PINS – TR 030001

Planning Act 2008 and the Infrastructure Planning (Examination Procedure) Rules 2010

Application for proposed Able Marine Energy Park on the south bank of the River Humber, North Lincolnshire

Planning Inspectorate Reference No: TR030001

Objector Reference No: 10015525

Summary of Relevant Representations by

Associated British Ports (10015525)

1. **Introduction**

1.1 Associated British Ports (ABP) submits these summary representations in its capacity as an adjacent port operator, a statutory undertaker and an affected landowner. For the reasons summarised below, ABP objects to the application for development consent for the proposed AMEP.

1.2 ABP also objects to Able Humber Ports Limited's (Able) application for authorisation of compulsory purchase powers in respect of land in which ABP holds a relevant interest.

1.3 These objections are separate to those submitted by the Humber Harbour Master.

2. **Nationally Significant infrastructure Project (NSIP)**

2.1 The proposal assessed by Able in its environmental statement (ES) does not meet the statutory thresholds for an NSIP.

2.2 The NSIP which the ES assessed comprised a quay handling a very limited volume of specialised cargo (relating to wind turbines), such volume falling well beneath the statutory threshold.

2.3 The proposed wind turbine manufacturing facility does not constitute "associated development" for the new quay.

2.4 As the proposal does not comprise an NSIP, the application for development consent was invalid and should not have been accepted. Any Development Consent Order (DCO) subsequently granted would be unlawful.

3. **Draft DCO**

3.1 The draft DCO does not include sufficient controls over the proposed use of the new quay and back-land/associated development.

3.2 Defects identified to date include a failure to:-

(a) Specify the intended use for the new quay;

(b) Specify the purpose and extent of the 'associated development';

(c) Justify an extended period for completing the works, contrary to the model Order;

(d) Accurately identify the DCO boundary.

3.3 No adequate justification has been advanced for the disapplication of section 33 Harbours, Docks and Piers Clauses Act 1847.

3.4 The extent of the proposed works has not been properly defined. The works description has not been properly tied to the works plans and there is no obligation to construct the works within the specified limits of deviation. The DCO would grant consent to construct a development other than in accordance with the design drawings should the local planning authority consent. It expressly provides for the developer to return to the planning authority and obtain approval for alterations to the consented scheme. In this way the DCO would authorise construction of a materially different proposal to that in respect of which it had been granted, with no obligation to consult the public and seek the Secretary of State's approval.

3.5 Further concerns with the draft DCO will be provided later.

4. **The Project**

4.1 The project described in the ES cannot be reconciled with the project as defined in the draft DCO.

4.2 The ES assesses the construction of a new port for use in conjunction with an off-shore wind turbine manufacturing facility. The "*authorised development*", defined in Schedule 1 of the draft DCO, makes no reference to such use and contemplates the construction of a new port, unrestricted as to use, cargo type and throughput.

4.3 As that is the project for which authorisation is sought in the DCO then that is the project that should have been assessed - which is not the case.

4.4 If Able is genuinely seeking consent for a port facility for the manufacture of off-shore wind turbines then the draft DCO is fundamentally defective because it would authorise development much broader in scope than that detailed in the ES. In addition, should Able be intending to pursue a port facility of this restricted nature, then, as already noted, the incorrect procedure has been adopted, since such project would not qualify as a NSIP.

4.5 The exact nature of the project is a matter which must be identified with precision, bearing in mind the national and European nature conservation sites upon which it is accepted by Able that it would have a significant adverse effect.

4.6 The impact of the project on the operations of adjacent undertakings and landowners if the applicants propose to construct a general cargo port as opposed to an offshore wind turbine manufacturing facility cannot be assessed on the information and assessment work provided.

5. Planning Policy

5.1 The ES does not demonstrate compliance with extant and proposed national and local planning policy.

6. Ecology

6.1 The assessment of the impacts on ecological features is inadequate. Deficient information/analysis has been provided in respect of a number of issues including:

(a) European protected species (bats);

(b) Terrestrial invertebrate data;

(c) Up-to-date vascular plant data;

(d) Systematic evaluation of the ecological baseline value of the development site;

(e) Systematic assessment of ecological impacts.

6.2 The assessment of the terrestrial and marine ecological impacts does not comply with the requirements of the EIA Regulations, the Habitats Regulations or underlying European Directives.

7. Marine Impact

7.1 The application is of considerable concern to ABP as the statutory undertaker and operator of the Immingham and Grimsby Ports.

7.2 Concerns include:

(a) Inconsistency in the description of the berth/quay works throughout the ES, rendering it impossible to assess the actual impacts arising should the development be undertaken;

(b) The proposed works have neither been correctly reflected in the ES nor properly assessed;

(c) Modelling does not appear to have been undertaken on the proposed scheme for all component processes. The model analysis has apparently not included the impact on Immingham Outer Harbour;

(d) Deficiencies in the information provided regarding the analysis of aquatic ecological impacts;

(e) Inadequate detail in work undertaken in relation to fish.

7.3 Overall there are serious omissions and defects in data and consequent modelling which prevent proper examination and consideration.

8. **Highways/Road Transport**

8.1 Concerns arise in relation to highways, access points, traffic and road transport.

8.2 Specific concerns include:

(a) Significant adverse impacts on key road access to Immingham Port without adequate mitigation;

(b) The transport assessment and the ES transportation chapter include numerous inconsistencies and errors, such that no weight can be placed on the findings;

(c) Traffic modelling has failed to take into account HGV traffic, has assumed incorrect number of lanes on a key road and has not adequately assessed future growth at Immingham Port.

9. **Railway Transport**

9.1 The assessment is vague and ambiguous, giving little indication of what is proposed and why. Rail concerns are of particular importance to ABP because of Immingham Port's established use of the existing railway network, contributing 25% of the UK's rail freight (likely to increase with future cargo movements).

9.2 Concerns include:-

(a) Proposed compulsory acquisition of part of the railway within the ownership of Network Rail would restrict the future passage of commercial rail traffic serving the local industrial community and would jeopardise delivery of the "Killingholme Loop";

(b) Proposed compulsory purchase would frustrate ABP's project, under negotiation with Network Rail, to improve rail capacity at Immingham Port by means of the HIT headshunt;

(c) No consideration appears to have been given to potential future rail use and the detrimental impact on current and future rail users in consequence of the additional movements generated by the AMEP on an already congested local railway network.

9.3 There is almost complete lack of detail regarding rail use in support of the project, exacerbated by the poor project definition and ambiguous scope.

10. Compulsory Acquisition of Land

10.1 ABP owns the freehold of land identified on the Land Plan as being subject to compulsory acquisition. ABP objects to the compulsory acquisition of this land, which was acquired, and is required, for port use as part of ABP's statutory undertaking.

10.2 ABP further objects to the proposed compulsory acquisition of its leasehold interest, the freehold of which is held by the Crown Estate.

10.3 ABP further objects to the proposed compulsory acquisition of land over which it has the benefit of rights of way.

10.4 In addition, ABP objects to the proposed compulsory acquisition of land in the ownership of Network Rail affecting its property.

10.5 The proposals do not satisfy sections 122 & 123 Planning Act 2008, in that Able has demonstrated neither that the land referred to above is required for AMEP, nor that there is a compelling case in the public interest justifying compulsory acquisition.

10.6 Part of the ABP land which Able seek to compulsorily acquire comprises operational land held by it for the purposes of its statutory undertaking, such that it falls to be considered pursuant to section 127 Planning Act 2008. The Secretary of State has not, and indeed cannot rightly certify that the compulsory acquisition of the ABP land will not cause serious detriment to ABP's statutory undertaking, or that the land could be replaced without causing detriment.

10.7 ABP has firm proposals to develop the land referred to above, by constructing a deep water jetty served by a liquid storage facility, as identified in the draft Master Plan for the port. Able's proposal would frustrate this project.

Osborne Clarke on behalf of

Associated British Ports

PLANNING ACT 2008 AND THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

APPLICATION FOR THE PROPOSED ABLE MARINE ENERGY PARK ON THE SOUTH BANK OF THE RIVER HUMBER AT IMMINGHAM, NORTH LINCOLNSHIRE

PLANNING INSPECTORATE REFERENCE: TR030001

Unique Reference Number: 10015525

Written Representation of

Philip Rowell BA(Hons) DipTP MRTPI MCIHT

(Adams Hendry Consulting Ltd)

on behalf of

ASSOCIATED BRITISH PORTS

29 June 2012

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SECTION 1. PERSONAL BACKGROUND AND RELEVANT EXPERIENCE

1.1 My name is Philip Rowell. I have a Bachelor of Arts Degree (1996) in planning studies and a post graduate Diploma (1997) in planning from Oxford Brookes University. I am a member of the Royal Town Planning Institute (1999) and a member of the Chartered Institution of Highways & Transportation (2011). I am a Director in the firm of Adams Hendry Consulting Ltd, chartered Town Planners and Environmental Consultants.

1.2 In addition to my own experience, in producing this evidence I have called upon the wider body of experience available within Adams Hendry. This includes work undertaken for Port and Harbour Authorities other than for Associated British Ports (including the Port of London, Langstone Harbour, Salcombe, Littlehampton, Newhaven and Exeter) in relation to a variety of issues arising from their duties, responsibilities, commercial activities and environmental priorities. Our clients also include or have included commercial operators of marine terminals, boatyards, shipyards, marinas and wharves as well as conservation agencies.

1.3 Adams Hendry have particular experience of water resource and transport infrastructure planning. We advise various water companies on the planning aspects of significant improvements in water and wastewater infrastructure. In addition to port related transport infrastructure projects, Adams Hendry have been involved in light rapid transit proposals, heavy rail proposals and road proposals.

1.4 Adams Hendry is an Associate Assessor (Group 2) member of the Institute of Environmental Management and Assessment (IEMA) and a member of IEMA's 'EIA Quality Mark' scheme. I, along with my fellow Director Martin Hendry, take a leading role in directing Adams Hendry's approach to EIA work.

1.5 Since graduating in 1997 I have worked continuously in the field of town planning with Adams Hendry. The professional experience I have gained

over this period has been wide ranging. Much of this experience has been in the areas of strategic, coastal and transport planning.

1.6 Over the years, I have been instructed by Associated British Ports (ABP) in relation to a number of their port projects, and have gained considerable understanding of port operations. I am currently advising ABP on its proposed container port expansion in the Port of Southampton and on other planning matters relating to the future of the Port of Southampton, including a capital dredge.

1.7 Other transport infrastructure projects with which I have been involved include container port proposals at the Port of Hull for ABP, extensions to London Underground's East London Line for Transport for London, upgrades to Victoria Underground Station on behalf of London Underground Ltd, the Weymouth Relief Road on behalf of Dorset County Council and the Stoke Crossing Bridge on behalf of Medway Council. On all of these projects I have, in one form or another, provided advice in respect of EIA and ES issues.

1.8 I was appointed by ABP in September 2011 to advise them in relation to planning matters raised by ABLE's proposals. Adams Hendry's remuneration for my involvement in this matter, together with all colleagues involved, is solely on a time charged basis.

1.9 I have been assisted in the preparation of this written representation by members of the ABP project team, ABP's legal advisors and colleagues within Adams Hendry. The opinions and views expressed in this document are, however, my own. I believe that the facts stated in this representation are true and that the opinions expressed are correct.

SECTION 2. SUMMARY OF THE REPRESENTATION

2.1 The project which is *described in and is the subject of* the draft Development Consent Order (DCO) is a harbour facility unrestricted in any way as to the type of trade or cargo which can be handled. There is no requirement in the draft DCO that the use of the facility has to be for offshore energy purposes (let alone offshore wind energy purposes) nor indeed is there a requirement that it ever has to be used for that purpose.

2.2 The project being applied for is, in addition, a harbour facility limited and qualified in terms of normal open port duty/open trade requirements, being a facility which could be used for such specific port trade as Able see fit.

2.3 In respect of the potential elements of the project which are specifically identified in Schedule 1 to the DCO, the analysis undertaken demonstrates that they are ill-defined, both in terms of composition and location.

2.4 The Environmental Statement (ES) *describes* (in its development description sections) a facility that could be used from inception for a combination of offshore wind energy purposes, other (albeit non-defined) marine energy purposes and other (again undefined) non-marine energy purposes, and which then is likely to in the longer term be used as a working port importing and exporting goods – effectively a general cargo port.

2.5 The Environmental Statement (ES), however, *provides the data and subsequent assessment* of a facility used solely in connection with the manufacture and shipping of offshore wind turbines ('offshore wind energy').

2.6 Accordingly, the project that has been the subject of environmental assessment is not the project for which authorisation is sought, or even the project which the ES itself describes. Rather, the project the draft DCO would authorise is much broader in scope than the one assessed, having no material restriction as to the type of trade or cargo it could handle.

