible) both functionality including fitness for purpose and sustainability and aesthetics including the Scheme’s contribution to the quality of the local area. The role of technology in delivering new national networks projects and the use of professional, independent advice should be considered.
- 7.3.34** Finally, Paragraph 4.35 requires applicants to demonstrate how the design process was conducted and how the design has evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected.
- 7.3.35** The Scheme has been designed to provide an enhancement of the crossing through the aesthetics and landmark nature of the proposed bridge structure. The design concept, ‘marine tech’ reflects the growing role of Lowestoft in the energy sector whilst also providing a structure that is functional and usable for all modes. The DR (document reference 7.5) explains the design process and development and how the applicant has arrived at the final design. The design has benefited from two Design Council CABE reviews on 22nd March 2017 and 29th June 2017. The Applicant has followed Design Council CABE’s guidance⁴⁶ on NSIP design, and endorsement was received from Design Council CABE in their second response, which stated they are *“very supportive of the positive progress made to design development”*, leading to some *“exciting ideas based on thorough analysis”*. The proposed ‘marine tech design’ was perceived as a *“utilitarian, beautiful and contemporary”* reference point that would bring cohesion to the separate elements of the structure. With regard to the contemporary design of the bridge, WDC’s Principal Design and Conservation Officer, in their formal consultation response (dated 14th October 2017), considered *“it appropriate that the design should reference the future of the town rather than its past”*. The evolution of the design is outlined in detail in the DR. The outcome of the extensive

⁴⁶Design Council (November 2012) A design-led approach to infrastructure

design process is a striking and distinctive 'blade' form that will become a landmark and contribute positively to the visual amenity of the area.

7.3.36 The design of the Scheme has also been prepared in accordance with the relevant DMRB guidance and standards and was required to meet a number of criteria including delivery of scheme objectives, user benefits, cost, traffic impacts, environmental impacts and public and stakeholder support.

7.3.37 Paragraphs 4.10.1 – 4.10.5 of the PNPS contains assessment principles related to good design that are not materially different to those set out above.

Climate change adaptation (4.38, 4.40 – 4.47 of the NNNPS; 4.12.1 – 4.13.15 of the PNPS)

7.3.38 Paragraph 4.38 of the NNNPS states that “*new development should be planned to avoid increased vulnerability to the range of impacts arising from climate change*”. It goes on to state that “*when new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure*”. Under Paragraph 4.40, “*applicants must consider the impacts of climate change when planning location, design, build and operation*”. The ES should set out how the Scheme would take account of the projected impacts of climate change.

7.3.39 For infrastructure with safety-critical elements and a design life of 60 years or greater, Paragraph 4.41 states that the UK Climate Projections (UKCP) 2009 high emissions scenario (high impact, low likelihood) against the 2080 projections at the 50% probability level should be applied.

7.3.40 Paragraph 4.42 requires applicants to take into account the potential impacts of climate change. In doing so, applicants should use the latest UKCP available at the time and ensure that the ES identifies appropriate mitigation or adaptation measures, covering the estimated lifetime of the new infrastructure.

7.3.41 Under Paragraph 4.43, applicants should demonstrate that there are no critical features of the design of the Scheme which may be seriously affected by more radical changes to the climate beyond that projected in the latest set of UKCP. The paragraph goes on to state that any potential critical features should be assessed taking account of the latest credible scientific evidence on, for example, sea level rise, and on the basis that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime through potential further mitigation or adaptation.

7.3.42 Paragraph 4.44 requires that any adaptation measures should be based on the latest set of UKCP, the Government's national Climate Change Risk Assessment and consultation with statutory consultation bodies. Any adaptation measures must themselves also be assessed as part of any EIA and included in the ES, which should set out how and where such measures are proposed to be secured.

7.3.43 If any proposed adaptation measures themselves give rise to consequential impacts, Paragraph 4.45 requires the SoS to consider the impact in relation to the application

as a whole and the impacts guidance set out in this part of the NNNPS (e.g. on flooding, water resources, biodiversity, landscape and coastal change).

- 7.3.44 Under Paragraph 4.46, adaptation measures can be required to be implemented at the time of construction where necessary and appropriate to do so.
- 7.3.45 Where adaptation measures are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project and / or surrounding environment (e.g. coastal processes), under paragraph 4.47 the SoS may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development (e.g. reserving land for future extension, increasing the height of an existing sea wall, or requiring a new sea wall).
- 7.3.46 The Flood Risk Assessment (FRA) which is appended to the ES at Appendix 18A investigates the risk of flooding in Lowestoft for the present-day scenario and, in order to consider the impact of and resilience to future flooding, the model has also been used to simulate future flood events with an allowance for climate change included (based on allowances for the year 2140, 120 years in the future). The climate change scenario representing flood risk in Lowestoft in 2140 (using Table 3 of the NPPF) allowance for sea level rise has been used to inform the design and mitigation of the Scheme.
- 7.3.47 The modelling undertaken has shown that the Scheme has a negligible impact on predicted flood levels for events up to and including the 0.5% Annual Exceedance Probability (AEP) climate change event and therefore mitigation is not required. In terms of flood risk from surface water runoff, the Scheme will result in an increase in permeable area when compared to the existing site. The Drainage Strategy (Appendix 18B of the ES) sets out the proposed mitigation which comprises sustainable drainage features consisting of a combination of ponds and buried attenuation tanks. In relation to the risk of flooding during the construction phase, this is considered to be low and the impact is negligible. However, the Interim CoCP (Appendix 5A of the ES) sets out that a flood management plan will be prepared and adopted by the Contractor prior to occupation of the site.
- 7.3.48 Paragraphs 4.12.1 – 4.12.10 of the PNPS contains climate change mitigation policies in relation to port related development particularly in relation to shipping and therefore this is not relevant to this assessment. Paragraphs 4.13.1 - 4.13.15 relate to climate change adaption in relation to new port infrastructure but are not materially different to those set out above.

Pollution control and other environmental protection regimes (4.48 – 4.54 of the NNNPS; 4.11.1 – 4.11.8 of the PNPS)

- 7.3.49 Paragraphs 4.48 and 4.49 of the NNNPS explain that discharges or emissions from national network schemes may be subject to separate regulation under the pollution control framework or other regimes, but acknowledge that these controls are complementary to those of the planning system. Paragraph 4.50 goes on to state that “in deciding an application, the Examining Authority and the Secretary of State should focus on whether the development itself is an acceptable use of the land, and on the

impacts of that use, rather than the control of processes, emissions or discharges themselves". The Consents and Agreements Position Statement (document reference 7.7) acknowledges the need for such consents.

- 7.3.50** Paragraph 4.51 notes that the above considerations apply in an analogous way to other environmental regulatory regimes, including those on land drainage and flood defence and biodiversity, which have been considered within the FRA prepared for the Scheme. Refer to the Consents and Agreements Position Statement (document reference 7.7) that acknowledges the need for such consents.
- 7.3.51** Paragraph 4.52 refers to the duty on applicants to consult with the Marine Management Organisation ("MMO") on NSIPs which would affect or would be likely to affect, any relevant marine areas. Details of this consultation and the interaction with marine plans are set out in Section 7.6 below.
- 7.3.52** Where Environmental Permits are required, the application has to demonstrate that processes are in place to meet all relevant requirements for those permits. An Environmental Permit to discharge surface water into Lake Lothing is required and discussions with Anglian Water and the Environment Agency are taking place in order to progress this.
- 7.3.53** Under Paragraph 4.54, applicants are encouraged to engage with the Environment Agency as early as possible whilst first thinking through the requirements for consents. As set out in the section on FRA above, the applicant has consulted with the Environment Agency on this issue. Protective provisions are included within the draft DCO for the benefit of the Environment Agency in relation to these consents.
- 7.3.54** Paragraphs 4.11.1 – 4.11.8 of the PNPS contains assessment principles related to pollution control and other environmental regulatory regimes that are not materially different to those set out above.

Common law nuisance and statutory nuisance (4.58 of the NNNPS; 4.14.1 – 4.14.3 of the PNPS)

- 7.3.55** Paragraph 4.58 notes that during examination, possible sources of nuisance under section 79(1) of the Environmental Protection Act 1990, and measures to mitigate or reduce them, have to be considered.
- 7.3.56** Paragraphs 4.14.1 – 4.14.3 of the PNPS contains assessment principles related to common law nuisance and statutory nuisance that are not materially different to those set out above. These matters are considered in the Statement on Statutory Nuisance (document reference 6.6).

Safety (4.60 – 4.66 of the NNNPS)

- 7.3.57** Paragraphs 4.60 to 4.66 set out how new road infrastructure should consider and improve road safety. Paragraph 4.60 notes that opportunities to improve road safety, including introducing the most modern and effective safety measures, should be taken.
- 7.3.58** Paragraph 4.61 requires applicants to undertake an objective assessment of the impact of the proposed development on safety. This should include the impact of any

mitigation measures and use the methodology outlined in DfT (WebTAG) and guidance, and guidance from Highways England.

7.3.59 Applicants should put arrangements in place for undertaking the road safety audit process (paragraphs 4.62 – 4.63). A Stage 1 Safety Audit has been undertaken which is contained within the DR at Appendix 8. This identified a number of issues, some of which will be addressed at the detailed design stage. A Stage 2 Safety Audit will be undertaken at the completion of the detailed design of the Scheme and a Stage 3 Safety Audit will be undertaken following completion in the first year of opening. A final Stage 4 Safety Audit will be undertaken up to five years from the year of opening.

7.3.60 Paragraphs 4.64 – 4.65 require applicants to demonstrate consistency of their scheme with the Highways Agency's Safety Framework for the SRN and with the national Strategic Framework for Road Safety, and demonstrate that they have taken all steps that are reasonably required to:

- minimise the risk of death and injury arising from their development;
- contribute to an overall reduction in road casualties;
- contribute to an overall reduction in the number of unplanned incidents;
- contribute to improvements in road safety for walkers and cyclists.

7.3.61 In addition, applicants will wish to demonstrate that:

- they have considered the safety implications of their project from the outset; and
- they are putting in place rigorous processes for monitoring and evaluating safety.

7.3.62 It should be noted that the Scheme is not located on the SRN, although provides benefits to it, and that in terms of road safety the Suffolk Road Safety Strategy applies rather than Highways England frameworks. The Strategy seeks to reduce the number of people killed and seriously injured on roads, encourage behaviour change, deliver better education and provide a safe road network for all users. Ongoing monitoring of the Scheme, once constructed, will be undertaken by SCC as highway authority.

7.3.63 In addition, the SoS should not grant development consent unless they are satisfied that the applicant has taken all reasonable steps to minimise the risk of road casualties arising from the scheme; and contribute to an overall improvement in the safety of the SRN (Paragraph 4.66).

7.3.64 As stated earlier in this document, an Economics Report (document reference 7.3) sets out that an assessment of the Scheme safety benefits was undertaken using COBALT. Combined links and junctions were assessed and the COBALT analysis estimated that over a 60-year period (2022 to 2081) 169 accidents and 294 casualties would be saved. The economic benefit of the accident savings has been calculated to be £21.930 million over the 60-year appraisal period. This demonstrates that there is an overall improvement in the safety of the SRN with the Scheme in place. The reassignment of traffic onto an alternative route may lead to a reduction in the accident clusters that have been identified within the vicinity of the Scheme, such as at the A47 Bascule Bridge.

Security considerations (4.75 – 4.77 of the NNNPS; 4.17.1 – 4.17.6 of the PNPS)

- 7.3.65** The NNNPS, in Paragraph 4.75, reiterates Government policy that new infrastructure incorporates proportionate protective security measures, where possible. Where applications for development consent for infrastructure covered by this NPS relate to potentially 'critical' infrastructure, there may be national security considerations.
- 7.3.66** In terms of security measures, by-laws are set out in the DCO that address unacceptable behaviour and unauthorised access. For any public events that require the use of the bridge, a licence would be required from the local authority.
- 7.3.67** According to Paragraph 4.76, the applicant should (where national security implications have been identified), consult with relevant security experts from the Centre for the Protection of National Infrastructure (CPNI) and DfT to ensure that physical, procedural and personnel security measures have been adequately considered in the design process and that adequate consideration has been given to the management of security risks.
- 7.3.68** The NNNPS requires that new infrastructure incorporates proportionate security measures and as such security has been considered during the development of the reference design. A high-level assessment of the risk of such an event, set out in the Security Technical Note in Appendix F of this document, has deemed the probability as being low and therefore it is not considered necessary to include Hostile Vehicle Mitigation ("HVM") features at this stage.
- 7.3.69** Furthermore, if mitigation measures were to be put in place to protect people on the footway/segregated cycleway from hostile vehicle action, such as physical barriers, this then presents a risk to other road users, particularly motorcyclists and cyclists as this increases the risk of serious injury in the event of an accidental collision with the barrier. In addition, such features could have a negative impact on the street-scene and create street clutter.
- 7.3.70** As described in the Security Technical Note, engagement with the Centre for the Protection of National Infrastructure ("CPNI") has been undertaken and they concur with the outcome of the assessment deeming the risk of a vehicle-borne threat to be low. However, if circumstances change and as a result of further engagement with the CPNI mitigation is required to be provided, this will be considered further at the detailed design stage. It should also be noted that both Suffolk Police and the Crime Commissioner were consulted about the Scheme but made no comments.
- 7.3.71** Paragraphs 4.17.1 – 4.17.6 of the PNPS contains assessment principles related to security considerations that are not materially different to those set out above.