2.7 As a consequence, therefore, the ES submitted in support of the project must be viewed as fundamentally flawed. It does not meet the requirements of Directive 2011/92/EU (the consolidated EIA Directive) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (the EIA Regulations).

2.8 The project is one which would have an adverse effect on the integrity of European Nature Conservation sites. It is therefore necessary, before authorisation can be granted, for the authorising body to be satisfied that, amongst other things, there are no alternative solutions and that the project must be carried out for imperative reasons of overriding public interest.

2.9 Leaving aside other concerns with the information provided by the applicant that is claimed to address these requirements, the project which has been assessed by the applicant in respect of these matters is a facility used solely for offshore wind energy purposes. That is not the project for which authorisation is being sought. The information provided in respect of these requirements is therefore fundamentally flawed.

2.10 Furthermore, the project information which has been the subject of pre-application consultation, which Government guidance indicates is a vital aspect of the NSIP regime, does not reflect the project which has now been applied for. The pre-application consultation undertaken is therefore also fundamentally flawed.

2.11 If it were the intention that the project were to be somehow restricted to what has been environmentally assessed then a significant and fundamental problem arises. By virtue of such a restriction the harbour facility created would then be limited in its cargo handling ability to such an extent that it could not qualify as an NSIP.

2.12 If, however, contrary to this it were possible to somehow demonstrate satisfactorily that such a restricted project still fell to be determined as an

NSIP, the project would still face significant problems. The ES itself demonstrates that once the need to use the facility for offshore energy purposes has been satisfied, the facility would then be a working port used to import and export other goods not associated with marine energy purposes i.e. general cargo. The ES should therefore have considered the environmental effects of operating the facility created as a general port, when the prospect of that happening is clearly envisaged. At the very least therefore, in these circumstances, the consideration of the application must be suspended (in accordance with Regulation 17 of the EIA Regulations) until the data required has been assembled, subjected to formal assessment and consulted upon. However, in these circumstances, for reasons relating to the requirements of Habitats legislation and to pre-application consultation requirements, it is concluded that, in reality, the application as a whole cannot be considered further.

2.13 If it is not the intention that the project be restricted to that which has been assessed, justified and subjected to pre-application consultation then once again, at the very least, consideration of the application must be suspended (in accordance with Regulation 17 of the EIA Regulations) until the data required has been assembled, subjected to formal assessment and consulted upon. However, in these circumstances, for reasons relating to the requirements of Habitats legislation and to pre-application consultation requirements, it is once again concluded that, in reality, the application as a whole cannot be considered further.

SECTION 3. AN ANALYSIS OF THE PROPOSED PROJECT

3.1 Within this section of the representation I set out my understanding of what the project is for which the draft Development Consent Order (TR030001/APP/9) (the draft DCO) is sought.

3.2 Article 5 of the draft DCO makes clear that, subject to the provisions of the DCO and the requirements set out in Schedule 11 of the DCO, development consent would be granted for the 'authorised development' as defined to be carried out within the Order limits.

3.3 The 'authorised development' is defined in the interpretation section of the draft DCO, at Article 2, and consists of two main parts.

i. *"the development and associated development described in Schedule 1 (authorised development)"*
ii. *"and any other development authorised by this Order, being development within the meaning of section 32 of the 2008 Act."*

3.4 In the following paragraphs I discuss each of these constituent parts of the authorised development, including any proposed controlling provisions and requirements.

The development and associated development described in Schedule 1

3.5 Appendix 1 to this written representation provides an analysis of the various elements of authorised development listed in Schedule 1 of the draft DCO. What this analysis demonstrates is that the authorised development identified in Schedule 1 is ill-defined, both in terms of its composition and location. It also demonstrates that authorisation is being sought for elements of the development (which are undefined) outside of the order limits.

3.6 It is not in fact possible to understand with any certainty from the terms of the draft DCO what the authorised development described in Schedule 1 actually comprises.

3.7 The very limited information available as to what is actually proposed includes that which is shown on the design drawings. These drawings, however, are limited in that they only provide detail in respect of the quay wall, dredging and land reclamation elements of the development. Requirement 4 of Schedule 11 of the DCO requires the authorised development to be carried out in accordance with these drawings. This requirement, however, is subject to such variations as the local planning authority is prepared to make. I understand from those instructing me that the courts have concluded that the type of tail piece condition proposed through Requirement 4 is unlawful – see R (Warley) v. Wealden DC [2011] EWHC 2083 (Admin) and R (on the application of Midcounties Co-Operative Ltd) v Wyre Forest District Council [2009] EWHC 964 (Admin).

3.8 In addition to these deficiencies, which relate to the physical characteristics of the development, a further fundamental deficiency of note is that there is no restriction in the DCO itself on the use that can be made of the facility once constructed. There is no requirement that the use of the facility has to be for offshore energy purposes (let alone offshore wind energy purposes - the use which has seemingly been assessed) nor indeed is there a requirement that it ever has to be used for that purpose. I return to this issue below.

3.9 In this regard it is noted that in the ES (at paragraph 2.2.8) the statement is made that *"…the Development Consent Order (DCO) is expressed permissively (ie the whole development need not be built)…."*. This statement, however, simply underlines the fact that the draft DCO neither requires the facility created to be used for offshore energy purposes nor limits the use to that assessed.

3.10 In addition to the points raised above and in Appendix 1 to this representation, I do not see how facilities for the manufacture, assembly and storage of

offshore marine energy items are capable of constituting associated development for a quay/harbour NSIP development. Associated development has to, amongst other things, be subordinate to the NSIP that is the subject of the application – which in terms of this project has been identified by the applicant as a quay. It is not possible, however, for the applicant to proceed on the basis that such facilities are subordinate to the quay. On the contrary, it is the quay that is being provided to service these facilities and it is the quay, therefore, that is necessarily subordinate to these facilities. On that basis, it follows that the manufacture, assembly and storage of offshore marine energy items element cannot constitute associated development.

Any other development authorised by this Order, being development within the meaning of section 32 of the 2008 Act.

3.11 I have shown above that there is no restriction in the DCO on the use of the facility or any requirement for it to be used for a particular purpose. Against this background consideration is now given to what 'any other development authorised by this Order' could comprise.

3.12 Article 10(1) of the draft DCO allows the undertaker (which by reference to other parts of the draft DCO is Able Humber Ports Limited) within the wider area defined by the Order limits to,

> *"provide and operate such harbour facilities, together with works ancillary to those facilities, as may be necessary or convenient for the construction of the authorised development or the operation of the undertaking, and for this purpose the undertaker may construct and maintain roads, railway lines, buildings, sheds, offices, workshops, depots, walls, foundations, fences, gates, tanks, pumps, conduits, pipes, drains, wires, mains, cables, electrical substations, signals, conveyors, cranes, container handling equipment, lifts, hoists, lighting columns, weighbridges, stairs, ladders, stages, platforms, catwalks, equipment, machinery and appliances and such other works and conveniences as may be necessary or expedient".*

3.13 This, in reality, provides a completely unfettered scope for the construction and operation of any port development within the Order limits, regardless of purpose or use.

3.14 Furthermore, Article 50 of the draft DCO would result in all of the land included within the Order limits becoming operational land. As such ABLE, as a statutory undertaker once the DCO was authorised, would automatically benefit from permitted development rights granted by Part 17, Class B of the Town and Country Planning (General Permitted Development) Order 1995 (GPDO) in respect of dock, pier, harbour, water transport, canal or inland navigation undertakings across the whole of the land within the Order limits.

3.15 Although these rights are restricted (both through the general restrictions given in Article 3 of the GPDO and the specific restrictions and controls given in Part 17 of Class B) what the provision of these rights would allow is the ability to undertake general harbour development without the implementation of such use necessarily being subject to scrutiny by the public and relevant stakeholders. Before such privileges are granted, careful consideration needs to be given as to the implications, to ensure that full justification has been demonstrated.

3.16 The DCO, if granted, would therefore authorise general harbour development anywhere within the wide Order limits. This runs entirely contrary to the purpose of such instruments in that it must be the case that if approval for a given development is to be granted the decision maker must first be satisfied as to what it is actually approving.

3.17 Article 10(3) of the draft DCO is surprising. This seeks to specifically apply Part 11 and Part 17 GPDO rights. Part 11 of the GPDO grants planning consent for development specifically authorised by a local or private Act of Parliament, or by certain Parliamentary Orders. No such Acts or Parliamentary Orders currently apply, nor, as I understand it, would apply if the DCO were authorised to the land within the Order limits. There does not,

therefore, appear to be any purpose nor justification in trying to apply Part 11 of the GPDO to the land within the Order limits. Further, as Part 17 rights apply automatically once the land within the Order limits becomes operational land by virtue of Article 50, it is unclear as to what the purpose is in specifically trying to apply Part 17 of the GPDO to the land within the Order limits through Article 10(3).

3.18 Article 3 of the DCO would disapply section 33 of the Harbours, Docks and Piers Clauses Act 1847. Section 33 provides that:

"Upon payment of the rates made payable by this and the special Act (i.e. the Act which incorporates section 33) *and subject to the other provisions thereof, the harbour, dock and pier shall be open to all persons for the shipping and unshipping of goods and the embarking and landing of passengers."*

3.19 Section 33 is incorporated into the local legislation of nearly all significant commercial harbour authorities and is often referred to as the open port duty i.e. it ensures that the harbour is open to all for the purposes of shipping goods.

3.20 The draft explanatory memorandum accompanying the draft DCO (TR030001/APP/10) explains at paragraph 5.7 that the general right to use the harbour set out in Section 33 of the 1847 Act is substituted by Article 28 of the Order because the Harbour is to be used *"by the tenants of the onshore land rather than generally"*. The explanation given in respect of Article 28 (paragraph 8.14) indicates that this is to allow berths at the harbour to be allocated for the use of particular companies.

3.21 What is therefore proposed is a harbour facility which could be used for any port trade that Able determine as they see fit.

3.22 The purpose of specifically substituting Section 33 of the 1847 Act with Article 28 is, however, unclear and unsatisfactorily justified. Article 28 of the draft DCO would allow Able to *'set apart and appropriate any part of the harbour*

for the exclusive or preferential use and accommodation of any trade, person, vessel or goods or any class of trader, vessel or goods, subject to the payment of such charges and to such terms, conditions and regulations as the undertaker may think fit'. Without Section 33 the facility created would not be subject to the open port duty, meaning that the undertaker could set apart or appropriate any part of it irrespective of the specific provisions included in Article 28.

3.23 Article 28, however, further underlines the fact that, although Able's agreement would be needed, the DCO, in the terms as drafted, would permit an operator to use the constructed facility for any port trade.

3.24 In addition, it would be contrary to the general public interest and to ABP as neighbours, for Able to have the statutory authority defence in civil and criminal nuisance provided (I understand from those instruction me), if no contrary provision is made in the DCO, by Section 158 of the 2008 Planning Act. A contrary provision needs to be made in the DCO. Surprisingly, the submitted DCO seeks immunity even from statutory nuisances.

Conclusions on the definition of the "project"

3.25 In respect of those elements of the project which are specifically identified in Schedule 1 to the DCO, the analysis undertaken demonstrates that these are ill-defined and ambiguous, both in terms of composition and location.

3.26 The analysis above demonstrates that the project which has been applied for is a harbour facility unrestricted as to the type of trade or cargo which can be handled. There is no requirement within the DCO that the use of the facility has to be for offshore energy purposes (let alone offshore wind energy purposes) nor indeed is there a requirement that it ever has to be used for that purpose.

3.27 Furthermore, the harbour facility being applied for is one which would not be subject to the usual open port duty, for which no satisfactory justification has been given.

3.28 The inevitable conclusion that follows, namely that the draft DCO seeks authorisation for a harbour facility unrestricted as to the trade it can handle is supported by the NSIP Justification document (TR030001/APP/23c). This document makes it clear that it is only through handling bulk cargoes that it can be argued that the harbour facility meets the relevant criterion put forward by the applicant to qualify as an NSIP. If the use of the facility were restricted simply to offshore energy purposes the relevant NSIP criterion would not be met.

3.29 The conclusion reached that authorisation is being sought for a harbour facility unrestricted as to the trade it can handle is supported by evidence given at a recent hearing in the High Court. Extracts from the transcript of day 3 (20 July 2011) of the case between Humber Oil Terminal Trustees Limited and Associated British Ports in the Chancery Division of the High Court of England and Wales are reproduced at Appendix 3 to this representation. I have seen some of the transcripts of the case, and set out below are a number of extracts from the transcripts, detailing answers to questions put by Mr Justice Vos and Mr Christopher Nugee QC (Counsel for ABP) to Mr Paul Robson, Manager of Planning and Oil Movements at the Lyndsey Oil Refinery and Director of Humber Terminals Trustees Limited. In his answers Mr Robson states, amongst other things:

"…there's a new jetty being constructed, or will be constructed. Able UK is developing a large jetty facility …." (page 36 line 25 to page 37 line 2);

"We've already been in discussions with them [Able] *about equipping that jetty structure with oil pipelines and equipment"* (page 37 line 14 to 16);

"I attended one meeting with Able at which that was discussed [i.e. putting oil facilities on Able's proposed facility]. *And I was asked to give them details of the ship size, cargo size, draft* [sic] *depths, the mechanical details, if you like,*

of what shipping requirement would imply [sic] *so that they could study whether they would fit on their development and the like."* (page 44 line 23 to page 45 line 3);

"….., but we've definitely discussed with them their ability to add oil jetty facilities at the southern end near South Killingholme; …" (page 48 line 10 to 13); and

" …. I haven't seen their official planning permission …… but certainly in verbal discussions with them [Able]*, they were very open to the idea and asked for details of our shipping pattern and size and type."* (page 56 line 12 to 16).