Health (4.81 – 4.82 of the NNNPS; 4.16.1 – 4.16.5 of the PNPS)

- 7.3.72** The NNNPS acknowledges that national network infrastructure may have potential health impacts. Paragraph 4.81 states that an ES should identify and assess any likely significant adverse health impacts. Paragraph 4.82 states that the applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. The paragraph acknowledges that these impacts may affect people

simultaneously, so the applicant, and the SoS should consider the cumulative impact on health.

- 7.3.73** Health impact has been considered as part of the environmental assessment process and potential health impact assessment topics are set out at Appendix 1A of the ES. During the construction period, changes to local air quality (potential dust nuisance), noise exposure, local transport nature and flow rates and increased direct, indirect and induced employment opportunities were scoped into the ES. Changes in local population structure and potential change in lifestyle, social structure and interactions and health and wellbeing of the existing community were scoped out of the construction phase. During the operational period, changes in local air quality, noise exposure, local transport nature and flow rates were scoped into the ES. Direct, indirect and induced income employment opportunities, education and training and changes in social structure and interactions and potential changes in the health and wellbeing of the local community were scoped out. Scoped in topics have been addressed in the relevant chapter of the ES.
- 7.3.74** An air quality assessment has been undertaken and is set out in Chapter 8 of the ES. This has concluded that the risks of human health impacts caused by the Scheme construction activities were identified to be medium to high and therefore mitigation is required. The mitigation measures focus on controlling fugitive releases of construction phase dust and would be implemented by the Contractor through the CoCP. With appropriate mitigation applied, impacts from dust on human health are not expected to be significant.
- 7.3.75** Chapter 13 of the ES sets out an assessment of noise and vibration on noise sensitive receptors. This has concluded that during the construction phase noise effects can be mitigated through the adoption of Best Practicable Means and through hoarding around construction sites such that the majority of construction phase impacts are minor. There may be some chance of significant adverse effects, although they would be temporary and short term. In terms of noise during the operation phase, a number of receptors benefit from a reduction in traffic flows, and hence noise, although it is acknowledged that a number of receptors in the vicinity of the Scheme will be affected by increased noise levels and may be eligible for noise insulation under the Noise Insulation Regulations.
- 7.3.76** The Scheme provides an opportunity to increase health and wellbeing through the provision of walking and cycling routes. These routes will increase north south connectivity for these modes, reducing journey times significantly, see Table 5-5 of this document which sets out journey times for pedestrians with and without the Scheme in place. With the Scheme in place, the reduction in journey times for the origins and destinations shown is considerable.
- 7.3.77** Public Health England (PHE) responded to the consultation stating their satisfaction at the proposed methodology being used in the ES and providing recommendations on matters to pick up during the detailed design stage.
- 7.3.78** Paragraphs 4.16.1 – 4.16.5 of the PNPS contains assessment principles related to health that are not materially different to those set out above.

7.4 Summary

- 7.4.1 Set out above are the general principles of assessment that are used as a basis for decision making within the DCO process. Section 7.3 demonstrates that the Applicant has sought to apply the general principles of assessment throughout the Scheme to ensure that the environmental, safety, social and economic benefits and adverse impacts have been given due consideration.

7.5 Generic impacts

- 7.5.1 Section 5 of the NNNPS includes the generic impacts which are to be assessed for NSIP proposals, including:

- Air quality
- Carbon emissions
- Biodiversity and ecological conservation
- Waste management
- Civil and military aviation and defence interests
- Coastal change
- Dust, odour, artificial light, smoke, steam
- Flood risk
- Land instability
- The historic environment
- Landscape and visual impacts
- Land use including open space, green infrastructure and Green Belt
- Noise and vibration
- Impacts on transport networks
- Water quality and resources.

- 7.5.2 The detailed assessment of the generic impacts of the Scheme as set out in section 5 of the NNNPS is contained in Appendix A of this document. The equivalent policies contained within the PNPS have also been included in the assessment at Appendix A.

7.6 Marine Policy Statement and Marine Plan

Marine Policy Statement

- 7.6.1 The UK Marine Policy Statement (“MPS”) (March 2011) is the framework for preparing Marine Plans and taking decisions affecting the marine environment. Marine Plans set out how the MPS will be implemented in specific areas. Paragraph 1.3.1 of the MPS sets out that the MPS and marine planning systems will sit alongside and interact with existing planning regimes across the UK. These include town and country planning and other legislation, guidance and development plans in each administration. In

England and Wales this also includes the development consent order regime for NSIPs.

Considerations within Marine Plans

7.6.2 Chapter 2 of the MPS sets out the UK's vision for the marine environment and how this vision is to be achieved through marine planning. It also contains the detailed considerations that will need to be considered within individual Marine Plans, which include the following:

- Marine ecology and biodiversity
- Air quality
- Noise
- Ecological and chemical water quality and resources
- Seascape
- Historic environment
- Climate change adaptation and mitigation
- Coastal change and flooding

7.6.3 An assessment against the provisions of the relevant Marine Plan is contained below.

Key activities in the marine environment

7.6.4 Chapter 3 of the MPS sets out the policy objectives for the key activities that take place in the marine environment in relation to:

- Marine protected areas
- Defence and national security
- Energy production and infrastructure development
- Ports and shipping
- Marine aggregates
- Marine dredging and disposal
- Telecommunications cabling
- Fisheries
- Aquaculture
- Surface water management and waste water treatment and disposal
- Tourism and recreation

7.6.5 Due to its nature and location, the Scheme does not comfortably fit within any of the above categories (the chapter on energy production and infrastructure development relates to energy-related infrastructure only). However, as a marine licence is required and applied for as part of the application for development consent, and due to the application site being located within a Marine Plan area (see below), it is considered

that the objectives of the MPS, which will be delivered through the marine planning and decision-making process under the framework of Marine Plans, are relevant to the Scheme. An assessment against the relevant policies of the East Inshore Marine Plan, which is the applicable Marine Plan for the Scheme, is set out below. It should be noted that this Plan was published simultaneously as one single document with the East Offshore Marine Plan but they are separate Marine Plans.

East Inshore and East Offshore Marine Plans

- 7.6.6** Under section 52 of the Marine and Coastal Access Act 2009, a marine plan authority may prepare a Marine Plan for an area consisting of the whole or any part of its marine planning region. Marine Plans are a material consideration when determining applications for development consent. The East Inshore Marine Area covers an area of 6,000 square kilometres, and includes the area of sea stretching from Flamborough Head to Felixstowe and extends out to the seaward limit of the territorial sea (approximately 12 nautical miles) as well as inland areas such as the Broads and other waters subject to tidal influence. It includes 22% of ports (by number) in England and 11% by area of England's Special Areas of Conservation, as well as 29% of Special Protection Areas.⁴⁷ The East Offshore area covers the marine area from 12 nautical miles out to the maritime borders with Netherlands, Belgium and France and is therefore not relevant to this assessment. Planning policies for both areas are set out in the East Inshore and East Offshore Marine Plans (Defra, April 2014) ("EIEOMP"). As shown in Figure 7-1 below, Lake Lothing forms part of the East Inshore Marine Area.

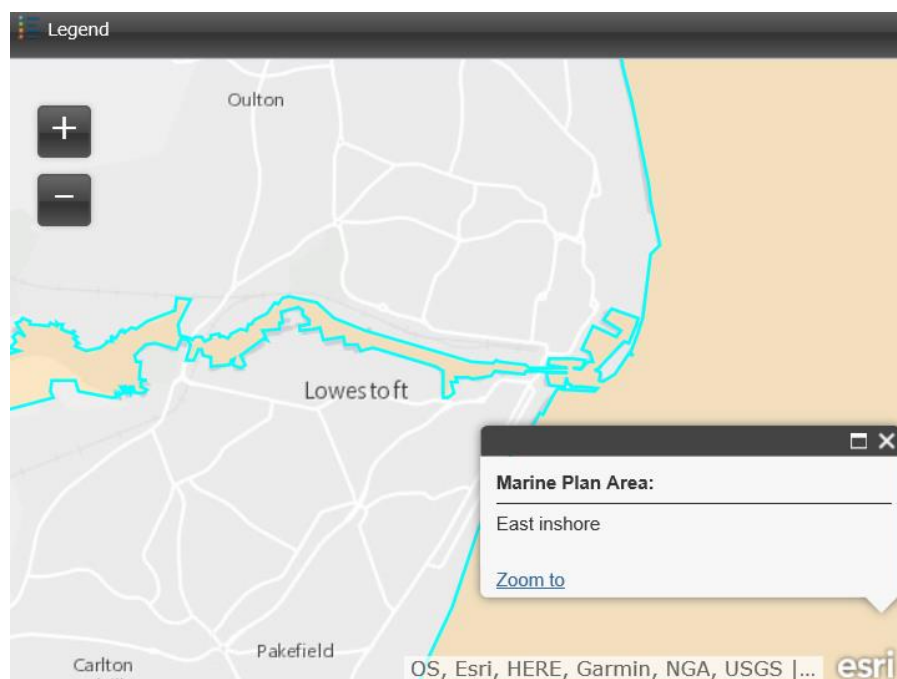


Figure 7-1 - East Inshore Marine Plan Area around Lowestoft

(Source: <http://mis.marinemanagement.org.uk/east>)

⁴⁷HM Government (April 2014) East Inshore and East Offshore Marine Plans

7.6.7 The vision for the East marine plan area (on page 23 of the EIEOMP) is that by 2034, *"sustainable, effective and efficient use of the East Inshore and East Offshore Marine Plan Areas has been achieved, leading to economic development while protecting and enhancing the marine and coastal environment, offering local communities new jobs, improved health and well-being. As a result of an integrated approach that respects other sectors and interests, the East marine plan areas are providing a significant contribution, particularly through offshore wind energy projects, to the energy generated in the United Kingdom and to targets on climate change"*. The marine plan is seeking to support the potential of the energy sector and Objective 3 on page 26 states that it is *"likely to be the most significant transformational economic activity over the next 20 years in the East marine plan areas"*. The Scheme supports the energy sector, by providing the infrastructure to support the growing role of Lowestoft in delivering energy NSIPs that already have consent.

7.6.8 Chapter 3 of the EIEOMP sets out its policies. An assessment of the Scheme against the relevant policies is provided below.

Economic

7.6.9 Policy EC1 on page 42 of the EIEOMP states that *"proposals that provide economic productivity benefits which are additional to Gross Value Added currently generated by existing activities"*. Policy EC2 (on page 44 of the EIEOMP) sets out that *"proposals that provide additional employment benefits should be supported, particularly where these benefits have the potential to meet employment needs in localities close to the marine plan areas"*. The economic impacts of the Scheme, including high BCR and the Scheme's support of local employment needs, have been set out in Section 9 of this document.

7.6.10 Policy EC3 of the EIEOMP specifically supports proposals that contribute to offshore wind energy generation. Whilst the Scheme is not for energy infrastructure, the reduced congestion, improved journey times and journey time reliability that would be delivered as a result of the Scheme would support the energy hub in Lowestoft and offshore, as noted in the direction issued by the SoS under section 35 of the PA 2008.

Social, cultural and tourism

7.6.11 Policy SOC1 (on page 49 of the EIEOMP) states that *"proposals that provide health and social well-being benefits including through maintaining, or enhancing, access to the coast and marine area should be supported"*. The central area of Lake Lothing suffers from severance due to the Lake itself and the East Suffolk Line but the Scheme will significantly increase north south accessibility for all modes of transport (vehicles, cyclists and pedestrians). The provision of the Scheme therefore provides enhanced accessibility to the marine area for these users. In addition, the Scheme seeks to minimise any effects on accessibility to marine areas for both commercial and recreational vessels by being an opening structure being significantly higher than the A47 Bascule Bridge and by providing a waiting pontoon. In overall terms the effects on accessibility are considered such that this policy is neutral to the proposal.

7.6.12 Policy SOC2 (on page 52 of the EIEOMP) sets out that *"proposals that may affect heritage assets should demonstrate, in order of preference: (a) that they will not*

compromise or harm elements which contribute to the significance of a heritage asset; (b) how, if there is compromise or harm to a heritage asset, this will be minimised; (c) how, where compromise or harm to a heritage asset cannot be minimised it will be mitigated against or (d) the public benefits for proceeding with the proposal if it is not possible to minimise or mitigate compromise or harm to the heritage asset. A heritage assessment has been undertaken as part of the environmental assessment of the Scheme and is set out in Chapter 9 of the ES. Section 9.11 concludes that in relation to Conservation Areas and the built heritage, the significance of effect is deemed to be slight, will result in less than substantial harm and does not constitute a significant effect. In terms of archaeological assets, overall the significance of effect of the Scheme is deemed to be slight, the Scheme will result in less than substantial harm and does not constitute a significant effect. In relation to the historic landscape, the overall significance of effect of the Scheme is deemed to be neutral, it will result in no harm and does not constitute a significant effect. To minimise the impact of the Scheme, mitigation is proposed which is set out in Section 9.8 of the ES.

- 7.6.13** Policy SOC3 (on page 58 of the EIEOMP) seeks to protect the terrestrial and marine character of an area and should demonstrate *“(a) that they will not adversely impact the terrestrial and marine character of an area (b) how, if there are adverse impacts on the terrestrial and marine character of an area, they will minimise them (c) how, where these adverse impact on the terrestrial and marine character of an area cannot be minimised they will be mitigated against and (d) the case for proceeding with the proposal if it is not possible to minimise of mitigate the adverse impacts”*. Figure 4 of the EIEOMP shows that Lowestoft is identified as being part of the Norfolk Coastal Waters and Suffolk Coastal Waters Character Areas. A Townscape and Visual Impact Assessment has been undertaken and is set out in Chapter 10 of the ES where it states in paragraph 10.1.4 that *“For the purposes of the assessment, as the predominant character is one of townscape, references in this chapter to townscape should be taken as covering seascape and landscape. Townscape relates to the landscape within the built up area and the relationship between built form and open spaces, including green space. Seascape primarily incorporates views of coastal waters from adjacent land and vice versa. General views combining the bridge and coastline, which in this location is associated with the Norfolk Coastal Waters and Suffolk Coastal Waters Character Areas are not experienced, therefore for the purpose of this assessment the assessment focuses on Lake Lothing itself as a body of tidal water albeit as a body of inland water”*. Paragraph 10.6.53 also refers to potential views of the inshore coastal waters and states that *“views from the coastline of the inshore waters, and beyond the context of Lake Lothing, are considered unlikely to be able to combine views of the open water and the Scheme”*.
- 7.6.14** The assessment has concluded that there would not be significant effects on the perception of townscape character associated with Lowestoft as a result of the Scheme. The Scheme therefore does not have an adverse effect on the terrestrial or marine character of the Norfolk Coastal Waters or Suffolk Coastal Waters area.
- 7.6.15** Policy TR1 (on page 177 of the EIEOMP) requires that *“Proposals for development should demonstrate that during construction and operation, in order of preference (a)*

they will not adversely impact tourism and recreation activities (b) how, if there are adverse impacts on tourism and recreation activities, they will minimise them, (c) how, if the adverse impacts cannot be minimised, they will be mitigated (d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts”.

7.6.16 In relation to tourism and recreation activities, a socio-economic assessment has been undertaken and is set out in Chapter 16 of the ES. This covers several aspects of tourism and recreation including:

- Leisure related vessels
- Access to the town centre of Lowestoft
- Access to the Broads and the consequent effect on tourism
- Demand for temporary accommodation and effect on tourist accommodation.

7.6.17 In terms of leisure related vessels, during operation, the crossing would not open on demand for those recreational users requiring more than 12m air draft, but there would be scheduled opening times as is the case for the A47 Bascule Bridge. Should a recreational vessel be held in the inner harbour between the A47 Bascule Bridge and the Scheme Bridge, the vessel will be able to make use of a pontoon which will be constructed adjacent to the south quay where they can moor should they need to wait for a bridge opening. The pontoon has been provided following consultation with the Navigation Working Group, comprised of ABP, vessel operators within the Port and members of the boating community. The socio-economic assessment concludes that the Scheme will have a minor and non-significant adverse effect upon recreational users of Lake Lothing in the construction phase and a moderate and significant adverse effect in the operational phase despite the embedded mitigation in the form of the pontoon and opening regime. This is attributable to the closure of the navigation channel in the construction phase being short term in nature and with advance notice. The moderate and significant effect in the operational phase is attributable to the delay that a recreational vessel may encounter should they be refused an opening of the Scheme Bascule Bridge, although this does constitute a worst case assessment.

7.6.18 Section 16.7 of the ES has identified that the Scheme will have a significant major beneficial impact upon access to the town centre of Lowestoft during the operational phase. During the construction phase there will be moderate, but non-significant, adverse impacts. Furthermore, there will be minor beneficial impacts upon spend in the town centre in the construction phase due to the investment of construction. These impacts will be negligible in the operational phase and neither will be significant.

7.6.19 Section 16.7 of the ES has identified that the Scheme has a negligible effect on access to the Broads during the construction phase (Table 16.9 of the ES) and a minor beneficial impact during operation. This is due to a reduction in traffic flows on the Mutford Bridge and A47 Bascule Bridge and the reassignment of traffic onto the Scheme Bridge, which will improve access to tourism and leisure assets. In terms of demand on temporary accommodation and the effect on tourist accommodation, the ES has identified that there is a negligible impact.

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- 7.6.20** In terms of Policy TR1, a number of factors have been considered and there are both beneficial and adverse impacts resulting from the Scheme. The policy requires that where it is not possible to mitigate the case for proceeding is required to be set out. In terms of recreational users of Lake Lothing, where an adverse effect in the operational phase has been recorded, the case for proceeding with the Scheme is the transport benefits that are delivered; namely reduced congestion, improved journey times and improved journey reliability on the highway network. The benefits of the Scheme are set out in Section 9 of this document.
- 7.6.21** Policy TR2 (on page 179 of the EIEOMP) states that “*proposals that require static objects in the East marine plan areas, should demonstrate, in order of preference: a) that they will not adversely impact on recreational boating routes (b) how, if there are adverse impacts on recreational boating routes, they will minimise them c) how, if the adverse impacts cannot be minimised, they will be mitigated d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts*”. Figure 28 of the marine plan shows the marinas and RYA Training centres in Lowestoft.
- 7.6.22** The Scheme provides an opening structure significantly higher than the A47 Bascule Bridge and a waiting pontoon. The static elements of the Scheme in Lake Lothing consist of the piers and fenders which are 32m apart (which is greater than the width of the existing A47 Bascule Bridge passage) allowing all vessels that enter Lake Lothing to navigate west of the Scheme, which has been tested with vessel simulations, undertaken in conjunction with ABP. The static elements of the Scheme are located outside of the final navigational channel which will be marked with channel markers therefore it is considered that the Scheme does not adversely impact on recreational boating routes. A Preliminary Navigational Risk Assessment (document reference 6.7) has been undertaken which considers the risks associated with all vessel navigation affected by the Scheme, both commercial and recreational, and concludes that, with the proposed mitigation included within the current Scheme design, these risks are as low as reasonably practicable.
- 7.6.23** Policy TR3 supports development that delivers tourism and / or recreation-related benefits in communities adjacent to the Marine Plan area. As set out above there is a major beneficial impact on Lowestoft town centre during operation of the Scheme due to the reduction in journey times on the road network. This also benefits tourism and recreational access across Lake Lothing. In addition, there is a minor beneficial impact during operation related to access to the Broads, due to reduced traffic flows, which will improve access to tourism. There is also a negligible impact on tourist accommodation during the construction and operation of the Scheme. Furthermore, the Scheme delivers greater connectivity to destinations north and south of Lake Lothing for all modes, notably Normanston Park and the North Quay retail area in the north and Asda in the south. Overall, it can therefore be demonstrated that the Scheme delivers tourism and recreation related benefits in communities adjacent to the Plan area.
- 7.6.24** During the construction phase, Section 16.7 of the ES has identified that there will be moderate, but non-significant, adverse impacts on access to Lowestoft town centre

due to temporary traffic management measures being required.

- 7.6.25 The ES has identified that the Scheme has a negligible effect on access to the Broads during the construction phase and a minor beneficial impact during operation. This is due to a reduction in traffic flows on the Mutford Bridge and A47 Bascule Bridge and the reassignment of traffic onto the Scheme Bridge, which will improve access to tourism and leisure assets. In terms of demand on temporary accommodation and the effect on tourist accommodation, the ES has identified that there is a negligible impact.

Environment and climate change

- 7.6.26 The Marine Plan, through Policy ECO1, requires decision making to address cumulative impacts on the ecosystem of the Marine Plan area and adjacent areas (both marine and terrestrial). A cumulative assessment is undertaken in Chapter 20 of the ES which considers the cumulative effects of the Scheme on the receiving environment. Section 20.6 of the ES concludes that adverse cumulative effects between the Scheme and other projects are not predicted.
- 7.6.27 Policies BIO1 and BIO2 state that appropriate weight should be attached to biodiversity, and features that enhance biodiversity and geological interests should be incorporated in development where appropriate. Biodiversity and nature conservation are considered in Chapter 11 of the ES which describes the assessment of the likely significant effects of the Scheme. The assessment identifies a small population of reptiles on land to the north of Lake Lothing that, without mitigation, are at risk of being disturbed or displaced by construction works. As such, areas of habitats creation for reptiles have been incorporated into the Scheme, leading to a slight beneficial effect. Section 12.4 of the ES sets out that there are no geological designated sites within 500m of the Order Limits.
- 7.6.28 Under Policy MPA1 (on page 85 of the EIEOMP), *“any impacts on the overall Marine Protected Area network must be taken account of in strategic level measures and assessments, with due regard given to any current agreed advice on an ecologically coherent network”*. A HRA Report has been undertaken (document reference 6.5). The HRA Report considers protected sites within the vicinity of the Scheme in order to assess whether it will have a significant effect on the sites or ecological resources. The HRA Report concludes that the Scheme will not have likely significant effects on protected sites or their integrity.
- 7.6.29 Policies CC1 and CC2 of the Marine Plan require development proposals to take account of climate change and minimise emissions of greenhouse gases as far as is appropriate. Chapter 18 of the ES considers Flood Risk and the effects of climate change. The assessment concludes that the Scheme has been shown to have a negligible impact on flooding up to and including the 0.5% Annual Exceedance Probability plus climate change event, and therefore the effects of flooding from the Scheme do not constitute a significant effect. Consideration of emissions is set out in Chapter 8 of the ES. In paragraph 8.7.7 of the assessment, it concludes that *“given that vehicle emissions are predicted to decrease with time as a result of more stringent regulation of petrol and diesel engines, local air quality impacts attributed to the Scheme are likely to be worst in the opening year”*. In terms of regional emissions,

the Scheme is not considered to constitute a significant environmental effect within the context of the total regional and national emissions.

Governance and compatibility with other activities

- 7.6.30** Policy GOV1 (on page 103 of the EIEOMP) states that “*appropriate provision should be made for infrastructure on land which supports activities in the marine area and vice versa*”. The Scheme delivers improvements to journey times as a result of reduced congestion and improved journey time reliability by increasing highway capacity and providing greater route choices which will benefit users of the Port. Further to this, the Scheme includes the provision of a pontoon to provide waiting vessels with mooring space whilst they await the bridge opening. This has been discussed and agreed at a Navigational Working Party. As the Scheme would improve connectivity for people and industries around Lake Lothing and the harbour area, it is considered that the Scheme is supported by this policy.
- 7.6.31** Policy PS3 (on page 140 of the EIEOMP) sets out that “*proposals should demonstrate, in order of preference: a) that they will not interfere with current activity and future opportunity for expansion of ports and harbours; (b) how, if the proposal may interfere with current activity and future opportunities for expansion, they will minimise this; (c) how, if the interference cannot be minimised, it will be mitigated; (d) the case for proceeding if it is not possible to minimise or mitigate the interference*”.
- 7.6.32** Chapter 15 of the ES which considers private assets has identified impacts upon ABP’s operation in both the construction and operation phase which are set out in summary below, along with proposed mitigation. Refer to Chapter 15 of the ES for the full assessment.
- 7.6.33** During the construction phase, the Contractor will be required to maintain the navigation channel at all times except when the possession of the entire channel or a restriction on navigation is required to facilitate construction. Such occasions will be notified in advance to ABP. In terms of the operational phase, the Scheme introduces a new structure into Lake Lothing and the clear span of 32m between fenders, which is greater than the width of the existing A47 Bascule Bridge, will allow all existing vessels that enter Lake Lothing to navigate west of the Scheme. An infinite air draught will also not constrain a vessel of any height that wants to navigate west of the Scheme bascule bridge. A Vessel Simulation Report, (Appendix 15A of the ES) has demonstrated that the Scheme will not have a significant effect on the navigation of vessels within the Port. A Preliminary Navigational Risk Assessment (document reference 6.7) has also been prepared to assess the risks to vessels during transit of the Scheme Bascule Bridge. A number of recommendations are included within the Preliminary Navigational Risk Assessment and compliance with this document is secured through the DCO. It concludes that the risks created between the bridge and vessels navigating through and around it are as low as reasonably practicable.
- 7.6.34** During the construction phase, berth, quay and land impacts are likely to be as follows:
- loss of quay side storage and berth due to the requirement for a contractor compound on the north quay, to facilitate construction of the bridge and the bridge over the East Suffolk line. The Contractor will be required to maintain access for

port operations which will be secured pursuant to the harbour authority's protective provisions in the DCO.