3.30 Finally, the analysis demonstrates that in a number of respects the drafting of the DCO appears not to have been undertaken with the necessary rigour and care. Caution therefore needs to be taken in considering for what the draft DCO seeks authorisation.

SECTION 4. DISCONNECT BETWEEN THE PROJECT AND THE ASSESSMENT

4.1 In this section I examine the project that has been examined in the environmental statement and implications arising as a result.

Description of the Project given in the ES

4.2 In the previous section I have examined the project that would be authorised by the draft DCO. In the following paragraphs I examine the project as described in the ES.

4.3 Section 1.3 of the ES, which is entitled 'Brief Description Of The Project', splits the project into two parts – a harbour development and associated land development – both of which are indicated as being provided to serve the renewable energy sector (see paragraph 1.3.2).

4.4 In this section of the ES, the harbour element of the development is described as the quay and the creation of the land behind (paragraph 1.3.2). A summary of some of the associated landside development elements is then given in paragraphs 1.3.3 and 1.3.4 under the descriptions 'associated development' or 'ancillary matters'.

4.5 Paragraph 1.3.5 of the ES indicates that *"The facility* (which it is assumed has to be both the harbour development and the associated land development collectively) *will primarily serve the emerging renewable marine energy sector including offshore wind, tidal and wave energy generation ……"* (emphasis added). Later in the same paragraph it is indicated that *"the development*" (which again is assumed to be both the harbour development and the associated land development) will *"focus principally on offshore wind components at its commencement, but as other technologies develop, the site will be able to serve them"* (again emphasis added).

4.6 Chapter 4 of the ES purports to give a more detailed description of the project under the heading 'Description Of The Development'. At the outset,

paragraph 4.2.1 makes clear that to obtain a comprehensive understanding of the proposals, chapter 4 of the ES should be read in association with the drawings included in the application. It is far from clear, however, which drawings are being referred to, which frustrates the reader's ability to determine what is proposed.

4.7 This chapter of the ES provides more detail about the development proposals (sections 4.4, 4.5 and 4.6), how they will be constructed and how construction impacts will be mitigated (section 4.7), how the proposals will operate (section 4.8) and what will occur during what is labelled as the 'decommissioning' phase (section 4.10). Throughout these sections of the chapter the proposals are broken down and considered in turn as a series of core development areas.

4.8 The first core development area is labelled 'The Quay' which is described in paragraphs 4.4.4 to 4.4.14. Reference is given (paragraph 4.4.4) to certain design drawings as providing details of the quay proposals. The use to be made of the quay is then discussed in paragraphs 4.8.3 to 4.8.7. Paragraph 4.8.4 makes clear that *"Whilst the berths will be primarily designated for installation craft this does not exclude their use by other vessels delivering raw materials and other products either related to marine energy or otherwise"* (emphasis added). In respect of what is labelled the 'decommissioning' phase of the project it is made clear (paragraph 4.10.1) that *"In the event that demand for port space by the offshore energy sector reduces in the future, the quay will find other uses related to the import and export of goods"* (emphasis added).

4.9 Along similar lines it is further made clear in the ES (at paragraph 4.10.3) under the heading 'Industrial buildings and related infrastructure' within the decommissioning section that - *"The infrastructure comprising imported fill material and services will be maintained to enable continued use of the facility as a working port in the future"* (emphasis added).

4.10 Although not entirely clear, what appears to be contemplated in the ES is a facility that could be used from inception for a combination of offshore wind energy purposes, other (albeit non-defined) marine energy purposes and other (again undefined) non-marine energy purposes, and which then is likely to in the longer term be used as a working port importing and exporting goods, effectively a general cargo port unlimited to type of cargo or trade.

4.11 Critically, however, the detail that is given in chapter 4 of the ES relates to a facility to be used exclusively for purposes associated with the manufacture and shipping of offshore wind turbines and associated equipment. No information in the chapter, nor indeed any other chapters, is provided as to the implications of the other marine energy uses, implied but not defined, nor the other non-marine energy port uses and trades which the ES itself admits is intended will be handled at the facility.

4.12 Furthermore, I note that the ES reveals much that is not immediately apparent from the DCO concerning the character of the development envisaged.

What project has been assessed and the implications arising?

4.13 An analysis of the various topic chapters which are provided in the ES reveals that the project which has actually been assessed and for which arguments and justifications have been advanced is a facility used solely for the manufacture and shipping of offshore wind turbines.

4.14 In section 3 of this written representation I have demonstrated that the draft DCO seeks authorisation for a harbour facility unrestricted in any way as to the type of trade which it can handle and with a large degree of uncertainty as to its component parts and their location.

4.15 I have demonstrated in the section above that the description of the development which is provided in the ES is different again to either that provided in the DCO or that assessed in the ES.

4.16 The project that has been the subject of environmental assessment is therefore not the project for which authorisation is sought in the draft DCO. The DCO would authorise a development that is much broader in scope than that for which data has been provided in the ES and which has been assessed.

4.17 Furthermore, what has been the subject of environmental assessment is also not the project which the ES itself describes.

4.18 The ES submitted in support of the project must as a consequence, therefore, be viewed as fundamentally flawed. It does not meet the requirements of Directive 2011/92/EU (the consolidated EIA Directive) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (the EIA Regulations). For these reasons alone, it is my view that, at the very least, consideration of the application must be suspended (in accordance with Regulation 17 of the EIA Regulations) until the data required has been assembled, subject to formal assessment and consulted upon. Taking account, however, of issues relating to pre-application consultation requirements (matters considered further in section 6 of this representation) and of issues relating to the arguments put forward to justify the project in terms required by Habitats legislation (matters considered further in section 5 of this representation) it is my view that, in reality, the application as a whole in these circumstances cannot be considered further.

4.19 Superficially, the ES appears to be alive to the need to ensure that what has been assessed reflects what is ultimately authorised. ES paragraphs 2.2.8 to 2.2.14 explain how a series of assessment parameters have been determined to ensure that the EIA *"takes account of all the reasonable variations in the form of development that would be permissible….."* (paragraph 2.2.12). A land parcels plan and a parameters plan is provided to reflect these restrictions (Figures 4.1 and 4.2). Reference is also made to ES Annex 4.1 where this approach is further detailed.

4.20 Two issues, however, arise. First, what is to be authorised (as detailed in the draft DCO) does not in any way incorporate the restrictions referred to in the ES. The restrictions referred to in the ES are included on the planning application drawings which are not the subject of any specific requirement or reference in the DCO. Second, even if they were incorporated, the restrictions detailed are inadequate in terms of ensuring that what would be authorised by the DCO actually reflects what has been assessed. The restrictions discussed in the ES relate to the heavy component manufacturing park and supply chain park core development areas of the project and even then only encompass matters such as where buildings might be located across the site, the heights of these buildings and their size i.e. aspects of the physical characteristics of those parts of the project. No physical restrictions are put forward in respect of the other parts of the project i.e. the quay storage area and the overspill storage area.

4.21 Fundamentally, however, the plans and the restrictions they contain would not control the use of these parts of the facility or of the other parts of the facility such as the quay and storage area behind. In simple terms the restrictions proposed in the ES would not ensure that what would be constructed and operated would actually be a marine energy park as opposed to a harbour facility used for other general port trades.

4.22 The ES and Annex 4.1 indicate that the use of parameters to define an envelope within which the development that ultimately takes place will fit is an accepted way of dealing with uncertainty. In certain circumstances that is the case, but not when dealing with the kind of uncertainty about the land-use apparent here.

4.23 The principles that emerged from the ‘Rochdale’ judgements (which are referred to in Annex 4.1 of the ES) about the assessment of an outline application for a speculative project appear to have been distorted. An ‘envelope’ or ‘parameters’ approach is only valid where it ties an ES to a proposal and ensures that what is built has been assessed.

4.24 In the 'Rochdale' cases, the proposal was always a business park, and the parameters approach was a way of ensuring that, come what may as far as the details were concerned, what was built would not go beyond what was assessed and that the required mitigation that had been identified by the EIA would be provided. As I have explained, that is not the position in this case.

4.25 There are various other matters which should be noted within Annex 4.1 of the ES. These include, for example:

i. A degree of confusion about what would need to happen before any development going beyond the restrictions specified could occur. Reference is made to such development needing to be subject to screening (paragraph 1.2.5), to such development being subject to a further planning process (paragraph 1.2.9) and to the prospect of such development being able to go ahead on the basis that no additional significant adverse impacts are likely to arise (paragraph 1.2.6).

ii. Reference to the inclusion of certain specific requirements within the DCO which do not then appear to have been included (paragraph 2.2.7).

iii. A lack of detail and certainty in respect of certain of the parameters given. For example, maximum building heights are referred to, however, no datum from which these heights are to be measured appears to have been given i.e. Above Ordnance Datum.

4.26 If it were intended to somehow restrict the development authorised to what has been assessed, i.e. an offshore wind turbine manufacturing facility supported by a quay used solely in connection with that use, significant problems would remain. The main problem is that, by virtue of such controls, the harbour facility created is then restricted in its cargo handling ability to such an extent that it could not qualify as an NSIP.

4.27 If the facility were restricted simply to an offshore wind turbine manufacturing facility supported by a quay used solely in connection with that use then the ES contains some information as to the amount of cargo that would be handled.

4.28 ES paragraph 4.4.27 indicates that the gross weight of goods manufactured on the site would *"lie within the range 200 000 – 400 000 t".* Table 15.6 of the ES gives a more detailed breakdown of the tonnages of offshore wind energy related cargo that will be handled at the facility per year. The total tonnage shown to be 'delivered' to the site within this table amounts to some 410,000 tonnes. This table indicates that not all of this material will be delivered to the facility by sea. Even on the assumption, however, that all the material will be delivered by sea and then subsequently exported from the site in the form of manufactured wind turbines by sea, the movement of cargo through the harbour facility would only amount to some 820,000 tonnes of cargo. This level of cargo is less than one fifth of, and therefore some considerable amount beneath, the minimum 5 million tonne cargo level which needs to be met for the harbour facility proposed to qualify as an NSIP.

4.29 In simple terms, if the project for which authorisation is being sought is a harbour facility capable of handling at least 5 million tonnes of cargo, then that is what should have been assessed, justified and been subjected to necessary pre-application consultation – see sections 5 and 6 of this representation. If the project is not a harbour facility capable of handling this amount of cargo then it is not an NSIP.

4.30 Even if, however, contrary to the points raised above it were possible to somehow demonstrate satisfactorily that with the imposition of such a restriction the project could still fall to be determined as an NSIP, there would still be a significant environmental assessment problem. This relates to the fact that the description of the development given in the ES itself clearly demonstrates that once the need to use the facility for offshore energy purposes has been satisfied, the facility would then be a working port used to import and export goods not associated with marine energy purposes i.e. general cargo (see ES paragraphs 4.10.1 and 4.10.3).

4.31 An examination of the ES assessment topic chapters, however, highlights that there has not been any consideration of the impacts that would arise during this phase of the project (misleadingly labelled as 'decommissioning'). The

effect of the EIA Directive is to require that the Secretary of State ensures that the ES considers the environmental effects of operating the facility as a general port, given that the prospect of the facility being used in that way is clearly anticipated.

4.32 Therefore, even if a restriction limiting the proposed use of the project to offshore wind energy could be imposed and if somehow it were then still possible to consider the project as an NSIP, the consideration of the application, in my view, would at the very least have to be suspended (in accordance with Regulation 17 of the EIA Regulations) until the data required relating to general port use had been assembled, subjected to formal assessment and consulted upon. It is, however, concluded that in these circumstances, for reasons relating to the arguments put forward to justify the project in terms required by Habitats legislation (see section 5 of this representation) and issues relating to pre-application consultation requirements (see section 6 of this representation), the application as a whole cannot, in reality, be considered further.

Conclusion

4.33 The project that has been the subject of environmental assessment is not the project for which authorisation is sought in the draft DCO. The DCO would authorise a development that is much broader in scope than that for which data has been provided in the ES and which has been assessed.

4.34 Furthermore, what has been the subject of environmental assessment is also not the project which the ES itself describes.