- The effects of the closure of the navigational channel and the need to berth to the east of the Scheme and possibly transport cargo through the Port during this period.

7.6.35 During operation of the Scheme, berth, quay and land impacts on the Port primarily relate to the loss of quay space which has the potential to permanently impact port operations through the loss of operational port land and berthing space. The ES notes that the loss of berthing space resulting from the Scheme is unlikely to be greater than 60m (out of 2,100m available) but would require three berths to be redefined (i.e. changed in length).

7.6.36 Land-side, the clearance provided underneath the Scheme as it crosses ABP's operational port is a minimum of 5.3m which will allow all road-licensed vehicles to be able to pass underneath. As stated in paragraph 15.5.36 of the ES, the area beneath the Scheme is used as an access for commercial vehicles, road transportable cranes and project cargo items.

7.6.37 In terms of Policy PS3, it has been demonstrated that although there is loss of berthing space, impacts on the operation of the Port in both the construction and operation phases have been minimised and the ES has concluded that operational phase impacts upon the quay and land are no greater than slight adverse.

7.6.38 It should also be noted that recently ABP has unveiled a vision for a 13-acre development site, to the west of the Scheme, based on the Port of Lowestoft being the East of England's energy hub. Access to this area will not be impeded once the Scheme is operational as the bridge will open on demand for commercial vessels. Furthermore, the crew transfer boats associated with offshore windfarms are not of a height that would require the Scheme Bascule Bridge to open and could travel unimpeded to the west of the Scheme.

7.6.39 As set out in the assessment against the NNNPS above, the Scheme would support Port activities by addressing current levels of congestion on the surrounding road network, including the SRN, and improving road access to and from the Port. The Scheme is therefore not in conflict with this policy.

7.6.40 Policy DD1 states that proposals within or adjacent to licensed dredging and disposal areas should avoid, minimise or mitigate impacts on dredging and disposal activities. This policy aims to protect dredging and disposal activities from other new proposals that would compromise the continued access to ports and harbours for the shipping industry. Lake Lothing is identified as an area for navigational dredging in Figure 20 in the Marine Plan and the Scheme lies within a licensed dredging area. Refer to Chapters 15 and 17 of the ES which set out that the Scheme has no significant impacts with regards to dredging.

7.6.41 Policy FISH2 seeks that development proposals demonstrate that the Scheme will avoid, minimise or mitigate adverse impacts on spawning and nursery areas and any associated habitat. Table 11-5 of the ES sets out that fish trawl surveys (see Appendix

11G of the ES) indicate that the habitat in Lake Lothing is of limited value to fish. Eel was confirmed to be present in low numbers, but no other species of particular nature conservation interest were present. Although temporary disturbance may occur during the construction period, any effects on fish would be negligible. During the operational phase the Scheme would have no effects on fish.

7.7 Marine licence

7.7.1 A marine licence would ordinarily be required to develop the Scheme within Lake Lothing, and under section 42 of the PA 2008 (as amended by section 23 of the Marine and Coastal Access Act 2009) there is a statutory duty on applicants to consult the MMO on NSIPs which would affect, or would be likely to affect, any relevant areas as defined by subsection 2 of section 42. These areas include:

- Waters in or adjacent to England up to the seaward limits of the territorial sea;
- An exclusive economic zone, except any part of an exclusive economic zone in relation to which the Scottish Ministers have functions;
- A Renewable Energy Zone, except any part of a Renewable Energy Zone in relation to which the Scottish Ministers have functions;
- An area designated under section 1(7) of the Continental Shelf Act 1964, except any part of that area which is within a part of an exclusive economic zone or Renewable Energy Zone in relation to which the Scottish Ministers have functions.

7.7.2 As the Scheme would be located within the area of the East Inshore Marine Plan Area (see 7-1), it is considered that the bridge would be located in *“waters in or adjacent to England up to the seaward limits of the territorial sea”* for the purpose of the PA 2008⁴⁸.

7.7.3 The DCO includes provision for a 'deemed marine licence' ("DML") and the terms of this DML have been determined through consultation and engagement with the MMO and are set out in the draft DCO.

7.8 Summary

7.8.1 Set out above is an assessment of the NNNPS and PNPS as well as the relevant Marine Plan and Marine Policy Statement. In respect of this Scheme, the primary policy statement is the NNNPS as this specifically relates to infrastructure projects concerning the national road network (which includes highway schemes proceeding under a section 35 direction). The PNPS has been considered due to proximity to the Port of Lowestoft. This together with the MPS and Marine Plan have been considered to the degree to which they are relevant. It has been set out that the Scheme is in compliance with each of these documents and their assessments. A full assessment of the NNNPS generic impacts is set out in Appendix A of this document.

⁴⁸ Part 3, Section 14 (7)(b) of the PA2008

8 Other National and Local Planning Policy

8.1 National Planning Policy Framework

- 8.1.1 The NPPF came into force in March 2012⁴⁹ and sets out the Government's planning policies and how these are expected to be applied. The onus of the NPPF is to achieve sustainable development in terms of economic, environmental and social aspects. Paragraph 3 of the NPPF states that the framework does not contain specific policies for NSIPs although they are determined in accordance with the PA 2008 and relevant NPSs, as well as *"any other matters that are considered both important and relevant (which may include the National Planning Policy Framework)"*.
- 8.1.2 Paragraph 1.17 of the NNNPS states that the *"overall strategic aims of the National Planning Policy Framework (NPPF) and the NPS are consistent, however, the two have differing but equally important roles to play"*. The NNNPS goes on to state in paragraph 1.17 that the *"NPPF is also likely to be an important and relevant consideration in decisions on nationally significant infrastructure projects, but only to the extent relevant to that project"*. Therefore, the consistency of the Scheme with the overall aims of the NPPF is discussed here. Where the NPS makes reference to NPPF policies these are covered in section 8.1 above and in Appendix A.
- 8.1.3 The first overarching objective set out in the NPPF is to build a strong, competitive economy. Paragraph 19 explains that a key role of the planning system is to do *"everything it can to support sustainable economic growth. Therefore significant weight should be placed on the need to support economic growth through the planning system"*. The Scheme supports the growing role of Lowestoft in the energy sector which through CORE status, Assisted Area and Enterprise Zone status has the capacity to create more jobs and enable further economic growth.
- 8.1.4 One of the NPPF's principles for planning contained in paragraph 17 is that it should proactively drive and support sustainable economic development to deliver infrastructure, amongst other matters. Paragraph 162 states that local planning authorities should work with other authorities and providers to *"take account of the need for strategic infrastructure including nationally significant infrastructure within their areas"*. The Applicant has closely worked with other authorities and agencies to promote and develop the Scheme, and as such, it is fully meeting this requirement of the NPPF.
- 8.1.5 The Scheme is supported by the principles and objectives of the NPPF as it would provide critical infrastructure to help deliver economic growth and support the housing growth that is anticipated in Lowestoft over the coming decades.

⁴⁹ In February 2018 the Ministry of Housing, Communities & Local Government issued a draft revised NPPF for consultation. This proposes some updates to the current guidance in the NPPF but the final version has not yet been published. The Applicant will review the final version of the revised NPPF once available and provide any updates as appropriate during Examination.

8.2 Local planning framework

8.2.1 The Scheme to provide a third crossing at Lake Lothing has been a long-term objective of the Highways Agency (which previously promoted a similar scheme) and has the current support of Highways England and WDC. The crossing would address traffic issues in Lowestoft and also promote the aims and goals of the planning policies of both the Waveney Council Adopted Core Strategy and the Lowestoft and Outer Harbour Area Action Plan. These both seek, amongst other policy priorities, to encourage economic and housing growth. This section identifies the local planning policies that support and identify the need for a third crossing. It outlines how the Scheme has a role to play in addressing wider issues and in improving connectivity.

8.2.2 The relevant development plan and other local strategy documents relevant to the issue of the promotion of a third crossing are:

- Waveney Development Plan including:
 - Core Strategy Development Plan Document, adopted January 2009
 - Development Management Policies Development Plan Document, adopted January 2011
 - Site Specific Allocations Development Plan Document, adopted January 2011
 - Lowestoft Lake Lothing and Outer Harbour Area Action Plan Development Plan Document, adopted January 2012
- Supplementary Guidance:
 - Sustainable Urban Neighbourhood and Kirkley Waterfront Development Brief Supplementary Planning Document, adopted May 2013
- Waveney District Council Local Plan Final Draft, published March 2018
- Suffolk Local Transport Plan 2011 – 2031 Part 1 - Transport Strategy and Part 2 – Implementation Plan and Suffolk Rights of Way Improvement Plan 2006 – 2016
- Suffolk Waste Core Strategy, adopted March 2011, Suffolk Minerals Core Strategy, adopted September 2008 and Suffolk Minerals and Waste Local Plan, submission draft, June 2018).
- Suffolk Flood Risk Management Strategy, March 2016
- Suffolk Nature Strategy 2015, published 2015
- Suffolk Growth Strategy, published 2013 (set out in section 4.7 of this document)
- East Suffolk Growth Strategy (set out in section 4.7 of this document)

The relevant policy assessments against these documents are detailed below.

8.3 Transport Modelling related to Development Plan documents and the Scheme

8.3.1 In order to understand the context of the Scheme against existing and proposed WDC development and local plan documents, an explanation of the transport modelling that has been undertaken to support the relevant documents is helpful.

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- 8.3.2 The transport modelling that was undertaken for the AAP in 2011 assumes the Scheme is not in place and at paragraph 3.5.9, the AAP states that, *“The conclusions were that the existing network could cope with the expected background traffic growth to 2025, but that the full development of the AAP would result in unacceptable congestion at both Lake Lothing crossings even with the existing Travel Smart initiative, strong travel planning and sustainable transport initiatives directly associated with the developments. It is therefore considered that up to 80% of growth associated with the AAP can be accommodated through these measures alone”*. Delivery of all development allocated in the AAP area, without the Scheme in place, is therefore challenging.
- 8.3.3 In updating the existing VISSIM transport model for use for the Scheme transport assessments, a core scenario has been developed in line with Department for Transport Guidance (TAG unit M4). The core scenario is defined in the guidance to be based upon the most unbiased and realistic set of assumptions and therefore includes development that is considered to be ‘near certain’ or ‘more than likely’ to come forward. An uncertainty log has been developed to determine which developments to include for modelling purposes (refer to the TA (Document 7.2) and its Appendix⁵⁰). Paragraph 7.9.1 of the TA sets out that *“the VISSIM 2016 Base model shows that there are already significant delays on the A12/A47 corridor with an average delay of approximately two minutes in both directions. There are also significant delays at the junction of Denmark Road and A47 under normal operating conditions. Queuing and delays increase in the 2022DM and 2037 DM, particularly when the A47 Bascule Bridge is lifted, indicating that, with no intervention, these problems will be exacerbated in the future”*.
- 8.3.4 The model shows that with the Scheme in place, planned growth benefits through the provision of additional road capacity that will be required to deliver this growth, and by reducing existing congestion in the network, allows future businesses and commuters to reduce their travel time and improves route choices and general accessibility. This growth in traffic has been taken into consideration within the Scheme assessments, with all future development trips being included in the forecast (future) traffic analysis either through directly modelled development sites or through the inclusion of background traffic growth using TEMPro (Trip End Model Presentation Program). TEMPro, is designed to allow detailed analysis of pre-processed trip-end, journey mileage, car ownership and population/workforce planning data from the National Trip End Model. These assessments have demonstrated traffic and economic benefits for both existing and future transport users as a direct result of the Scheme.
- 8.3.5 The transport modelling undertaken for the Waveney Final Draft Local Plan⁵¹ assumes

⁵⁰ The Uncertainty Log is presented in Appendix E of the Lowestoft Saturn Traffic Model Local Model Validation Report which is provided in Appendix E of the TA (document reference 7.2).