4.35 The ES provided must as a consequence, therefore, be viewed as fundamentally flawed. It does not meet the requirements of the Directive 2011/92/EU (the consolidated EIA Directive) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (the EIA Regulations).

4.36 If it were intended to somehow restrict the project to what has been assessed, the harbour facility created would then be restricted in its cargo handling ability to such an extent that it could not qualify as an NSIP.

4.37 If, however, contrary to this it were possible to somehow demonstrate satisfactorily that such a restricted project still fell to be determined as an NSIP, there would still be a significant assessment problem. The ES itself demonstrates that once the need to use the facility for offshore energy purposes had been satisfied, the facility would then be used as a working port accommodating uses related to the import and export of goods not associated with marine energy i.e. general cargo. The ES fails to consider the environmental effects of operating the facility created as a general port, even though the prospect of that happening is clearly anticipated. At the very least therefore, in these circumstances, the consideration of the application would have to be suspended (in accordance with Regulation 17 of the EIA Regulations) until the data required had been assembled, subjected to formal assessment and consulted upon. However, in these circumstances, for reasons relating to the arguments put forward to justify the project in terms required by Habitats legislation (matters considered further in section 5) and relating to pre-application consultation requirements (matters considered further in section 6), it is concluded that, in reality, the application as a whole cannot be considered further.

4.38 If, however, it is not intended to restrict the development to be authorised to that which has been assessed then, at the very least, consideration of the application must be suspended (in accordance with Regulation 17 of the EIA Regulations) until the data required had been assembled, subjected to formal assessment and consulted upon. However, in these circumstances, for reasons relating to the arguments put forward to justify the project in terms required by Habitats legislation (matters considered further in section 5) and relating to pre-application consultation requirements (matters considered further in section 6), it is concluded that, in reality, the application as a whole cannot be considered further.

SECTION 5. THE DISCONNECT BETWEEN THE PROJECT AND THE HABITATS DIRECTIVE / REGULATIONS SUBMISSION

Introduction

5.1 In this section of the representation consideration is given to the project justification that has been put forward in the application documentation. Justification in this context means the evidence put forward in terms of:

i) the need for the project; and
ii) the consideration given to alternative solutions.

5.2 There are various reasons why need and alternatives are necessary elements to be considered in respect of ABLE's project, including those set out in policy or in EIA requirements. The most rigorous tests in terms of need and alternatives are, however, those set out in the Habitats Directive and the UK implementing Regulations. It is these requirements that are therefore considered in further detail in this representation.

5.3 The application documentation identifies that the project for which authorisation is being sought would have an adverse effect on the integrity of the European Nature Conservation sites which are designated along the Humber Estuary. As such, Directive 92/43/EEC (which is transposed into UK law through the Conservation of Habitats and Species Regulations 2010) requires that the relevant authorising body can only agree to the project if:

i. there is an absence of alternative solutions; and then
ii. the project must be carried out for imperative reasons of overriding public interest; and then
iii. they have secured necessary compensation measures to ensure the overall coherence of the Natura 2000 network.

Consideration of alternatives

5.4 The consideration of alternatives to the project is set out predominantly in chapter 6 of the ES (titled 'Choice of Site') and section 7 of the HRA Report (titled 'Alternative Solutions').

5.5 It is clear from the information provided that what has been considered are potential alternatives to an offshore wind turbine manufacturing facility. Such an analysis, therefore, can only be argued as being robust if the project for which authorisation is sought is such a development.

5.6 As already explained in this representation, the project for which authorisation is sought consists of a harbour facility unrestricted as to the type of cargo which could be handled, and for which there is no requirement for it to actually be used for offshore energy purposes, let alone offshore wind energy. The consideration of alternatives that has been undertaken cannot, irrespective of any detailed issues there may be with it, therefore be relied upon. This is particularly significant where it is necessary for it to be demonstrated that there are no alternative solutions.

5.7 If the applicant wishes to rely on the alternatives analysis undertaken they have to accept that the project they are seeking authorisation for must be limited to a facility used solely for offshore wind energy purposes. This, however, as explained earlier would mean that the project would not qualify as an NSIP.

Imperative Reasons of Overriding Public Interest

5.8 The justification for the project given by the applicant are provided in chapter 5 of the ES (titled 'The Need for the Development') which corresponds with section 8 of the 'Habitat Regulations Assessment Report' (HRA) (titled 'Imperative Reasons of Overriding Public Interest (IROPI)'). For shorthand

purposes the reasons given for the promotion of the project are subsequently in this section referred to as the claimed need.

5.9 The applicant breaks the overall claimed need down into the following five strands.

Strand 1: The Environmental Imperative to Decarbonise Energy Production.
Strand 2: The Imperative Need to Secure Indigenous Energy Supplies.
Strand 3: The Need to Develop Large Scale Wind Turbines.
Strand 4: The Imperative Need for Economic Growth in the UK.
Strand 5: The Need to Regenerate the Humber Sub Region.

5.10 An analysis of these five strands of the claimed need reveals that the first three can only be relied upon in the way claimed if the project that is constructed is ultimately used solely for offshore wind energy purposes, something which does not follow from the DCO.

5.11 In respect of this fundamental point it is noted that (as touched on in Appendix 1) the element of the project for which authorisation is being sought which consists of *"the provision of onshore facilities for the manufacture, assembly and storage of components and parts for offshore marine energy and related items"* is defined as an element of associated development, rather than the main NSIP element of the project.

5.12 DCLG Guidance makes it clear that, amongst other things, associated development should not be an aim in itself or an integral part of the NSIP (paragraph 10 Guidance on associated development – DCLG 2009). The dictionary definition of 'aim' includes words such as intention or purpose.

5.13 Leaving aside any issues relating to whether the need identified would be met by 'offshore marine energy facilities' generally (i.e. what the DCO indicates it is seeking authorisation for) as opposed to 'offshore wind energy facilities' specifically, I consider that the following conclusion is unavoidable. If the applicant wishes to rely on the contribution the project might make in respect

of the first three strands of the claimed need, then it has to accept that the aspect of the development that specifically contributes to meeting these strands of the claimed need cannot be associated development. Rather, it has to accept that it is the main purpose, intention and aim of the project and therefore an integral part of it.

5.14 If this element of the proposal is not associated development it must then somehow (if possible) be incorporated into the NSIP element of the project in order for it to be authorised through a DCO. It is not obvious how this could be achieved or if it is at all possible. The facilities described as comprising this element of the development do not fall within a type of development which section 14 of the 2008 Planning Act indicates are capable of comprising an NSIP. Any incorporation would therefore be needed in respect of the 'harbour facility' category currently relied upon. I do not know how this could be done. In any event, however, even if this element of the development were somehow incorporated into the definition of the NSIP element, such a harbour facility could not in any way qualify as an NSIP development by virtue of the fact that it would fall well below the cargo handling capability necessary to meet the Planning Act threshold.

5.15 A final point to note on this matter is that if this element of the development cannot be classified as associated development nor incorporated into the NSIP element of the project, then it cannot be authorised through a DCO.

5.16 A further point to be made in respect of the reasons for the project is that, as already highlighted, they have to be imperative and overriding. The dictionary defines imperative as something which is extremely urgent or important; essential, and defines overriding as something which takes precedence.

5.17 If a project is indicated as being required for imperative reasons of overriding public interest then there surely has to be some assurance that it will be undertaken if authorised. The ES documentation indicates that ABLE do not intend to operate the facility themselves, and as yet do not appear to have any contract in place with prospective operator(s)

5.18 The funding statement (TRP030001/APP/13b) is revealingly sparse in terms of the information it provides. The document does not provide the necessary assurance that funding would be obtainable to carry out the project for offshore wind energy purposes. The international importance of the protected area that would be adversely affected is wholly incompatible with authorisation of a speculative project the viability of which has not been demonstrated.

Necessary compensation measures

5.19 The final requirement set out in Habitats legislation is that necessary compensation measures need to be provided. This is a matter considered in the written representation of Mr Andrew Baker on behalf of ABP.

5.20 In addition to concerns raised by Mr Baker, other bodies, including Natural England and the RSPB, have raised issues relating to compensation which have not been dealt with.

Conclusion

5.21 Able have not demonstrated how the project for which they are seeking authorisation could satisfy the requirements of the tests set out in Habitats legislation.

SECTION 6. DISCONNECT BETWEEN THE PROJECT AND PRE-APPLICATION CONSULTATION

6.1 Government 'Guidance on pre-application consultation' (DCLG 2009) for NSIP proposals states:

"The new requirements for pre-application consultation are a vital aspect of the new regime. The early involvement of local communities, local authorities and statutory consultees at this stage can bring about significant benefits for all parties:

- *to allow members of the public to influence the way projects are developed by providing feedback on potential options, providing them with an opportunity to shape the way in which their community develops*
- *to help local people understand better what a particular project means for them, so that concerns resulting from misunderstandings are resolved early*
- *to obtain important information about the economic, social and environmental impacts of a scheme from consultees, thus help promoters identify project options which are unsuitable and not worth developing further*
- *to enable potential mitigating measures to be considered and, in some cases, built into the project before an application is submitted*
- *it may identify ways in which the project could, without significant costs to promoters, support wider strategic or local objectives"* (paragraph 8).

6.2 The Consultation Report (TRP030001/APP/8a) explains the pre-application consultation which has been undertaken by Able. At Appendix 2 of this representation I provide an analysis of the information that was provided by the applicant at each consultation stage. This analysis demonstrates the following.

i. The very clear conclusion that the reader of the information provided by the applicant at all consultation stages comes to is that the project envisaged is one which is being provided solely to serve the requirements of the offshore wind energy sector.

ii. The consultation material consistently makes the claim that the project envisaged qualifies as an NSIP by virtue of the capability of the quay to handle 5 million tonnes of cargo per year. Consistently, however, the consultation information implies that this 5 million tonnes of cargo would be handled in connection with either the proposed offshore wind energy and biomass power station use of the facility collectively, or (following the removal of the biomass power station element) just the offshore wind energy use.

iii. The very few indications within the consultation material that the project could at some point be used for purposes other than in connection with offshore wind energy require considerable documentary excavation skills, and I do not consider that even intelligent, well informed members of the public could be expected to fully identify and understand them. Furthermore, these indications suggest that any other alternative non-offshore energy use of the facility is only likely to occur in the future once the demand for its use for offshore wind energy purposes has reduced.

6.3 The earlier sections of this representation have demonstrated that the project which has been applied for through the DCO consists of a harbour facility unrestricted as to the type of cargo which can be handled, and for which there is no requirement for it to actually be used for offshore energy purposes, let alone offshore wind energy.

6.4 The analysis provided at Appendix 2 thus makes it apparent that the project which has now been applied for is not the same project for which pre-application consultation was undertaken. Furthermore, neither is the project which has been described in the ES the project which has been the subject of

necessary pre-application consultation.

6.5 The purpose and benefits of undertaking pre-application consultation, which are usefully summarised in the extract given at paragraph 6.1, have therefore not been achieved.

6.6 Whilst it may be possible to argue that pre-application consultation was undertaken at the stage and in the manner required by legislation and guidance, given that the project that was the subject of pre-application consultation was not the project for which authorisation is sought it follows that the pre-application consultation undertaken was fundamentally flawed.

APPENDIX 1 – OBSERVATION OF ELEMENTS OF AUTHORISED DEVELOPMENT GIVEN AT SCHEDULE 1 OF THE DRAFT DCO

A1.1 In seeking to understand what the various elements of authorised development given at Schedule 1 of the DCO consist of, it will be seen from what follows that regard has been had (amongst other things) to Requirement 4 of Schedule 11 of the DCO. Requirement 4 states: *"The authorised development shall be carried out in accordance with the design drawings unless otherwise approved in writing by the relevant planning authority."*

A1.2 The DCO defines the design drawings (Article 2) as meaning *"the design drawings submitted under regulation 5(2)(o) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 and certified as the design drawings by the decision maker for the purposes of this Order*".

A1.3 Item 23 of the DCO application form requires the applicant to provide a brief description of any other plans, drawings and sections that are being submitted. This is similar wording to that given in regulation 5(2)(o) which has been referred to above. Two sets of drawings are identified by the applicant as being submitted against item 23 . The first set is the planning application drawings (TRP03001/APP/23a) and the second set of drawings is referred to on the application form at item 23 as construction drawings (TRP03001/APP/23b). An examination of the title page of TRP03001/APP/23b reveals, however, that these have been labelled as the design drawings. They are also referred to as the design drawings on application schedule of documents and plans (TRP/030001/APP0e). It is therefore this latter set of drawings (TRP/03001/APP/23b) specifically labelled as the design drawings which are the subject of Requirement 4. The analysis that follows has therefore been undertaken on this basis.

A1.4 In respect of Requirement 4, a significant matter of note (which has also been highlighted elsewhere in this representation) is that it allows, in any event, such variations as the relevant planning authority is prepared to allow.

A1.5 A general observation from an analysis of the various elements of the authorised development listed in Schedule 1 of the DCO is that there appear to be only two elements listed which are specifically required to be undertaken in accordance with the information included within the ES. These are associated development elements 3(g) (ecological mitigation works) and 4 (the development of compensatory environmental habitat). The requirement for these elements to be undertaken in accordance with the information contained within the ES would appear to be given through Requirement 14 of Schedule 11.

A1.6 Against this background, the following paragraphs consider each element of the authorised development listed in Schedule 1 of the DCO in turn.

Nationally Significant Infrastructure Project: Work No. 1 – a quay of solid construction.

A1.7 This element of the authorised development is simply described as *"Work No. 1 – a quay of solid construction".* No further more detailed definition is provided in the DCO. This definition is inadequate as it does not describe in necessary detail what this work consists of.

A1.8 Limits of deviation for this work are shown on the works plans, but the draft DCO at Schedule 1 does not actually require Work No 1 to be constructed within these limits of deviation, rather it simply requires this work to be constructed within the wider Order limits.

A1.9 If the intention, however, is to ensure Work No 1 is constructed within the limits of deviation it is noted that what is shown on the works plan in this regard does not assist in determining what Work No 1 actually consists of.

A1.10 The limits of deviation given enclose a large area that extends from the existing shoreline out to where the proposed quay wall is shown as being located. No commencement or termination point for the work appear to have

been given. These limits therefore define a broad area within which Work No 1 (whatever it consists of) could be constructed.

A1.11 By enclosing such a broad area within the limits of deviation a conclusion that could be drawn is that Work No 1 consists of the construction of the quay wall and the creation of the land between the new quay wall and the existing shoreline.

A1.12 This conclusion would appear to be supported by various drawings and plans submitted as part of the DCO application which label the area created between the quay wall and the coastline as the quay area.

A1.13 This conclusion would also appear to be supported by the deemed marine licence at Schedule 8 of the draft DCO. This seeks authorisation for the deposit at sea of, amongst other things, sea-dredged aggregates and gravel (paragraph 2) within the limits of deviation for Work No 1 (paragraph 1) which is made clear are required as part of Work No 1 (paragraph 4).

A1.14 Furthermore, as the NSIP justification document (TR030001/APP/23c) indicates, a quay wall on its own cannot handle cargo. It requires a necessary area of land behind the quay on which cargo can be stored and handled.

A1.15 The assumption that a quay of solid construction consists of the quay wall and the land created behind the quay is, however, thrown into doubt when it is noted that one element of the authorised development subsequently listed in Schedule 1 as associated development consists of ‘dredging and land reclamation’. Although no further definition than this is given in the DCO, it is clear that the reclamation being referred to is the creation of the land behind the quay wall which would, from the above analysis, appear to be a fundamental part of the NSIP element of the development.

A1.16 In respect of the location of Work No 1, I refer above to the fact that the DCO does not require Work No 1 to be constructed within the limits of deviation

shown. Requirement 4 of Schedule 11 requires the authorised development to be carried out in accordance with what is shown on the design drawings. Whilst these drawings cover how the quay works are to be carried out (but not the whole of the development) it is not clear, for the reasons explained above, whether what is shown on these drawings constitutes the NSIP element of the project only or the NSIP element and associated development elements of the project.

A1.17 In respect of the control proposed to be put in place by Requirement 4 this would in any event (as already noted) enable quay works different to those shown on the design drawings to ultimately be carried out if the relevant planning authority agreed. Effectively, in accordance with the terms of the DCO, the Secretary of State would be authorising works, which at a later stage could be varied simply with the approval of the relevant planning authority. Wider concerns with Requirement 4 have been raised earlier in this representation.

A1.18 It might be argued that, as earlier indicated, the deemed marine licence (Schedule 8 of the draft DCO) incorporates a requirement that Work No 1 is undertaken within the defined limits of deviation given on the works plan. It would, however, be possible, for example, once the DCO had been granted for an amended marine licence to be obtained. The marine licence is not an adequate or appropriate mechanism to control this aspect of the development.

Associated Development: Work No 2 – works to the junction of Humber Road and Rosper Road.

A1.19 Although limits of deviation, a centre line, a commencement point and a termination point for this work are shown on the works plan, there is no detail provided in the draft DCO as to what these works comprise. No plan is referred to in the draft DCO on which the detail of this work is shown. This work is not, for example, detailed on the design drawings.

A1.20 As for Work No 1, at present the draft DCO at Schedule 1 does not actually require Work No 2 to be constructed within the limits of deviation specified on the works plan, rather it simply requires this work to be constructed within the wider Order limits. There is also nothing which relates this work to the centre line shown on the works plan.

A1.21 Finally it is unclear as to why, if Work No 2 is described as only works to the junction of Humber Road and Rosper Road, the limits of deviation shown on the works plan extend out to include the roundabout junction of the Humber Road (A160) and Manby Road (A1173).

Associated Development 3(a): dredging and land reclamation.

A1.22 This element of the authorised development is not identified as a specific work. There is, therefore, no reference to where this element of development can take place on the works plans that accompany the DCO.

A1.23 In respect of the capital dredging element it is noted that there is nothing in the deemed marine licence at Schedule 8 of the draft DCO which appears to define precisely where this activity can take place. Rather there is a more general reference to capital dredging being permitted within two specific land parcels (paragraph 17 of Schedule 8).

A1.24 Parts of this element of the associated development are, however, detailed in the design drawings which are referred to in Requirement 4. It is, however, unclear whether all of the dredging essential for the proposed development appears on these drawings. For example, the full extent of the approach channel that would need to be dredged does not appear to have been shown on these drawings.

A1.25 Furthermore, as previously highlighted, in respect of the control proposed to be put in place by Requirement 4, the Secretary of State would be authorising something which the relevant planning authority could agree to subsequently change in a fundamental way.

A1.26 In my opinion, having regard to the guidance provided by DCLG, it is not immediately obvious how the dredging and land reclamation can correctly be identified as associated development rather than fundamental integral parts of the NSIP the subject of the application.

Associated Development 3(b): the provision of onshore facilities for the manufacture, assembly and storage of components and parts for offshore marine energy and related items.

A1.27 This element of the authorised development is not identified as a specific work. There is, therefore, no reference to where this element of the development can take place on the works plans that accompany the DCO. No plan is referred to in the draft DCO on which the detail of this element of the authorised development is shown.

A1.28 The description of this element in Schedule 1 does not give sufficient details of what is proposed. Indeed, it is noted that authorisation is being sought for facilities associated with 'offshore marine energy' generally as opposed to 'offshore wind energy' specifically. There is nothing else within the DCO which assists the reader in determining what this element of the development actually consists of.

A1.29 It is assumed that this element of associated development relates to those areas of the facility which the ES defines as the 'heavy component manufacturing park', the 'supply chain park' and the 'overspill storage area'. The ES provides further detail of what might happen in these areas of the facility as well as suggested restrictions on the physical characteristics of development elements that can be provided in these areas. Leaving aside issues relating to the adequacy of these controls, the draft DCO does not contain any reference to the restrictions discussed and put forward in the ES.

A1.30 The development which ABLE say they are proposing is a Marine Energy Park. Thus, the ES and other documents produced by or on behalf of the applicant put across the position that the project is driven by a desire to serve

the offshore wind energy sector i.e. that element of the development which is put forward as an element of associated development.

A1.31 DCLG Guidance on Associated Development (September 2009) states at paragraph 10 that:

"Associated development should not be an aim in itself but should be subordinate to and ***necessary for the development and effective operation to its design capacity of the NSIP*** *that is the subject of the application"* (DCLG emphasis).

A1.32 This guidance further makes clear that - *"Development should not be treated as associated development if it is actually an integral part of the NSIP".*

A1.33 Therefore, for *'the provision of onshore facilities for the manufacture, assembly and storage of components and parts for offshore marine energy and related items'* to be associated development (as Schedule 1 of the DCO indicates) then this element of the development, amongst other things:

i. cannot be an integral part of the NSIP development for which authorisation is being sought;
ii. cannot be considered as an aim in itself (aim here is taken to mean intention or purpose as defined in the dictionary); and
iii. has to be subordinate to the NSIP that is the subject of the application.

A1.34 Further consideration of the problems that emerge from a consideration of whether this element of the authorised development is, or indeed can be, associated development, is provided at various points in the main part of this representation.

Associated Development 3(c): works to Rosper Road, Eastfield Road, the A160 and the A180.

A1.35 This element of the authorised development is not identified as a specific work. There is therefore no reference to where this element of development can take place on the works plans that accompany the DCO. No plan is referred to in the draft DCO on which the detail of this element of the authorised development is shown.

A1.36 Some reference to where improved access onto Rosper Road would be provided is possible to determine by reference to Schedule 4 of the draft DCO and the corresponding reference to the rights of way plans. Furthermore, by virtue of Requirement 8 of Schedule 11, it would be necessary for these access improvements to a public highway to be detailed and approved by the relevant planning authority.

A1.37 No indication within the DCO is, however, provided as to what either these access improvements or the wider works implied consist of. Furthermore, the various references in the DCO discussed in the preceeding paragraph do not appear to cover the wider works implied that are not either improved access arrangements onto Rosper Road specifically or other access improvements (if there are any) onto the public highway generally. Requirement 16 requires any works to a trunk road to be agreed with the Highways Agency, but this again does not assist the reader of the Order to understand now what authorisation is being sought for.

A1.38 The description of this element of development given in Schedule 1 of the DCO indicates that it includes works to the A180 and to Eastfield Road. The Order limits, as defined, do not, however, include any part of the A180 or of Eastfield Road. It is not clear therefore how works to these roads (whatever they consist of) can be authorised through the DCO when they are outside of the Order limits.

A1.39 It is further noted that in the document which lists associated development (TRP030001/APP/7) this element of the development is referred to as *"works to Rosper Road"*, a more limited description than that given in the DCO. The text given in that document (paragraph 2.5) provides an explanation only in respect of works to Rosper Road – no mention is made of works to Eastfield Road, the A160 or the A180.

A1.40 Along similar lines it is noted that in other application documents this element of associated development is described slightly differently again. For example:

i. the Statement of Reasons (TRP030001/APP/13a at paragraph 2.2) describes this element as *"any necessary upgrade works to surrounding roads (Humber Road and Rosper Road)"* .
ii. the Consultation Report (TRP030001/APP/8a at paragraph 1.6) describes this element as *"any necessary upgrade works to surrounding roads (Rosper Road, Eastfield Road and the A160)".*

A1.41 It is therefore not clear from the DCO what these works are or where they are proposed. Whether or not what the assessment has considered is correct, even in terms of a facility used solely for offshore wind energy purposes, cannot therefore be determined.

Associated Development 3(d): surface and foul water disposal arrangements.

A1.42 This element of the authorised development is not identified as a specific work. There is therefore no reference to where this element of the development can take place on the works plans that accompany the DCO. Furthermore, nothing relating to these works appears to be detailed on the plans that are specifically labelled the 'design drawings'.

A1.43 Requirement 11 of Schedule 11, although titled 'Surface water drainage' requires written details of both the surface and foul water drainage to be approved by the relevant planning authority and then for such works to be

undertaken in accordance with those approved details. This, however, again does not assist the reader of the Order to understand now what authorisation is being sought for.

A1.44 The only other apparent information on this aspect of the development included within the DCO is provided in Part 2 of the Deemed Marine Licence at Schedule 8 in respect of the proposed pumping station. Paragraph 15 of Schedule 8 refers to two planning application drawings submitted with the application which are claimed to provide the details of these drainage works envisaged. The plans referenced, however, do not appear to provide such detail as they relate to maximum building dimensions and footpath diversion section locations.

A1.45 The Secretary of State is therefore effectively being asked to authorise development without any real knowledge of what drainage would be provided.

Associated Development 3(e): lighting.

A1.46 This element of the authorised development is not identified as a specific work. There is therefore no reference to where this element can take place on the works plans that accompany the DCO. Furthermore, nothing relating to this element of the development appears to be included on the design drawings.

A1.47 Requirement 17 of Schedule 11 requires the approval of lighting by the relevant planning authority, but only in respect of lighting during the construction process.

A1.48 It is not therefore possible from the DCO to determine what this element of development consists of or where it will be located.

Associated Development 3(f): parking.

A1.49 This element of the authorised development is not identified as a specific work. There is therefore no reference to where this element can take place on the works plans that accompany the DCO. Furthermore, nothing relating to this element of the development appears to be detailed on the design drawings.

A1.50 Requirement 5 of Schedule 11 requires the approval of a landscaping scheme by the relevant planning authority. This landscaping scheme has to include details of parking. Again, however, this does not assist the reader of the Order understanding now what authorisation is being sought for. The Secretary of State is therefore again being asked to authorise something in the DCO, the detail of which is not yet certain but which will be subsequently approved by the relevant planning authority.