⁵¹ WSP (March 2018) Suffolk County Council, Waveney Local Plan, Forecast Highway Modelling - <http://www.eastsuffolk.gov.uk/assets/Planning/Waveney-Local-Plan/Background-Studies/Suffolk-County-Council-Forecast-Highway-Modelling.pdf>

the Scheme is in place and has included the development identified in the core scenario above, but also includes other developments where there is less certainty of it coming forward during the Plan period. The Waveney Local Plan appraisal is not therefore compliant with Department for Transport guidance with regard to the core scenario appraisal of major schemes that require government approval. The Forecast Highway Modelling report for that work sets out that analysis has shown that while many junctions may be close to or exceed capacity in 2036 (the end of the Plan period), there are also many parts of the network that will operate satisfactorily. Furthermore, as the development proposals come forward with their own transport assessments, the need for mitigation would be addressed through the planning application process. The analysis has not however identified any locations where it is unlikely such mitigation could not be delivered.

8.4 Waveney Development Plan and Waveney Final Draft Local Plan

Priorities of the Waveney Development Plan

8.4.1 The Waveney Core Strategy, adopted in January 2009, along with the Development Management Policies, Site Specific Allocations Development Plan Document and the AAP comprise the development plan. Supplementary Planning Documents (“SPDs”) and Supplementary Planning Guidance (“SPGs”) provide further detail on policies contained within the development plan. The four priorities of the Core Strategy, set out in paragraph 1.16, are:

- “Sustainable production and consumption;
- Climate change and energy;
- Natural resource protection and environmental enhancement; and
- Sustainable communities”.

8.4.2 The policies contained within the Core Strategy and other development plan policies reflect these priorities. In relation to the Scheme, relevant policies are set out below.

Spatial strategy

8.4.3 The development plan’s spatial strategy as set out in Policy CS01 of the Core Strategy anticipates that most new growth in Waveney, economically and in terms of housing, will be in or around Lowestoft. Paragraphs 4.9 – 4.11 of the Core Strategy and Policy CS01 set out that Lowestoft will accommodate approximately 70 to 80% of the housing growth and 70 – 80% of the additional jobs in the District. The plan’s objective for Lowestoft is to promote regeneration and growth in the central area of the town, in and around Lake Lothing, and the harbour. Employment growth including retail growth is expected to be focussed in and around the town centre and the Lake Lothing and Outer Harbour area.

8.4.4 In paragraph 4.12, the Core Strategy acknowledges that transport measures are integral to the regeneration of Lowestoft and the wider sub-region with Great Yarmouth. Such measures include a reduction in congestion, improvement of safety and enhanced connectivity between north and south Lowestoft and with Great Yarmouth. Policy CS01 reiterates this by stating that priority will be given to the delivery

of infrastructure such as transport improvements, as essential to facilitating economic and social regeneration.

- 8.4.5 The Core Strategy required the preparation of the AAP which was adopted in January 2012. It sets out a framework for development for Lake Lothing and the Outer Harbour area up until 2021 (2025 for housing allocations) and contains area-wide policies as well as strategic site policies. The Scheme lies within the area covered by the AAP.
- 8.4.6 The vision for the AAP is set out on page 16 of that document and is stated as being: *“By 2025 the Lake Lothing and Outer Harbour area will be an outstanding place to live, work and visit building on its unique location between the North Sea and the Broads. The area will have a strong economy and a supportive culture for business with particular expertise in the renewable energy and environmental sectors both on and off shore”.*
- 8.4.7 The Scheme is supported by the spatial strategy, as set out in the Core Strategy, as the Scheme would address the already severe congestion issues and improve the connection to and from key areas of the town, such as the outer harbour and port area and the town centre.
- 8.4.8 WDC is currently preparing a new Local Plan for the District (excluding the Broads Authority area). Consultation on the Waveney Final Draft Local Plan ran from Thursday 29 March 2018 to Thursday 24 May 2018. The plan is expected to be submitted for examination in summer 2018. The NPPF, in paragraph 216, states that *“from the day of publication, decision-takers may also give weight to relevant policies in emerging plans according to:*
- *the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given);*
 - *the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and*
 - *the degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given)”.*
- 8.4.9 Accordingly, the Scheme is also assessed against the relevant emerging policies in the Waveney Final Draft Local Plan, whilst acknowledging that the NNNPS is the primary planning framework against which the Scheme needs to be assessed.
- 8.4.10 The emerging plan proposes a similar spatial strategy as set out in the Core Strategy. Emerging Policy WLP1.2 (Presumption in Favour of Sustainable Development) follows the spirit of the NPPF by supporting development proposals that accord with the policies in the Local Plan, and approving them without delay. In acknowledging the weight of emerging policies, the sections below comprise the assessment of the Scheme against the current development plan as well as the relevant emerging policies of the Waveney Final Draft Local Plan.

Housing

- 8.4.11 In line with the current spatial strategy, the current Core Strategy proposes the provision of approximately 5,000 dwellings in Lowestoft (including Carlton Colville and Oulton). Policy CS11 (Housing) states that the Site Specific Allocations Document and the AAP will identify specific sites to accommodate the broad distribution of housing and that a sequential approach will be undertaken, with priority given to previously developed land within the physical limits of settlements. The justification for this policy, in paragraph 5.63, states that housing in the District will be focussed in Lowestoft, *“having a commensurate range of services and facilities, employment, public transport and opportunities for development on previously developed land”*. However, as set out above, these development opportunities could be compromised if the transport network is not able to support the anticipated level of growth.
- 8.4.12 The Site Specific Allocations Document does not allocate any sites in the immediate vicinity of the application site for large numbers of new homes, as this is set out in the AAP, however, it notes in paragraph 2.9 that traffic congestion is an issue in the town and managing the movement of people across the town in a sustainable way is a challenge. In Paragraph 2.30 reference is made to the AAP identifying a potential route for a third road crossing of Lake Lothing.
- 8.4.13 Policy HC1 (Housing in the AAP Area) of the AAP notes that approximately 1,500 homes will be built in the AAP area alone by 2025. This level of housing growth will add significantly to the pressure on the transport network in and around the AAP area. The delivery of the Scheme will support the deliverability of the additional housing as set out above.
- 8.4.14 The Waveney Final Draft Local Plan sets out that 56% of new housing growth will be in the Lowestoft area (defined as Lowestoft, Carlton Colville, Corton, Gisleham, Oulton and Oulton Broad) over the period 2014-2036. This equates to 5,206 new homes. The Scheme will also provide better links to the town centre and other facilities on the north side of Lake Lothing, especially in terms of walking and cycling. This is particularly the case for the Jeld Wen site where an access road is being provided linking Waveney Drive to Riverside Road.

Economic growth

- 8.4.15 Policy CS05 (Lake Lothing and Outer Harbour Area Action Plan) of the Core Strategy sought the production of an AAP covering the Lake Lothing and Outer Harbour area, focusing on employment-led regeneration. Within the policy and its justification, there is support for the provision of the Scheme. Policy CS05, on page 29 of the Core Strategy, sets out the objectives of the AAP, which includes the need for *“better connections between the communities north and south of Lake Lothing”*. In addition, the justification at Paragraph 5.24 states that *“innovative ways of funding and delivering the Area Action Plan will be sought, in particular to achieve long held ambitions for a third crossing of Lake Lothing, as a means of improving connections between communities”*.
- 8.4.16 A number of policies within the AAP relate to the economic growth and regeneration within the AAP area, including: Policy EMP1 (Employment Sites) which seeks to

protect and enhance employment sites as identified on the Proposals Map; Policy EMP2 (Energy Business Centre) which states on page 29 of the AAP that the *“Lake Lothing and Outer Harbour area will become a hub for a complementary mix of energy sector activities”*; Policy EMP4 (Port Activities) which seeks to protect and enhance existing port activities through development; and Policy RLT1 (Town Centre Expansion and Retail within the AAP Area) which seeks to expand the town centre and facilitate the redevelopment of the Peto Square strategic site as identified on the Proposals Map.

- 8.4.17 Policy EMP4 on page 31 of the AAP states that *“New development next to or opposite port areas should ensure potential conflicts are mitigated through the layout, use and environmental credentials of new buildings. Developers in areas adjacent to port operations will be expected to work with port operators to ensure that potential conflicting uses are addressed ahead of any application for planning permission”*. Impact on the Port is addressed in summary in Section 7.6 of this document and fully in Chapter 15 of the ES. Ongoing discussions have been undertaken through the Navigation Working Group (attended by ABP) which has helped informed mitigation measures set out in the ES, including the provision of a pontoon for recreational craft.
- 8.4.18 Policy CS07 (Employment) of the Core Strategy promotes Lake Lothing and the Outer Harbour area to be developed as a major strategic employment site, through the AAP (on page 34), *“in support of port development, employment-led regeneration and economic diversification”*. A number of policies in the Core Strategy, Site Specific Allocations Document and the AAP identify particular sites within the area for commercial, industrial and mixed-use development:
- 8.4.19 Under Policy CS08 (Renewable Energy Cluster) of the Core Strategy, an area of around 8 hectares will be promoted in the Lake Lothing and Outer Harbour area of central Lowestoft to utilise and expand existing development associated with renewable energy and offshore engineering skills in the Ness Point and Outer Harbour area. This aligns with Policy CS09 (Knowledge Economy) which states that land will be allocated in the Lake Lothing and Outer Harbour area for the future needs of the knowledge economy, and Policy SSP1 (PowerPark) of the AAP which seeks that the 24.7ha site to the south of Ness Point will become the focus for the energy industry within Lowestoft.
- 8.4.20 Of particular relevance is Policy SSP3 (Kirkley Waterfront and Sustainable Urban Neighbourhood) of the AAP. This sets out the vision for the Kirkley Waterfront area which comprises 59.8 hectares of brownfield land on the south bank of Lake Lothing between the waterfront and Victoria Road / Waveney Drive, part of which forms the application site for the southern landing point of the bridge. This land is to be developed for a number of uses, including approximately 1,380 residential units and 12ha of reconfigured employment land. The policy advises that any development in this site must accord with a number of principles. On page 88 of the AAP, the policy specifically requires that *“xii. Development should not preclude a potential third crossing which could be constructed in the future and new vehicular routes should take into consideration potential for future widening”*. As noted by WDC in their Planning Committee Report providing a formal consultation response on the Scheme, (dated

10th October 2017), this in effect gives priority to the construction of the third crossing in this location over other potential development proposals. The Scheme is therefore supported by Policy SSP3. It is also noted that the separate access road proposed for the existing businesses would help deliver and support the development of other uses within the allocated site, including the former Jeld Wen site.

- 8.4.21 The Sustainable Urban Neighbourhood and Kirkley Waterfront Development Brief Supplementary Planning Document, adopted in May 2013, identifies land within the Order Limits for residential and employment uses. The document states at Paragraph A2.4 that a key consideration in the development of this area will be to ensure that *“future options for a third road crossing of Lake Lothing are not jeopardised”*. It has been noted in Section 3.7 of this document that there are two developments within the Kirkley Waterfront and Sustainable Urban Neighbourhood site that have been granted planning permission for residential and commercial uses but neither have been implemented. The Scheme would provide a direct link from the site to the north of the river, for all modes, thus supporting the vision of a sustainable neighbourhood.
- 8.4.22 On the northern side of Lake Lothing, Policy SSP9 (Peto Way / Denmark Road Corridor) of the AAP allocates approximately 3.1ha as priority relocation space for appropriate businesses that will be displaced by other strategic site proposals as set out in the AAP. The northern landing part of the bridge falls within that area. As noted by WDC in their consultation response, whilst the crossing would take some of the land allocated for B class uses, this land had previously been considered to be surplus to requirements when an appeal was allowed for a retail scheme (ref. DC/13/0110/OUT). The Scheme is therefore not considered to be in conflict with Policy SSP9.
- 8.4.23 Policy SSP2 (Peto Square and South Quay) of the AAP relates to areas both to the north and south of Lake Lothing. The policy supports a connection between the town centre, railway station and southern side of Lake Lothing through the expansion of town centre uses. The South Quay area would be developed and enhanced for commercial and port related uses with improved public realm. The policy states on page 79 that *“new development should contribute to improved pedestrian / cycle crossing over Lake Lothing as part of a new dedicated bridge or reconfigured bascule bridge”*. This is linked to Policy TML2 (Pedestrian and Cycle Network) of the AAP (see transport section below). In line with this, Policy CS10 of the Core Strategy also seeks to protect the vitality and viability of town centre uses. It is considered that the Scheme is supported by these policies, as it would improve connectivity between the town centre, railway station and the waterfront, therefore supporting the regeneration of the Peto Square site and the town centre.
- 8.4.24 The Scheme would improve the prospects of all of these sites by removing significant traffic from the A47 Bascule Bridge, improving accessibility to these areas and reducing the negative effects of traffic, such as congestion, severance and the associated negative perceptions of the public realm.
- 8.4.25 There are a number of smaller development sites including SSP6 and SSP7 which are in closer proximity to the Mutford Bridge, but the overall effect of the Scheme is to reduce traffic across both existing crossings and thus sites in proximity to either

existing crossing of Lake Lothing will benefit from the Scheme through improved accessibility.

- 8.4.26 Overarching emerging Policy WLP1.1 (Scale and Location of Growth) of the Waveney Local Plan Final Draft sets out what the Council seeks to achieve in the period 2014 to 2036, including the delivery of a minimum of 8,223 dwellings in Waveney, and the maximisation of opportunities for economic growth, with the aim of achieving a minimum of 5,000 additional jobs in Waveney. Under emerging Policy WLP1.4 (Infrastructure), the Council will seek to ensure the appropriate provision of infrastructure to support the growth sought under the plan. The third crossing is listed as one of the infrastructure schemes that the Council seeks to deliver.
- 8.4.27 Emerging Policy WLP2.1 (Central and Coastal Lowestoft Regeneration) on page 49 of the Final Draft Local Plan states that *“the Council will work with partners including Suffolk County Council, Lowestoft Town Council, Oulton Broad Parish Council, Associated British Ports, The Environment Agency, Network Rail, the Marine Management Organisation, landowners and local businesses to deliver the objectives for Central and Coastal Lowestoft and the specific objectives identified for the main themed opportunity areas”*.
- 8.4.28 Several emerging policies relate to the development of specific sites or areas, including WLP2.3 (Peto Square) which re-allocates the site at Peto Square for mixed use development including A1, A3, A4 and D2 uses, and emerging Policy WLP2.4 (Kirkley Waterfront and Sustainable Urban Neighbourhood), which re-allocates the nearly 60ha Kirkley Waterfront and Sustainable Urban Neighbourhood site for mixed use including residential development, employment development, a primary school, a playing field and local retail centre. The southern part of the Order Limits lie within this area. Further, the northern part of the Order Limits lie within the designated Inner Harbour Port Area. Emerging Policy WLP2.10 on page 65 of the Final Draft Local Plan states that
- *“Within the Inner Harbour Port Area land and buildings will be retained in port and other associated uses. Proposals involving the redevelopment or change of use of existing premises, to uses not related to the port will not be permitted.*
 - *New development within the Inner Harbour Port Area should ensure that appropriate technology, equipment, and business practices are utilised in order to minimise noise and other amenity issues.*
 - *New development on South Quay should include landscaping and public realm treatments which improve the appearance of this key gateway to the town centre.*
 - *New development next to or opposite the Inner Harbour Port Area should ensure potential conflicts are mitigated through the layout, use and environmental credentials of new buildings. Developers should liaise with port operators to ensure that potential conflicting uses are addressed prior to any application for planning permission”*.
- 8.4.29 In relation to the first part of the policy, the Scheme does not involve the redevelopment or change of use of existing premises within the Port. As a result of the Scheme, there is a loss in quay side storage and berth which is set out in summary in Section 7.6 of

this document and fully in Chapter 15 of the ES. However, since Policy WLP1.4 on infrastructure specifically commits WDC to working to ensure the timely delivery of the Scheme and it is identified in Appendix 1 as “*essential infrastructure*”, when the Final Plan is read as a whole it is clear that the restrictions of Policy WLP2.10 are not intended to apply to the delivery of the Scheme.

- 8.4.30 The second part of the policy refers to the use of appropriate technology, equipment and practices to minimise noise and amenity issues. Chapter 13 of the ES sets out an assessment of noise and vibration on noise sensitive receptors. This has concluded that during the construction phase noise effects can be mitigated through the adoption of Best Practicable Means and through hoardings around construction sites such that the majority of construction phase impacts would be minor, but with some chance of significant adverse effects, albeit that these would be temporary and short term. Environmental effects arising from construction will be mitigated and controlled through a CoCP. An Interim CoCP accompanies the ES at Appendix 5A which sets out the context and underlying principles of environmental management for the Scheme that the Contractor will be required to develop in a full CoCP, as required by the DCO. The Interim CoCP also sets out the details of, or references to, the construction phase mitigation measures for each relevant environmental topic assessed in the ES, and for which the CoCP will be the principal delivery mechanism.
- 8.4.31 The implementation of the full CoCP will therefore seek to ensure that any impacts on noise and amenity are minimised. Compliance with the terms of the Interim CoCP is secured through the DCO.
- 8.4.32 The third part of the policy relates to landscaping and public realm. The opportunity to accommodate landscaping and public realm design on the southern approach is limited due to the surrounding land uses and lack of space. However, trees are proposed in the in the area of the Durban Road closure and along the new access road through the former Jeld Wen site. These measures would improve the appearance of this gateway area into Lowestoft.
- 8.4.33 The fourth part of the policy relates to new development next to or opposite the port area. As a result of the Scheme there is a loss quay side storage and berth which is discussed in greater detail in Chapter 15 of the ES. Ongoing discussions have been undertaken through the Navigation Working Group (attended by ABP) which has helped informed mitigation measures set out in the ES, including the provision of a pontoon for recreational craft. As set out with the first part of the policy, this policy should be read in the context of the Final Plan as a whole.

Transport

- 8.4.34 Policy CS15 (Sustainable Transport) of the Core Strategy identifies the transport infrastructure required to meet the aims of the Core Strategy. It states on page 48 that “*the District Council will continue to promote the creation of a third road crossing of Lake Lothing, as an integral part of dealing with transport problems and issues in Lowestoft and the sub-region. This proposal will be pursued through the Area Action*

Plan". The Scheme is therefore explicitly supported by the Core Strategy, in particular Policy CS15 and the policies contained within the AAP, set out below.

- 8.4.35 Policy TML1 (Sustainable Transport) on page 49 of the AAP aims that *"within the AAP area development and transport will be planned in order to reduce the need to travel by car and provide a comprehensive network for cyclists, pedestrians and public transport that covers the entire AAP area, with strong linkages to other parts of the town and sub-region"*. Under this policy, transport assessments would be required for major development in the AAP area. Further, Policy TML2 (Pedestrian and Cycle Network) of the AAP seeks the provision and support of a comprehensive network for pedestrians and cyclists that covers the AAP area. The Scheme contributes to the improvement of the pedestrian and cycle network sought under the AAP as the Scheme provides footways and cycle tracks for pedestrians and cyclists which are linked to existing networks. Furthermore, crossing points are incorporated into the Scheme that allow both pedestrians and cyclists to cross Denmark Road, Peto Way, Waveney Drive and Rotterdam Road. It is noted that high-quality provision for pedestrians and cyclists was a main consideration when choosing a bridge rather than a tunnel solution.
- 8.4.36 Policy TML5 (New Streets and Vehicular Routes) of the AAP seeks to facilitate a series of planned road improvements that are required within the AAP area, dependent on securing the appropriate level of funding. The justification to this policy, paragraph 3.5.22, states: *"As a long-term ambition for the town a third crossing has been identified to provide a further vehicular connection across Lake Lothing. This is expected to come forward beyond the AAP plan period and will be subject to further feasibility work by the highways authorities. However, it will be expected that developers will work with the Council to ensure that proposals will not restrict the future potential for a new road crossing"*. This policy supports the implementation of the Scheme.
- 8.4.37 Emerging Policy WLP8.21 (Sustainable Transport) on page 229 of the Final Draft Local Plan seeks that *"development proposals should be designed from the outset to incorporate measures that will encourage people to travel using non-car modes to access home, employment, services and facilities"*. The emerging policy goes on to state that development will be supported where, amongst other criteria, *"it is well integrated into and enhances the existing cycle network including the safe design and layout of new routes"*, *"it is well integrated into and enhances the existing pedestrian routes and the public rights of way network"* and that *"developments should connect into the existing pedestrian and cycle network. Where possible, proposals are to include measures set out in the Waveney Cycle Strategy (2016 and subsequent updates) and demonstrate they have considered how the scheme will encourage people to walk and cycle to access services and facilities where practical"*. As set out above, provision for both pedestrians and cyclists forms an integral part of the Scheme, with footways and cycle paths linking into existing networks.

Design, conservation, amenity and sustainability

- 8.4.38 Policy CS02 (High Quality and Sustainable Design) on page 24 of the Core Strategy requires that development proposals *"demonstrate a high quality and sustainable design that positively improves the character, appearance and environmental quality*

of an area and the way it functions". It is stated that proposals should, amongst other criteria, create places and spaces for people, reflect local character and distinctiveness, protect local amenity and create safe, healthy and accessible environments. In line with Policy CS02, Policy DM02 (Design Principles) of the Development Management Policies Document seeks to achieve design that is sympathetic to the site and its surroundings. The policy lists a number of criteria that development proposals should achieve, including the protection of amenity from impacts such as noise and loss of outlook. Policy EHC1 (Design in the AAP Area) on page 40 of the AAP seeks to achieve the *"highest standard of design in all new development in accordance with the principles set out in policy DM02 in the Waveney Development Management Policies Document DPD"*.

- 8.4.39 The Scheme has been considered by CABE (refer to Paragraph 7.3.35 of this document) who were supportive of the design. Furthermore, in its report to committee following the consultation period, WDC states at Paragraph 10.19, *"the Principal Design and Conservation Officer has been closely involved in the evolving design of the bridge and is in agreement with the theme of 'Marine Tech' from which the design concept of the bridge is derived and which is considered to be of such distinctive design and appearance that it shall add positively to its immediate and wider setting and to the surrounding townscape"*. SCC in their report to committee were similarly positive, stating in paragraph 19 that *"the emerging design looks to represent the future of Lowestoft as one of the UK's key centres for off-shore renewable energy"*. In terms of other aspects of the Scheme the DR refers to the Draft Design Guidance Manual (application reference 7.6), secured by DCO requirement, which has been prepared and will be developed by the Applicant to ensure that expectations for contractor commitments in the detailed design process are clearly communicated and understood. The manual therefore provides a mechanism for safeguarding the principles of good design that are embedded within the reference design through detailed design and construction.
- 8.4.40 In terms of heritage and conservation, Policy CS17 (Built and Historic Environment) of the Core Strategy seeks to protect and enhance the built and historic environment in the District, and Policy DM30 (Protecting and Enhancing the Historic Environment) of the Development Management Policies Document seeks to preserve or enhance the character and appearance of Conservation Areas, and protect the architectural or historic interest of heritage assets. Policy EHC2 (Heritage Assets) of the AAP seeks that new development reflects, protects and enhances the historic character of Lowestoft. On page 263 of the Final Draft Local Plan, emerging Policy WLP8.37 (Historic Environment) seeks that *"proposals for development should conserve or enhance Heritage Assets and their settings"*. A Cultural Heritage assessment has been undertaken and is set out in Chapter 9 of the ES. The assessment concluded that the Scheme does not constitute a significant environmental effect in heritage terms. This outcome of this assessment is set out more fully in Paragraph 7.6.12 of this document.
- 8.4.41 With regard to landscape and open space considerations, Policy DM25 (Existing and Proposed Open Space) of the Development Management Policies Document requires that *"provision of new open space will need to ensure adequate public access and*

meet local quality standards". Policy DM27 (Protection of Landscape Character) states that "development should be informed by, and be sympathetic to, the distinctive character areas, strategic objectives and considerations identified in the Waveney District Landscape Character Assessment. Development proposals should demonstrate that their location, scale, design and materials will protect and where possible, enhance the special qualities and local distinctiveness of the area".

8.4.42 Emerging Policy WLP8.35 (Landscape Character) states that *"proposals for development should be informed by, and be sympathetic to, the distinctive character areas, strategic objectives and considerations identified in the Waveney District Landscape Character Assessment (2008), the Settlement Fringe Landscape Sensitivity Study (2016), the Broads Landscape Character Assessment (2006) and the Broads Landscape Sensitivity Study for Renewables and Infrastructure (2012)".* Emerging Policy WLP8.23 (Protection of Open Space) contains *"a presumption against any development that involves the loss of open space or community and recreation facilities".*

8.4.43 A Townscape and Visual Impact Assessment has been undertaken and is set out in Chapter 10 of the ES. Paragraph 10.3.2 of the ES sets out that reference has been made to the Waveney District Landscape Character Assessment. The assessment concludes there would not be significant adverse effects on the perception of townscape character associated with Lowestoft. It is noted in the LVIA chapter that for the purposes of assessment the definition of townscape should be taken as covering seascape and landscape. The Scheme therefore does not adversely affect the landscape character areas set out in the documents above. The Scheme does not lead to the loss of open space or community/ recreational facilities, rather it provides improved public realm in the area of the northern approach where seating and landscaped areas have also been provided. It should also be noted that provision of the Scheme provides greater accessibility to areas of open space, particularly Normanston Park, off Peto Way. Pedestrian journey times are greatly reduced with the Scheme in place making trips to such locations easier by foot and cycle.