A1.51 It is not therefore possible from the DCO to determine what this element of development consists of or where it will be located.

Associated Development 3(h): the re-siting of apparatus.

A1.52 This element of the authorised development is not identified as a specific work. There is therefore no reference to where this element can take place on the works plans that accompany the DCO. Furthermore, nothing relating to this element of the development appears to be detailed on the design drawings. Other than in respect of the proposed drainage pumping station (discussed in earlier paragraphs) no detail of this element of the authorised development appears to have been provided.

A1.53 It is not therefore possible from the DCO to determine fully what this element of the development consists or where such re-siting of apparatus will take place.

APPENDIX 2 – AN ANALYSIS OF THE CONSULTATION INFORMATION MADE AVAILABLE

A2.1 The Consultation Report (TRP030001/APP/8a) explains the pre-application consultation which has been undertaken by ABLE. Section 2 explains that pre-application consultation consisted of informal (non statutory) consultation (paragraph 2.1), consultation in respect of the EIA scoping process (paragraph 2.2) and formal pre-application consultation (paragraph 2.3). In respect of these various stages of consultation I examine in the following paragraphs the information the Consultation Report indicates was provided at these stages which relates to the project envisaged.

Informal (non-statutory) pre-application consultation with key stakeholders (July to August 2010).

A2.2 Paragraph 3.4 of the Consultation Report explains that the information issued at this stage consisted of a document titled 'Informal Pre-Application Consultation Document'. In its introductory paragraphs this pre-application document indicates that the project is the construction of a quay and biomass plant (paragraph 1.1) and further indicates that the quay is being proposed to accommodate the needs of the renewable energy sector (paragraph 1.3).

A2.3 In describing the project in further detail in section 3 (under the heading 'Project Description') the pre-application document makes clear that the quay and associated onshore facilities are being proposed to *"accommodate wind turbine manufacture, assembly and commissioning as well as the associated supply chains. These facilities may include wind turbine testing capabilities, which could incorporate two operational wind turbines"* (paragraph 3.2).

A2.4 The indicative masterplan for the development provided with this document shows the vast majority of the site of the project as being used for 'manufacturing', with smaller areas being identified for 'Marine Development' and 'Area for 299MW Biomass Power Station'.

A2.5 Paragraph 3.7 of the report indicates that (at the time of publication) the NSIP development would be both the quay and the biomass plant, with paragraph 3.8 going on to claim that the quay would be capable of handling more than 5 million tonnes of bulk cargo per year.

A2.6 From the information provided in the document, however, it is not possible for the reader to conclude anything other than this amount of cargo is to be handled solely in connection with the operations of the proposed wind turbine manufacturing facilities and biomass power station.

A2.7 The clear impression that a reader of this document gets is that the project envisaged is a facility to be used solely for offshore wind energy and biomass power generation purposes. Other than the reference to the biomass power station, no reference to the potential use of the facility for anything other than offshore wind energy purposes is given.

Environmental Scoping Report (September 2010)

A2.8 Section 2 of the scoping report explains that the development of the Marine Energy Park (AMEP) proposal forms part of (described in paragraph 2.1.10 as the most significant element) the Able Humber Port (AHP) facility. Explanation is provided as to what other elements in addition to AMEP collectively make up this overall AHP project.

A2.9 In considering the significant AMEP element, paragraph 2.1.10 explains that this particular development will, amongst other things:

- *"attract new business opportunities to the UK with major prospects within the renewable energy sector including offshore wind turbine manufacture and installation;*
- *add a competitive dynamic to the UK port industry that currently has only a small number of major players and owners;*
- *add to overall UK port capacity; and*
- *be developed and managed as a multi user facility designed for*

flexible and varied use, with the potential to exploit bespoke and specialist requirements as well as more conventional port traffic."

A2.10 The reader of the scoping report, however, gets a more detailed picture when he/she turns to chapter 3, which is title 'The Proposed Development', and in particular section 3.3, which is titled 'Description of the Proposed Development', to examine the detail of what is proposed. This section breaks the proposed development down into the following four key elements (paragraph 3.3.1):

i. a new quay with associated onshore development;
ii. a wind turbine manufacture, assembly and testing facility;
iii. a biomass plant; and
iv. a helipad.

A2.11 In respect of the first element (paragraph 3.3.3) states:

"The proposed development will include a new quay of approximately 1,630m in length to serve the wind energy sector and the on-site biomass power station."

A2.12 However, no reference in chapter 3 of the scoping report is made to the possibility of the quay (or any other aspect of the development) being used for anything other than for offshore wind energy or biomass power generation purposes. Nothing provided in the remainder of the scoping report appears to indicate any such possibility either.

A2.13 Paragraph 1.1.7 of the scoping report claims that the proposed quay would qualify as an NSIP by virtue of it being capable of handling more than 5 million tonnes of bulk cargo annually. It is, however, not possible from the information provided in the scoping report for the reader to conclude anything other than this is 5 million tonnes of bulk cargo handled in connection with the operations of the proposed wind turbine manufacturing facilities and the biomass power station.

A2.14 Although the scoping report includes a reference to the potential of the development to be used for more conventional port traffic in paragraph 2.1.10, it is my view that the clear conclusion that a reader of this document gets is that the project being proposed is a facility to be used solely for offshore wind energy and biomass power generation purposes.

A2.15 As ABP pointed out in their consultation response to the scoping report (provided at appendix 2 of the scoping opinion TPP030001/APP/14b) a robust scoping opinion depends upon the scheme being considered being sufficiently detailed in the scoping report.

A2.16 In addition to the fact that the scoping report gives the clear impression that the uses of the facility to be created would be limited to offshore wind energy and biomass power generation, it is clear from later information that, subsequent to the receipt of the scoping opinion, a different project emerged. It is noted that a subsequent re-scoping exercise was not undertaken.

A2.17 In respect of the scoping opinion received (TRP03001/APP/14b) as a result of the scoping report, it is difficult to see how the IPC in giving this opinion can be said to have met the requirements of Regulation 8(9) of the Infrastructure Planning EIA Regulations. These require it, before adopting a scoping opinion, *"to take into account –*

(a) the specific characteristics of the particular development;
(b) the specific characteristics of development of the type concerned;
(c) ……"

A2.18 At paragraph 2.39 of the scoping opinion, an admission is made by the IPC that *"From the description of the proposed development in the Scoping Report, it is unclear as to what is proposed to be included in the draft DCO."* If the IPC did not know what was proposed, it cannot have *"been provided with sufficient information to adopt an opinion".* In that case, Regulation 8(5)

required the IPC to notify the applicant *"of the points on which it requires additional information".* The IPC did not appear to do so.

A2.19 Having indicated that they do not know exactly what is being proposed, the IPC's comment in the scoping opinion is somewhat strange. They said *"the applicant should ensure that the description of the proposed development that is being applied for is as accurate and firm as possible as this will form the basis of the environmental impact assessment."* (paragraph 2.39). The only possible response is 'quite so, but before the ES is scoped'.

Formal pre-application consultation (January to March 2011)

A2.20 This consultation stage is indicated (paragraph 2.3 of the Consultation Report) as consisting of consultation with specified organisations and landowners (under section 42 of the 2008 Planning Act), consultation with the local community (under section 47 of the 2008 Planning Act) and general public consultation (under section 48 of the 2008 Planning Act). I consider each of these stages of consultation in the following paragraphs.

Section 42 Consultation

A2.21 Paragraph 4.7 of the Consultation Report makes clear that a formal pre-application consultation document was produced for this stage of consultation. This formal pre-application document (at paragraph 10) further makes clear that the material provided for the section 42 consultation consists of the formal pre application consultation document itself, preliminary environmental information and a covering letter.

The formal pre-application consultation document

A2.22 This document explains (paragraph 14) that as a result of the consultation that had already been undertaken changes to the project were being made. The changes were (these are the changes I am earlier referring to in paragraph A2.16):

i. the removal of the biomass power station;
ii. dredging would be to a maximum depth of -11 metres Chart Datum rather than -15 metres Chart Datum;
iii. reducing the length of the quay from 1630m to 1320m; and
iv. removing the proposed helicopter landing pad.

A2.23 The document (at paragraph 3) claims that the quay *"will have a capacity of handling more than 5 million tonnes of cargo a year",* making it an NSIP. Although this paragraph refers to cargo generally rather than bulk cargo specifically (which is the position expressed in earlier consultation documents) it is not possible from the information provided in the document, for the reader to conclude anything other than this is 5 million tonnes of cargo being handled in connection with offshore wind energy. Paragraph 2 makes it clear that the building of a quay and the development of neighbouring land is proposed *"for the purpose of manufacturing and shipping wind turbines to windfarm sites in the North Sea."* Paragraphs 31 to 33 (which are said to summarise what is proposed to be built in non technical language – paragraph 28) also reflect this position.

A2.24 It is my view that the clear conclusion that a reader of this document gets is that the project envisaged is a facility that is to be used solely for offshore wind energy purposes.

The Preliminary Environmental Information

A2.25 This document gives some indications that the project proposed, in respect of the quay element, could be used in connection with something other than for offshore wind energy purposes. These indications are similar to those that are contained within the ES – for example paragraphs 1.3.6, 4.9.3 and 4.10.1 and 4.10.3. They are, however, not all precisely the same, as I explain by way of example below.

A2.26 Paragraph 4.9.3 of the PEIR is different to the equivalent paragraph in the ES (paragraph 4.8.4) in that it refers specifically to 'wind installation craft' rather than 'installation craft' and does not conclude with the phase 'either related to marine energy or otherwise'.

A2.27 Paragraph 4.10.1 of the PEIR (within the section titled 'Decommissioning') refers to possible future reduction in port capacity by the 'offshore wind sector' specifically, whereas the ES (paragraph 4.10.1) refers to the 'offshore energy sector' generally.

A2.28 These indications take some finding within the document and do not give as clear an impression as the ES does that other 'non wind' offshore energy purposes could be accommodated at the facility. The description of the project in these respects changed between the PEIR stage and the ES stage. Furthermore, the PEIR gives the impression that any alternative non offshore energy use of the facility would only likely occur in the future in the long term once the demand for its use for offshore wind purposes has reduced. No detail of what any such alternative use of the quay could consist of is provided.

A2.29 The PEIR does provide some indication that the operation of the facility purely for offshore wind energy purposes would not generate the 5 million tonnes of cargo necessary per year (see for example paragraph 4.3.25 and Table 15.2 on which I have earlier commented in respect of their subsequent inclusion within the ES). However, whilst it is possible for the skilled professional with a forensic approach to understand this, it certainly would not necessarily be apparent to even an intelligent and well motivated member of the public.

A2.30 Even though the PEIR includes the various indications referred to above, it is my view that the clear conclusion that the reader of the PEIR gets is that the project which is being envisaged is to be used solely for offshore wind energy purposes. The vast majority of the information provided in terms of the project description relates to the creation and subsequent use of the facility for that purpose.

The Section 42 Consultation Covering Letter

A2.31 This letter is provided at Appendix 2 of the Consultation Report. The only conclusion that can be reached from reading this letter is that the project being envisaged is a facility used solely for offshore wind energy purposes (see paragraph 1 of the letter).

Section 47 Consultation

A2.32 Section 5 of the Consultation Report details the consultation undertaken at this stage. From this section (paragraph 5.7) it is understood that the information made available for this stage of consultation consisted of:

i. Exhibition materials (provided at Appendix 3a of the Consultation Report);
ii. Leaflets and reply card distributed in the locality of the site (provided at Appendix 3a of the Consultation Report);
iii. The PIER, Formal Pre-Application Consultation Document and covering letter (documents I have considered in the preceeding sub section); and
iv. A series of documents available on the AMEP website (detailed at paragraph 5.20 of the Consultation Report) which, other than the SoCC, the Section 48 Notice and the presentation boards, I have analysed in the previous paragraphs.

Exhibition Materials

A2.33 The materials I have analysed consist of the presentation boards available to download from the AMEP website and the newsletter made available at the exhibitions provided at figure 3a6 of appendix 3a of the Consultation Report.

A2.34 One of the presentation boards (under the heading Site selection rationale) includes text similar to that contained within the Scoping report which I have

detailed in paragraph A2.9 above. It is, however, noted that the text set out on the board is not identical to the scoping report text in that the words 'as well as more conventional port traffic' (emphasis added) have been omitted from the end of the fourth bullet point. This omission is, in my view, extremely significant since it goes to the heart of the distinction between a 'marine energy park' and a general cargo port facility.

A2.35 The clear overall impression that is given by the presentation boards is that the project envisaged is a marine energy park to be used solely for offshore wind purposes. In respect of the quay element of the project, the exhibition board which is titled 'Our proposals for the Marine Energy Park' states *"The proposed development will include a new quay with a frontage of approximately 1,200m in length to serve the wind energy sector."*

A2.36 The newsletter available at the exhibition gives a similar impression, repeating the text provided on the exhibition board.