8.4.44 Policy CS02 of the Core Strategy also contains a requirement for sustainable design and construction, which is reiterated in Policy WEW3 (Waste) of the AAP which notes that sustainable construction materials should be used in the AAP area. Sustainability is a key aspect in the Scheme design which can be demonstrated by the chosen option which, when compared to a traditionally design bascule bridge, has reduced in-water structures. Furthermore, mitigation for the Scheme seeks to re-use material to create hibernacula which would create habitat for reptiles. The DR, at Paragraphs 7.3.15-7.3.20, sets out the sustainability measures that are incorporated into the design which include the inclusion of sustainable drainage systems, biodiversity mitigation through the re-use of materials.

Ecology

8.4.45 Policy CS16 (Natural Environment) on page 50 of the Core Strategy seeks to protect and enhance the natural and historic environment in the District and states *"Proposals for development are expected to retain and add to local distinctiveness, retain tranquillity, avoid fragmentation of habitats and seek to enhance wildlife corridors and*

networks". Specifically, Policy DM29 (Protection of Biodiversity and Geodiversity) on page 43 of the Development Management Policies Document states that "development proposals that would cause a direct or indirect adverse effect on locally recognised sites of biodiversity and geodiversity importance, including County Wildlife Sites, Local Nature Reserves, Roadside Nature Reserves and regionally important Geological/ Geomorphological Sites (as indicated on the Proposals Map) or protected species will not be permitted unless:

- The benefits of the development clearly outweigh the impacts on the features of the site and the wider network of natural habitats, and;*
- Prevention, mitigation and compensation measures are provided".*

8.4.46 In line with this, Policy EHC4 (Design for Biodiversity and Habitats) on page 45 of the AAP seeks to *"protect and enhance European sites, county wildlife sites and local nature reserves within and adjacent to the AAP area"*.

8.4.47 Emerging Policy WLP8.34 (Biodiversity and Geodiversity) on page 256 of the Final Draft Local Plan states that *"development will be supported where it can be demonstrated that it maintains, restores or enhances the existing green infrastructure network and positively contributes towards biodiversity through the creation of new green infrastructure and improvement to linkages between habitats"*.

8.4.48 The Scheme makes provision for increased biodiversity at the northern approach which offers an opportunity for enhancement through the use of varied planting, pond systems and habitat interventions, as set out in the Landscaping Plans (document reference 2.8), which are secured through the DCO. A biodiversity assessment has been undertaken as part of the ES, at Chapter 11, which has concluded that there are no likely effects on European sites, County Wildlife Sites ("CWS") (apart from Kirkley Ham CWS) or local nature reserves as a result of the Scheme.

8.4.49 In terms of Kirkley Ham CWS, paragraphs 11.5.8 to 11.5.11 of the ES set out that due to an increase in traffic on the A12 Tom Crisp Way, air quality modelling has identified that nitrogen deposition above the critical load at this site is considered to be a moderate impact due to the permanent impact upon a site of County value. Applying professional judgement and the precautionary principle, this is a significant adverse effect upon this CWS. Mitigation has been discounted due to being unfeasible and unproportional in nature. In this instance, the benefits of the Scheme, which delivers an essential piece of infrastructure in Lowestoft that reduces congestion and delivers journey time savings and improved reliability on the SRN and as a result benefits other parts of the highway network in Lowestoft as well as enabling businesses at the Port and in the Enterprise Zone to operate more effectively and efficiently, outweigh the impact on this site.

8.4.50 It should also be noted that within the Order Limits are the last few metres and outfall of the Kirkley Stream, a highly sensitive watercourse, into Kirkley Ham. However, no works are proposed which would adversely affect this watercourse.

Flood risk

8.4.51 Policy CS03 (Flooding and Coastal Erosion) on page 25 of the Core Strategy notes that development that would increase the risk of flooding or coastal erosion will not be permitted and Flood Risk Assessments will be required for appropriate developments. Policy FRM1 (Flood Risk and Emergency Planning) of the AAP states that all development within the AAP will require a site-specific Flood Risk Assessment. Emerging Policy WLP8.24 (Flood Risk) on page 236 of the Final Draft Local Plan requires that development proposals “consider flooding from all sources and take into account climate change”. See Paragraphs 7.3.46 - 7.3.47 of this document. A FRA has been undertaken and is located at Appendix 18A of the ES. The FRA is referred to earlier in this document at Paragraphs 7.3.46 to 7.3.47.

Archaeology

8.4.52 Policy DM31 (Archaeological Sites) of the Development Management Policies Document requires a full archaeological assessment for development proposals for areas of known or suspected archaeological importance. Under emerging Policy WLP8.40 (Archaeology), a full archaeological assessment must be included with any planning application affecting areas of known or suspected archaeological importance to ensure that provision is made for the preservation of important archaeological remains.

8.4.53 Chapter 9 of the ES sets out a heritage assessment which considers archaeology. This states that a programme of geoarchaeological assessment and analysis of continuous borehole samples has been agreed with Heritage England as a requirement to the DCO. The geoarchaeological work will be completed in accordance with the Written Scheme of Investigation for Future Evaluation and Mitigation which is set out at Appendix 9F of the ES. Some intrusive investigation has already been undertaken and has informed the heritage assessment. Future work will be undertaken in accordance with the Written Scheme of Investigation.

Summary

8.4.54 Local planning policy is supportive of the delivery the Scheme and it has been demonstrated that the assessments undertaken as part of the ES address the relevant points raised in the policies themselves.

8.5 Local Plan for the Broads, Publication Version, 2017

8.5.1 The Broads Plan is the strategic management plan for the Broads. It sets out a long-term vision for the Broads and guides partnership actions to benefit the local environment, communities and visitors. As a high-level document, the Broads Plan integrates and guides a wide range of strategies, programmes and policies relevant to the Broads, and is reviewed and updated on a regular basis. The Broads Authority provided a response to the consultation which expressed general support for the Scheme and confirmation that the 12m air draft is acceptable to them as a Navigation Authority for the Broads.

8.6 Suffolk Local Transport Plan and Rights of Way Improvement Plan

8.6.1 The Suffolk Local Transport Plan 2011-2031 Part 1 – Transport Strategy and Part 2 –

Implementation Plan (“the SLTP”) is supportive of the provision of a third river crossing for motorised traffic at Lowestoft, considering this a key improvement that the County Council would work with Highways England to achieve.

- 8.6.2 Part 1 of the SLTP acknowledges the pressure that growth in and around Lowestoft will place on the existing transport networks, and that without additional measures, these will result in greater levels of congestion and journey delays (page 25). On page 36 it states that the third river crossing is one of the key improvements that the Applicant will be working on with the Highways Agency (now Highways England).
- 8.6.3 Part 2 of the SLTP contains the transport strategy for Lowestoft, which seeks to reduce demand for car travel, achieve an efficient use of transport networks and improve infrastructure. It sets out on page 15 that *“throughout the plan period we will also be investigating opportunities that may arise to take forward larger scale infrastructure projects. This will include completion of the Northern Spine Road and better access to development land south of Lake Lothing. The county council will also continue to support the Highways Agency in developing and securing funding in the longer term for a third river crossing of Lake Lothing for motorised traffic. We recognise that the Highways Agency does not have any current proposal to provide a bridge. We also recognise the need to support the future viability of the Port of Lowestoft and to avoid blighting future development opportunities in the port area”*. Impact on the Port is addressed in this document at Paragraph 7.6.33 – 7.6.38. Further to this, it is well documented in the Government’s Industrial Strategy and Ports Connectivity study that modern and accessible infrastructure is essential to future economic growth and prosperity. The reduction in congestion, improved journey times and journey time reliability that the Scheme delivers will benefit Port operations overall.
- 8.6.4 In relation to future development opportunities, ABP has recently unveiled a vision for a 13-acre development site, to the west of the Scheme, based on the Port of Lowestoft being the East of England’s energy hub. It should be noted that access to this area will not be impeded once the Scheme is operational as the bridge will open on demand for commercial vessels. Furthermore, the crew transfer boats associated with offshore windfarms are not of a height that would require the Scheme Bascule Bridge to open and could travel unimpeded to the west of the Scheme.
- 8.6.5 The Applicant has worked with ABP to minimise the impact on the Port through construction and operation of the Scheme to ensure the ongoing successful and efficient operation of the Port, and support the Port in fulfilling its future growth potential by providing much better transport links to and from the Port facilities.
- 8.6.6 The Scheme is considered to be fully supported by the provisions of the SLTP, being explicitly listed as one of the key improvements sought for the area.
- 8.6.7 The SLTP also integrates the Rights of Way Improvement Plan 2006 – 2016, which contains six objectives for a better signed, maintained, accessible, safe and more continuous network, as well as better community involvement in improving and managing the network, and better information and understanding of the network. No public rights of way are affected by the Scheme.

8.7 Suffolk Waste and Minerals Core Strategies and Emerging Minerals and Waste Local Plan

- 8.7.1** SCC's Waste Core Strategy was adopted in March 2011. It contains policies for new waste management facilities and sites in the county. The Scheme would not impact on the development of any facilities or the sites identified in Appendix 1 of the Core Strategy.
- 8.7.2** The Suffolk Minerals Core Strategy was adopted in September 2008 and sets out the key elements of the minerals planning framework for the County. Inset Map P5 identifies an area of safeguarded wharf on the northern quay of the Port which, although in close proximity to the Scheme, would not be affected either now or in the future and lies outside of the Order Limits. An area of quay side storage and 60m of berthing space is lost as a result of the Scheme but this is not within the safeguarded area.
- 8.7.3** In July 2016, SCC's Cabinet agreed to create a combined Minerals and Waste Local Plan. This new plan will detail policies for minerals and waste, and set out locations for the potential development of minerals sites (such as sand or gravel pits) and waste sites (such as recycling plants or landfill sites) in the county. A pre-submission consultation is scheduled to be undertaken from 11 June 2018 to 23 July 2018 if this is agreed by SCC's Cabinet. SCC, in its response to the Scheme public consultation commented that the preparation of an Interim CoCP to identify suitable mitigation measures in line with the waste hierarchy as set out in the PEIR is welcome. An Interim CoCP accompanies the ES which provides clear requirements for the Contractor and includes the mechanism for the development and approval of the 'full CoCP' that the Contractor would be responsible for. Compliance with the terms of the Interim CoCP is secured through the DCO. The Interim CoCP is located in Appendix 5A of the ES.

8.8 Suffolk Flood Risk Management Strategy

- 8.8.1** This document focuses on local flooding from surface water, groundwater or ordinary watercourses such as streams and ditches. Its aim is to reduce the risk of flooding and damage that flooding causes. The strategy does not contain specific policies, however, it sets a number of objectives and actions for achieving its aim, including objective 3 on page 48 which seeks *"to prevent an increase in flood risk as a result of development by preventing additional water entering existing drainage systems wherever possible"*. This is to be achieved by (amongst other actions) ensuring that *"planning decisions are based on up-to-date information about all flood risks and that there is a consistent approach to surface water management in new development as a result of Planning Authorities consulting with the LLFA on surface water drainage matters"*.
- 8.8.2** A FRA has been undertaken and is located at Appendix 18A of the ES. The FRA is referred to earlier in this document at Paragraphs 7.3.46 to 7.3.47. It should also be noted that the Lowestoft Tidal Barrier is a notable project being undertaken to address flood risk. This project has been taken into account in the cumulative assessment in the ES.
- 8.8.3** The drainage strategy for the Scheme has been designed in accordance with the principles of Sustainable Drainage water management solutions and ties in with the

landscaping strategy where appropriate. Drainage arrangements for the new carriageway are anticipated to consist of combined kerb drainage units and kerb and gulley arrangements. Details of the strategy to address surface water management are set out in the Drainage Strategy at Appendix 18B of the ES.

8.9 Suffolk Nature Strategy

8.9.1 This strategy has been published by SCC, Suffolk Wildlife Trust, the Royal Society for the Protection of Birds and the National Trust with advice from the Environment Agency and the Forestry Commission. It sets out the natural environment priorities for Suffolk and how the landscapes and wildlife in Suffolk contribute to economic growth, health and wellbeing. The strategy makes a number of recommendations, including the following, which are considered of particular relevance to the Scheme:

- Recommendation 5: In line with the National Planning Policy Framework, developers should include design elements that protect and enhance wildlife within new developments. Plans should complement and enhance wider ecological networks, such as actively supporting the management and design of existing and new green spaces.
- Recommendation 6: Public authorities should proactively engage with environmental organisations, voluntary groups, developers, businesses and Parish Councils with regards to supporting and delivering wildlife-friendly and sustainable open space management. Further Local Nature Reserves should be designated, in both urban and rural areas, as appropriate.
- Recommendation 12: The implementation of the East Area Marine Plan must take a balanced approach to the use of our seas, particularly in terms of our marine environment and seascapes.
- Recommendation 20: Where possible, Sustainable Urban and Rural Drainage schemes (SuDS) should be designed to maximise wildlife and landscape potential.
- Recommendation 22: Biodiversity offsetting must follow Government guidelines and the mitigation hierarchy, set out in the National Planning Policy Framework. Offsetting should only occur when all steps to avoid and mitigate impacts have been exhausted and should not be seen as a licence to damage sites where less damaging alternatives exist. Offsetting should not apply to internationally or nationally designated sites.
- Recommendation 28: Suffolk County Council should seek opportunities to improve the connectivity of the public access network and the development and improvement of the public rights of way network.

8.9.2 The Scheme would include hard and soft landscaping which is fully integrated into the wider townscape and is secured through the DCO. The landscape and public realm has been designed to soften the connection between the Scheme and the surrounding local area. The northern approach area includes public space and planted drainage ponds to capture surface run-off and increase biodiversity.

8.10 Summary

- 8.10.1 Set out above is an assessment of local planning policy, including the adopted Core Strategy, AAP and emerging policy set out in the Waveney Final Draft Local Plan. It has been demonstrated that the Scheme is in compliance with each of these documents, notably the emerging plan where the level of growth within it has been determined with the assumption of the Scheme in place.

9 Anticipated Benefits and Disbenefits of the Scheme

9.1 Overview

- 9.1.1 A consideration of the balance of benefits and disbenefits of the Scheme is set out below. This is in recognition of the decision making framework set out in section 104 of the PA 2008. Section 104 requires that the Scheme be in accordance with the relevant NPS, which has been demonstrated in Section 7 of this document. Under section 104, the SoS must also have regard to the appropriate marine policy documents, any local impact report, any matters prescribed in relation to development of the description to which the application relates, and any other matters which the SoS thinks are both important and relevant to their decision. These have been addressed in Sections 7 and 8.
- 9.1.2 Compliance of the Scheme with the NPS is required except to the extent that one or more of subsections (4) to (8) of section 104 of the PA 2008 applies. In the case of the Scheme, there are no circumstances which would require the application for development consent to be determined otherwise than in accordance with the relevant NPS. The relevant NPS is the NNNPS which *“has effect in relation to development of the description to which the application relates”* (section 74 (1) of the PA2008).
- 9.1.3 Deciding the application in accordance with the relevant NPS would not lead to the United Kingdom being in breach of any of its international obligations (subsection 4), or any duty imposed on it under any enactment (subsection 5). The Applicant has also fulfilled its legal obligations in relation to provision of an EIA, WFD assessment and HRA.
- 9.1.4 It would not be unlawful by virtue of any enactment to decide the application in accordance with the relevant NPS (subsection 6).
- 9.1.5 Subsection 7 of section 104 of the PA 2008 applies if the SoS is satisfied that the adverse impact of the proposed development would outweigh its benefits. The anticipated disbenefits and benefits of the Scheme are summarised in sections 9.2 and 9.3 below. It is considered that there are no relevant adverse impacts or disbenefits sufficient to outweigh the likely benefits of the Scheme.
- 9.1.6 Finally, subsection 8 of section 104 applies if the SoS is satisfied that any condition prescribed for deciding an application otherwise than in accordance with a NPS is met. It is not considered that any condition would require the application to be decided otherwise than in accordance with the relevant NPS.
- 9.1.7 According to Paragraph 4.3 of the NNNPS, in considering any development, and in particular, when weighing its adverse impacts against its benefits, PINS and the SoS should take into account:
- *“its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long-term or wider benefits; and*

- *its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts”.*

9.1.8 Paragraph 4.4 of the NNNPS states that in this context, environmental, safety, social and economic benefits and adverse impacts, should be considered at national, regional and local levels.

9.2 Scheme Benefits

9.2.1 The benefits of the Scheme are the fulfilment of the Scheme objectives:

- *To open up opportunities for regeneration and development in Lowestoft.* Access to regeneration sites in Lowestoft has been improved by the Scheme since it will reduce congestion as well as improve journey times and journey time reliability across the network, including the SRN. This will benefit the sites identified in the AAP for development and sites included as part of the Great Yarmouth and Lowestoft Enterprise Zone. Overall, the infrastructure improvements will significantly enhance Lowestoft’s growing role in the energy sector.
- *To provide the capacity needed to accommodate planned growth.* The transport modelling undertaken demonstrates that with the Scheme in place, additional road capacity is provided that will accommodate planned growth. Furthermore, by reducing existing congestion in the network, future businesses and commuters are able to reduce their travel time and benefit from improved route choice and general accessibility.
- *To reduce community severance between north and south Lowestoft.* The Scheme greatly improves connectivity for all modes of transport between communities either side of Lake Lothing by providing the third crossing. The isochrones set out in Appendix J of the TA show that there is a greater level of accessibility for the communities living north and south of Lake Lothing. Paragraph 11.4 of the TA sets out that “*The Scheme can be seen to put an additional 2,884 people within walking distance and 6,942 people within cycling distance of the northern employment zone. For the southern employment zone, the Scheme can be seen to enable an additional 2,580 pedestrians and 2,212 cyclists to access the zone on foot / by bike. This analysis clearly highlights the improved pedestrian and cyclist connectivity and reduced severance as a result of the Scheme*”.
- *To reduce congestion and delay on the existing bridges over Lake Lothing.* It has been demonstrated in Section 5 that construction of the Scheme will reduce congestion as well as improve journey times and journey time reliability across the network, including the SRN. This delivers benefits to local business, including the Port, the local community and tourists and visitors to Lowestoft.
- *To reduce congestion in the town centre and improve accessibility.* Congestion in the town centre is reduced as a result of the Scheme and there will be a significant improvement to the operation of the A47 Waveney Road / Station Square / Commercial Road signalised junction which will improve accessibility.

Furthermore, improvements to the highway network in Lowestoft through implementation of the Scheme also has benefits for the town centre as the re-assignment of traffic onto alternative routes presents opportunities to improve the town centre and public realm where traffic volumes are reduced.

- *To encourage more people to walk and cycle, and reduce conflict between cyclists, pedestrians and other traffic.* The Scheme delivers significant journey time savings for pedestrians and cyclists that are making north south journeys. See Table 5-5 in this document.
- *To improve bus journey times and reliability.* The key benefits of the Scheme, a reduction in congestion, improved journey times and journey time reliability across the network benefit all modes, including buses. As set out in Section 5 of this document, improvements to the local road network provide an opportunity for bus operators to provide additional or alternative bus routes in the future, to take advantage of the increased connectivity between north and south Lowestoft.
- *To reduce accidents.* A COBALT assessment has been undertaken that shows a reduction in the number of accidents and the number of casualties over a 60-year period. The economic benefit of the accident savings has been calculated to be £21.930 million over the 60-year appraisal period.

9.2.2 In addition to the benefits set out above, the Scheme also delivers:

- An iconic bridge design, developed with a ‘marine tech’ concept which references both Lowestoft’s past as well as its growing role in the energy sector.
- A high quality public realm, additional public space and landscaping.
- Benefits to the Port, and their customers and supply chain, as a result of a reduction in congestion, improved journey times and journey time reliability. This is recognised in the Ports Connectivity study which states that *“if our ports are to continue to thrive then the national, regional and local infrastructure supporting them has to be effective and efficient”*.

9.2.3 At paragraph 7.9.7, the TA states that *“overall, the scheme provides significant benefits by improving journey time and link speeds, and reducing congestion on the key route corridors through the town”*. The reduced journey times will in turn have a beneficial effect on businesses and local residents, boosting the local economy and achieving the aims and objectives of the Scheme.

9.3 Wider Benefits

9.3.1 The Scheme also deliver wider benefits. The methodology used to calculate ‘wider benefits’ is set out with WebTAG A2.1 and includes the following components:

- Agglomeration – the concentration of economic activity in an area can be improved by transport schemes as accessibility between businesses and workers is improved by reduced journey times, thus generating productivity benefits from the ‘closer’ proximity;

- Output change in imperfectly competitive markets – a reduction in transport costs (for business and freight) allows businesses to profitably increase their output (goods and services) that require the use of transport in their production; and
- Changes to tax revenues arising from labour market impacts (such as labour supply moving to more productive jobs) – the quality and efficiency of the transport network and infrastructure can affect the decisions of business about where to locate and work (as a result of travel costs impacting labour market decisions). Changes in transport cost can incentive individuals to work, the number choosing to work and thus the amount of labour supplied in the economy. The changes in tax revenues associated with these impacts are not captured within commuter user benefits.

9.3.2 Whilst all three types of benefits are likely to arise as a result of the Scheme in Lowestoft, as the lack of lake crossing points and bridge openings constrain the free and efficient movement of people and transport of goods, only output change in imperfectly competitive markets is captured and included within the Economic Reports (document reference 7.3).

9.3.3 WebTAG recommends these impacts are estimated using a simple 10% uplift applied to total user benefits for business.

9.3.4 The results of the wider impacts assessment set out in the Economics Report estimate the value of output change in imperfectly competitive markets is £9.659 million.

9.4 Economic Impacts

9.4.1 Scheme impacts have been assessed using the DfT's Transport Users Benefits Appraisal (TUBA) which assesses the economic impacts of transport schemes in accordance with WebTAG guidance. The outcome of the TUBA assessments estimates a net transport efficiency benefit of £412 million. The full economic appraisal for the Scheme is outlined within the Economics Report (document reference 7.3).

9.5 Anticipated disbenefits

9.5.1 The NNNPS recognises that national network infrastructure may result in adverse impacts, such as visual impacts, noise impacts or impacts on the natural environment. Some of these could occur as a result of the Scheme, however, this document and the ES demonstrate that the likely impacts have been minimised wherever possible, and other effects have been avoided through appropriate specification, design and siting. The anticipated disbenefits of the Scheme are set out below.

- Traffic may re-route to Rotterdam Road as a result of the Scheme. Rotterdam Road will be monitored by SCC following construction of the Scheme and improvements made if required.
- At the Port, there is a temporary loss of some quay and berthing space during construction and the permanent loss of a small area of operational land and berthing space when the Scheme is in operation. However, it has been demonstrated in Paragraphs 7.6.33-7.6.38 of this document that impacts on the

Port have been minimised and the ES has concluded that impacts are slight adverse and not significant.

- Some significant environmental disbenefits relating to construction and operational noise, effects of nitrogen deposition upon the Kirkley Ham County Wildlife Site, impacts upon recreational users of Lake Lothing and the loss of property through demolition as assessed and set out in the ES.

9.5.2 Notwithstanding the disbenefits identified, there is an overriding case for the Scheme which delivers reduced congestion as well as improved journey times and journey time reliability across the highway network, including the SRN. The relationship between the provision of essential infrastructure and economic growth is well documented, notably in the NNNPS, the Government's Industrial Strategy and in the Ports Connectivity Study and it is clear that the Scheme supports the economic growth ambitions of Lowestoft, locally and in the wider sub-region, particularly in the energy sector.

10 Conclusion

- 10.1.1 This document sets out the case for the Scheme which has shown that construction of the Scheme addresses both a transport and regeneration need. The need for the Scheme has arisen from congestion issues on the highway network in Lowestoft which are further exacerbated when either the A47 Bascule Bridge or the Mutford Bridge are raised to allow access for vessels into the inner harbour of the Port of Lowestoft. As a consequence, unreliable journey times present a challenge to Lowestoft's growing role in the energy sector, particularly in the delivery of consented NSIPs for offshore windfarms as well the delivery of sites in the Great Yarmouth and Lowestoft Enterprise Zone and the AAP.
- 10.1.2 It has been demonstrated how the Scheme meets the objectives that were set out in the OBC, how it complies with planning policy, as well as the benefits and disbenefits of the Scheme.
- 10.1.3 This provision of the Scheme reflects current Government strategy that recognises the relationship between the provision of essential infrastructure and economic growth which is well documented in the NNNPS, the Government's Industrial Strategy and in the Ports Connectivity Study. In conclusion, the Scheme delivers an essential piece of infrastructure in Lowestoft that reduces congestion and delivers journey time savings and improved reliability on the SRN and as a result benefits other parts of the highway network in Lowestoft as well as enabling businesses at the Port of Lowestoft and in the Enterprise Zone to operate more effectively and efficiently.