Leaflets and Reply Card

A2.37 The different leaflets distributed to the north and south bank residents are provided at Figure 3a8 and 3a9 of Appendix 3a of the Consultation Report. Again, the very clear message which is put forward in these leaflets is that the project envisaged is solely for offshore wind energy purposes.

SoCC

A2.38 An analysis of this document reveals a similar position to that indicated above, the project envisaged is solely for offshore wind energy purposes.

Section 48 Consultation

A2.39 The only other document produced to inform this element of consultation over and above those analysed in the preceeding paragraphs is the formal Section 48 notice which is provided at Appendix 4 of the Consultation Report.

A2.40 This notice again gives the clear impression that the project envisaged is solely for offshore wind energy purposes. Whilst the notice indicates that the project contains a quay capable of handling 5 million tonnes of cargo and thereby constitutes an NSIP, it is not possible from the information provided for the reader to conclude anything other than this is 5 million tonnes of cargo handled in connection with offshore wind energy activities.

APPENDIX 3 – TRANSCRIPT EXTRACTS OF HIGH COURT PROCEEDINGS (HUMBER OIL TERMINAL TRUSTEES LIMITED AND ASSOCIATED BRITISH PORTS)

10 million on the refinery profit, you've got 40 million paid to ABP, what else?
A. And the 10 million demurrage approximately.
MR JUSTICE VOS: As well as the 10 million profit?
A. Yes. The refinery will lose money, inefficiency, and the jetty will cost more in demurrage.
MR JUSTICE VOS: So 20 million?
A. So -- yes.
MR JUSTICE VOS: Yes.
A. I was talking about the overall jetty, so to be fair, you could argue Total will only pay -- if we keep transporting two thirds of the tonnes, two thirds of the fee, two thirds of the demurrage; but all that 10 million is our estimate of our refinery inefficiency.
MR JUSTICE VOS: Sorry, I just need to get this right. The whole jetty pays 40 million plus 10 million, plus 10 million. Or is it the whole jetty pays --
A. Whole jetty pays 40 million fees then a 10 million demurrage penalty. Our refinery pays about a 10 million drop in profit. These aren't simulations, my Lord, these are our best guess based on long experience. We have similar examples, it could be said. The demurrage after the fire on our crude unit, which used to be $10 million a year, went to $16 million a year last year. So we see a similar effect, if you

like, to quantify, to guesstimate the amount.
MR JUSTICE VOS: Right.
A. So --
MR JUSTICE VOS: Okay.
A. So for me that's the option 1. The base case, we pay 10 per cent of our profit to keep the jetty running. The option 1, which Mr Fitzgerald would prefer, on my paper calculation, I worked out we pay 80 per cent of our profit to operate the jetty.
MR JUSTICE VOS: So option 1, you say, amounts to paying 80 per cent of net profit --
A. I'm trying to remain in broad numbers, so -- in fact, I couldn't memorise any more detailed numbers, but overall, of the 40 fee, 10 demurrage of that 50 million, we pay two thirds, then 10 penalty on a 70 million net profit nominal number for refinery. So that is the position I believe we are faced with, assuming our negotiating position is not much weaker than it is today. Which it will be, of course. My boss says, "I don't like that, give me option 2". Option 2, which Mr Nugee suggests will be absolutely crazy economically, is to remove the equipment and our highly trained men from the IOT. It does mean we cannot operate both refineries at full and even economic capacities for the period of time it will take us to set

up new jetty facilities, but at least we reclaim equipment. We can't use the pipes. Of the 100 million, maybe we reclaim £50 million of equipment to reuse.
MR JUSTICE VOS: Yes.
A. The obvious penalty is that the refinery -- Total's refinery, would probably have to shut down short term until the facilities, jetty facilities, are built elsewhere. The unknown is how long that would take. If it was two years at nominal market conditions, we could lose a gross margin of £250 million a year. It doesn't sound attractive. But at the moment we are in the middle of a deep recession. We are already not covering all of our operating costs. So in fact, in reality, if the market conditions remain similar, over the next two years the lack of margin might cost us 150 million, but we are repaying £50 million worth of kit.
MR JUSTICE VOS: I'm not quite sure I understand this. You are not covering your operating costs now?
A. So the 70 million net profit that I suggested a typical refinery might make isn't being made in refineries today of our type. We are making a loss, in fact. Am I allowed to say that in court? I don't want to be publishing too many details of our financial statements, but it is very important that --

MR JUSTICE VOS: What was your 150 million figure?
A. I was suggesting that the gross margin of $1 million a day that I said was typical for normal market conditions, was £250 million a year gross margin. You shut the refinery down, you lose all of that per year. So that's maybe 500 million lost over two years. But we are not in normal economic conditions, so I've already lost part of that margin because the economic climate doesn't allow me to buy feed and sell product to make that margin. So in fact I'm losing smaller margin in the next two years than the nominal I talked about. What that figure is I don't know, and I won't know that until the middle of next year when we reset the budget. It may be the recession is turning and the refining economics are coming good, it may be that it's getting worse.
MR JUSTICE VOS: So what was the 150 figure?
A. That was a suggestion of how much the gross margin may be today on a typical refinery. Per year. 150 instead of 250. Just because the market conditions are poor. So my boss will not be liking the sound of the second option either because it costs him a lot of money to take the kit away. And in a dossier I would have to tell him. We haven't had much discussion about it, but there's a new jetty being constructed, or

will be constructed. Able UK is developing a large jetty facility on Total-owned land between Lindsey refinery and the Humber. It has got strong government support, it has been through the first stages of planning permission.
MR JUSTICE VOS: Total-owned land? Does that mean land owned by you?
A. Sorry, yes. Land owned by the refinery is to be used to construct this. So I think it's called the Able Marine Development Park. It's got good government support because the main purpose will be to construct offshore wind farm turbines, to construct and launch them, if you like, off a new jetty structure.
We've already been in discussions with them about equipping that jetty structure with oil pipelines and equipment. Needless to say, Associated British Ports oppose this development. So in my dossier I'll have to say to the chief executive that it seems like a very dramatic, costly strategy to shut down a refinery for two years while trying to force a fast development of a new jetty facility, but if you retain £50 million-worth of equipment, after the two years is over, you are back to making normal net profit, because you'll have a stronger negotiation position, there will be two competing jetty facilities. I'm assuming that

the IOT will have been reequipped by Associated British Ports, because in his witness statement and on the stand, Mr Fitzgerald has said any equipment that we remove he will replace. So there will be an operating oil jetty, the IOT, and there will be operating oil facilities on a new structure, albeit two years away if we can accelerate to that sort of construction speed.
One of the things in our favour is we will already have the long lead equipment needed to equip the jetty, because we've taken it off IOT. We will have 50 men, experienced, qualified, highly trained operations and maintenance guys that know what a jetty looks like, how it should be built, how it will be run. And if the refinery is shut down for two years, we will have another 200 men that we've -- we'll still be paying the salaries on, which we will have to redeploy to accelerate that project.
So in option 2 that we will present, it's a difficult first period, but leading to a profitable future. It may be more profitable in future because, with two jetties competing, we can negotiate properly the fees and there will be more capacity. So the existing £10 million demurrage which we currently pay -- not the additional 10 I think they may impose by mistake but the existing demurrage -- will be less.

There will be less ship delays. So our net profit might not be 70 million, it might be 80 million.
So the boss will look at me and he'll say, "I definitely don't like option 1. I don't like option 2 because it's risky and it's quite a lot of money to lose immediately. Give me an option 3." The only option 3 I believe we could offer would be to shut the refinery down, make a thousand men redundant, and pay the 500 million decommissioning costs.
On a personal level, I don't like option 3, but it will not be my decision. He will ask me, as I'm sure my learned friend will later ask me, "Why would we have to shut it all down? Why not turn it into an import/export merchant terminal and only decommission the process units of the refinery, which will only cost me £200 million? I keep the tank farm and I operate it." And I'll have to say to him, "Not at those jetty prices", because no one can operate a merchant terminal, paying the fees that the port are demanding in the witness statements on the stand. And if there is no competition that we could go to to supply this merchant terminal, I do not believe it could be run profitably.
So the answer to Mr -- I'm sorry, Mr Nugee, it took me a long time to say it, but it's important the court understands that the answer is: it is not a crazy option

for us to remove the kit and the men. Financially it is not comfortable and it is why we are fighting in competition court to try to prevent us being forced to do it. But if the port's settled intent relies on our kit and our men, then it's purely an aspiration and I think it is unrealistic.
MR NUGEE: Okay. Well, you are right, Mr Robson, it's important that the court understands.
You've spent the last 15 minutes giving his lordship a very detailed account of your thinking; why does none of it appear in your witness statement?
A. Because the -- as I understand it, the negotiations which have been going on for so many years have come to an end, and this -- our challenge to their settled intent -- we knew it required us to give an explanation as to whether we would or not remove the kit and the men. If I am honest, I've agonised about exactly what we would do for a long time, and it will come as a surprise to my Conoco colleagues, in fact, my summary of my vision of what I will put in the dossier to our Total guys. You haven't asked me also about what Conoco will do, and I don't know.
Q. That's not an answer to my question, Mr Robson.
You have just told his lordship that you knew it required us -- that is these proceedings -- to give an

explanation as to whether we would or would not remove the kit and the men. ABP have been asking HOTT ever since September 2009 whether it would remove its equipment and you haven't answered.
A. We have answered. We've told them they cannot rely on that, because the conditions pertaining at the time may allow us to leave the kit behind. We have definitely answered that they cannot rely on that equipment being left in place.
I don't know today what the economic conditions will be. It may be economic for us to leave it in place and take the pain of the jetty fees. It may be. But we've definitely told them that they cannot rely on it, because we do not foresee that that is an assured, absolute 100 per cent expectation.
Q. What you have said in answer to the question, "Will you remove your kit or will you leave it there?" is, "We do not need to tell you and we are not going to tell you," isn't it?
A. No, we've said they cannot rely on us leaving the kit and the men. There will be quotations in our written, on the record statements, for sure.
Q. I may have to come back to that.
MR JUSTICE VOS: Do you think this would be a good moment to take a break?

MR NUGEE: Yes, my Lord, it would be a very good moment to take a break.
(11.45 am)
(A short break)
(11.50 am)
MR NUGEE: Mr Robson, I'm afraid I'm going to be slightly longer with you than I had expected to be yesterday, because as you appreciate, we had not anticipated any of what you told his lordship.
I'm going to ask you again, given that, as you said, you realised that you had to in these proceedings:
"We knew it required us to give an explanation as to whether we would or would not remove the kit and the men."
Given that you appreciated that the entirety of these proceedings are about what is going to happen to the jetty if ABP resume possession of them, why did you not say anything about any of this? I hope I'm not misrepresenting you. You have not said any of this in your witness statement.
A. In my witness statement, I was asked by my legal team to describe the detailed complexity of the operations, which was what I did. They interviewed me to prepare a witness statement, and it was --
Q. Well, I can't ask you about what advice you received

from your legal team and I don't want to, and it may be that you simply answered the questions you were asked to answer, but you understand that the evidence you have just given as to -- and this is not HOTT's intention, this is Total's intention --
A. No, it's not even Total's intention, this is my person opinion.
Q. This is your personal opinion?
A. Which I was told I will be asked on the witness stand and to have an answer and to give my honest opinion.
Q. This is not something that has been discussed within Total?
A. The many aspects have been discussed. The negotiations on de-bottlenecking Tetney for crude, the negotiation with Able UK for using some of their new jetty facilities for oil; all of that has involved other Total and Conoco people, and I'm sure the port will have been well aware that those discussions have been going on, certainly in the Tetney case and I think even in the Able case -- we've mentioned it in without prejudice negotiation meetings --
Q. Don't tell us anything you have mentioned in the without prejudice negotiations.
My instructions are that the port has never heard of any suggestion that the Able development would

incorporate or might incorporate oil facilities. Is this something that you personally have been involved with discussing with Able?
A. Yes.
Q. Are any of those discussions in writing?
A. My -- there must be some discussions. I suspect -- again, I suspect they may well be without prejudice. There was negotiations between Able, Total, and -- Able and Total specifically, because we own the land and they want our land. They have even raised the prospect of compulsory purchase of our land to the jetty. So we were unable, if you like, to avoid discussing with Able their plans without risking our land being taken from us. But I haven't been party to those negotiations on land transfer.
Q. Just stopping you there, Mr Robson, the land transfer negotiations have nothing to do necessarily with putting an oil jetty on Able's --
A. It's the obvious price we would demand for our land.
Q. Have you personally been involved in negotiations with Able about putting oil facilities on their proposed facility?
A. I attended one meeting with Able at which that was discussed. And I was asked to give them details of the ship size, cargo size, draft depths, the mechanical

details, if you like, of what that shipping requirement would imply so that they could study whether they would fit on their development and the like.
Q. There's no pending litigation between you and Able, is there?
A. None that I'm aware of, but as I say, there was discussion of them trying to compulsory purchase the land and I've not been involved. I don't know whether that has been launched or not.
Q. Compulsory purchase doesn't necessarily lead to litigation, does it?
A. I don't know.
Q. There's no reason why any discussions with Able should be without prejudice in the technical sense, which is without prejudice to people's positions in litigation, is there? It might be subject to contract, but that's a different thing.
A. I don't know. You are beyond my competence there. There will be commercial in confidence between companies, because we would not want, for instance, competitor ports getting wind of the amount of money that we would be prepared to pay ourselves to somebody else. So I guess there would be commercially in confidence, but I don't know whether there would be any without prejudice, I don't know.

Q. You presumably have been advised by your lawyers as to the duty of disclosure in litigation, Mr Robson?
A. Yes, there was a team of forensic computer guys came and took all my hard drive and emails and files.
Q. Did you not think that any documents in which you discussed the possibility of putting oil facilities on Able's possible development were relevant to the matters his lordship was going to be asked to decide?
A. Everything I have is in that disclosure. My filing system is not sufficiently detailed to keep everything separately. Everything I have and everything my boss, Nigel Tranter, had at Lindsey, the steel company had, they took away.
Q. Right, I probably can't take that any further apart from asking you whether you'll have a look at anything that you retained to see if you have any documents passing between you and Able, or internal documents of yours discussing this possibility.
A. Am I right to understand then that -- I genuinely don't know -- if they are not without prejudice, if they are commercially in confidence, and they show commercial negotiation detail, that I have to give that to the port? I don't know.
Q. You will be advised by --
A. You will already have them, to be honest. If they

existed in my files or my boss' files, you will have them as part of that disclosure, but clearly I will give you anything I have.
Q. It's not for me to advise you, it is for your lawyers to advise you. But it is true, if something is without prejudice, if it is relevant to the proceedings, it ought to be disclosed.
Next point. Able, you said, have gone through the first part of the planning process. What they have applied for is an energy park upstream of the Port of Immingham.
A. Yes.
Q. That has not yet formally been submitted, it's still in draft, isn't it? You may not know, but that's what I'm told.
A. No, I thought -- I thought I saw in a local paper that they had got planning permission for the -- like it was a first stage planning permission. I don't know the full detail, to be honest. I saw something in the paper about it and I thought they had got past the first phase of planning -- outline planning permission, or whatever planning permission.
Q. I am told that the final application has not yet been submitted and the application is still in draft.
Have you seen their application, or draft

application, for planning permission?
A. I haven't personally, no.
Q. I am told -- and if you haven't seen it you are probably not able to contradict this but I ought to give you an opportunity to -- that it has no reference at all to any oil facilities on the development. The development that has been submitted is for an off shore wind farm facility. Does that sound right to you or do you just not know?
A. That's the main purpose of their new jetty facility, but we've definitely discussed with them their ability to add oil jetty facilities at the southern end near South Killingholme; originally because, as has been discussed by the port in some of their documents, ABP were talking about converting Immingham Gas Jetty to bulk, and therefore it no longer being available for oil traffic. And so we foresaw the need to add a second berth on South Killingholme in conjunction with the Ministry of Defence, or building a new berth, and that seemed -- the easiest, fastest way would be to add that berth onto the big development that was already going through this faster track planning permission.
Q. Yes.
Thank you, Mr Robson. But the question I actually asked you was: do you know whether the application, or

draft application, for planning permission that Able has submitted, or is planning to submit, in draft, has any reference to any oil facilities on the development?
A. I don't know.
Q. You do know, presumably, that this suggestion of Able's is for a large concrete structure sticking out into the Humber?
A. Yes, I've seen -- on their website, there's a diagram.
Q. Do you know that it has generated substantial opposition from environmental bodies because it means building over important bits of mud which are important wetlands?
A. Having been through all the pain of the environmental impact assessment for the deep water dredging project, I would be amazed if they did not have a lot of environmental impact assessment work to do.
Q. Did you know that none of the environmental statements that they have made in support of their application contain any reference to oil facilities?
A. I haven't seen them. I don't know.
Q. No.
The truth is, this is something that you have thought about, but it is at a very, very early provisional stage, this suggestion of asking Able to put oil facilities on their proposed development.
Shall I read the question again? It is something

you thought about, but it is at a very, very provisional stage?
Did you know that what they are planning to call this thing, if it ever gets built, is the Marine Energy Park.
A. I thought it was the Marine Development Park, but Marine Energy Park, if it is.
Q. Let me ask the question again. Although it is something you personally have thought about, it is at a very, very early provisional stage, this suggestion?
A. It's at a fairly early stage, but it's what you might call a "feasibility study", because they have been asking for details of our ship size, which I gave them at that meeting or soon after.
Q. This is further upstream than Immingham, isn't it?
A. It's just to the left of South Killingholme jetty, yes.
Q. That means the drafts in the river are lower?
A. Without dredging, yes.
Q. That means you get smaller ships up there?
A. It means you pay for dredging.
Q. You said that ABP had opposed Able's application -- draft application. Are you aware of the grounds on which they have opposed it?
A. I'm not. I haven't seen, I don't think, any documents about it, so ...

Q. What you actually said was something like, "Unsurprisingly opposed it". Is that because you take a very cynical view of ABP's intentions?
A. As the main port on the Immingham harbour, clearly it was in their interests to oppose the arrival of a new big port player just next door.
Q. Right, if I told you that I'm instructed that the ground of opposition which has been put forward is that Able is trying to use what's called the IPC procedure, which is the Infrastructure Planning --
A. Ah, yes.
Q. -- Commission procedure, whereas ABP's position is, it shouldn't go through -- it doesn't qualify for IPC permission and has to go through the normal route. Is that something that you knew? Is it something you can comment on, or something you just know nothing about?
A. I had heard vaguely about, that's why I mentioned it was this fast track planning permission. I think the government thought -- for major infrastructure projects, the government was introducing a faster version, so that where it's in the public interest or UK's interest, it can go in slightly bigger -- faster phases. So I don't know what it's called, but that was my impression, that there was an infrastructure style of

planning permission.
Q. Well, we are obviously not in a position and I'm not going to ask his Lordship to make any findings as to whether this draft application, which we haven't seen, does or does not fall within the IPC remit, but do you understand that if it does not fall within the IPC's remit, it will take rather longer for the planning process to take place.
A. Yeah, I guess so. I don't know.
Q. You don't know. I'm very conscious that there are things that you just may not be able to help us with, but I have to try to explore what it is you do and don't know.
Even if it were within the IPC remit and that were accepted, and properly accepted, by the IPC, do you know how long this so-called fast track procedure would take?
A. The reason I quoted two years when I was talking about it is, my impression, either from the article in the paper or from the website, is that they were hoping to have this one in 2013 time, so I thought it was a couple of years away, but that's only the impression they give, which may well, of course, be their aspirational timescale.
Q. Yes.
I'm told that it will take at least 12 months and

could take considerably longer, even on the fast track process, to get to the stage of getting permission. If you are not able to comment ...?
A. I really don't know the timetable of this kind of development.
Q. Right.
And that even if you got permission, it would then take quite a long time to get the thing built, and up and running, and actually usable?
A. The whole thing, I guess, yeah, why I thought there might be an attraction to us reusing kit which took a long lead time to buy.
Q. Even before you put any kit on it, Able have got to actually pour the concrete onto the mud and make the jetty.
A. Sure, yeah.
Q. So two years may be very optimistic, Mr Robson. That's sort of shortest possible timescale if everything goes in Able's way and your way?
A. I guess the nearest equivalent to it was the Associated British Ports development at their outer harbour, and I don't know how long that took, but there will be something in the record about how many years it took them to build from the first tonne of concrete to last tonne of concrete. I don't know.

Q. I mean, as we've discussed, Able are at a stage with a draft application. I'm told that that's supported by a substantial amount of documentation, which, as I've said to you, contains no reference at all to an oil jetty. If they did wish to put oil facilities on their Marine Energy Park, they would have to rewrite the application and redo all the environmental impact.
A. I really have no idea, to be honest, what they have already proposed, or what they will need to redo.
Q. So your two years, which is on the best possible case, is taken from Able's statement that they would hope to have the thing completed by the end of 2013, but does not allow for the fact that, if you persuaded them in commercial negotiations to put oil facilities on it, they would have to redo the application and rewrite it, and then put all that -- which is a change, a significant change -- into their environmental impact and into their discussions with government and the like, and no doubt have to reconsult the public.
A. I really don't know how long these things take, genuinely.
Q. No, so when you told his Lordship that one of the options you might be putting to the hypothetical board, the base case option 1 and 2 and that this would involve two years shut down, the truth is you personally

don't really know at all how long the shut down would be, even if you could get Able to agree?
A. No, for sure, this dossier, which was hypothetical, if we lose this week and on competition, this dossier will have to be prepared then, and at that time I guess there will be more vision, more clarity on timescale of alternatives and cost of alternatives.
Q. Yes.
So that's one the figures you put forward, the two years. If it's not two years but three years or four years, it makes a significant difference to the economics that you explained to his Lordship.
A. I mean, that was a --
Q. It is a back of envelope --
A. I was about to say a fag packet calculation not back of the envelope --
Q. Back of the envelope is more PC, but yes.
A. Yes. You can do the mathematics yourself on timescale and what the relative economics would look like to an oil refinery.
Q. So if we go back to what you said about your options in this hypothetical dossier you put forward, this one, which is to close the refinery for a couple of years, or three years or four years, and use Able's Marine Energy Park, is one that you really have no substantial basis

for saying is likely to happen, do you?
A. It feels more like a settled intent to me than the one that ABP have proposed.
Q. Well, let's just explore that. Firstly, you have to persuade Able that it's something that they want to do, don't you?
A. Yes.
Q. They are not actually, at this stage, planning to put oil facilities on there. What they are planning to do is have an offshore wind farm manufacturing facility. That's what it is.
A. As I said, I haven't seen their official planning permission, so I don't know if it includes, but certainly, in verbal discussions with them, they were very open to the idea and asked for details of our shipping pattern and size and type.
Q. Right, you would then, even if you persuaded Able that that was something they wanted to do and could agree terms with Able, Able would then have to redo their application in order to incorporate this change in their application.
A. Again, I don't know what the rules are under this new IPC. I'm not sure if it's clear.
Q. They would then have to survive the opposition of the environmentalists, such people as the Environment

Agency, Natural England and RSPB.
A. All of which, incidentally, I presented to and won over for my dredging EIA, so I now have permission to dredge the Humber, and I had to go for the same organisations. I now know the eating habits of puffins and sand eels and all sorts. It's crazy. The level of detail in the study was immense.
Q. There are sand eels in the Humber, are there?
A. Yes.
Q. So do you get puffins in the Humber?
A. No, annoyingly. Although I had to do a survey; they don't fly that far south from Bempton.
Q. Their opposition is only likely to be intensified if they are told that instead of buying nice green offshore wind farms, they are going to be using the facility for oil.
A. No, again, for me, the best example is all the development that ABP have done in the outer harbour, very similar: dredge up mud, lay down either water or concrete, and all of that is -- went through and it's a big port development under this new project. For me, it's very much a doable project.
My impression -- again, only from snippets in the press and the like -- is that it's very likely to go ahead on the fast track. Certainly that's what Able

tell me, of course, but then they will take the rosy view, of course.
Q. They would tell you. They are not going to tell you: we've applied for fast track, but actually our internal advice is the chances of getting it are a bit remote and ABP have quite rightly pointed out that it doesn't really fall within the fast track procedure. They wouldn't tell you that, would they?
A. They wouldn't tell us that probably, no.
Q. So you don't know and you've not taken any advice as to whether it really falls within the fast track IPC procedure or not.
A. No, I haven't. It's not my project.
Q. So there is another potential hurdle. It might be fast track, it might not be fast track; it might lead to litigation, one never knows, as to whether it is properly within the fast track or not.
Then somebody, either the IPC or the ordinary planning authorities, has to decide whether this is something for which permission should be granted, and again, that is not something which can be guaranteed?
A. No, but I think if we present to the government, as we have been trying to do, the risk to the refinery future of an uneconomic long term deal, I imagine addition of oil facilities to that fast track project would get

government approval and would be warmly welcomed as an addition.
Q. You don't really know, because you haven't mention this had suggestion to the government yet, have you?
A. No, in the discussions with DECC we talked about that we were looking for alternatives. We've studied building a new jetty, IOT2, as we called it, next to the existing IOT. We've got a feasibility study by Foster Wheeler Energy Construction Company, which is where we get our pricing information from, to decide how much it would cost, whether it would fit, how deep the water would be. All of that study work has been done, but that will be an entirely new facility on our own.
We've studied with ConocoPhillips the de-bottlenecking retirements, the various steps of investment needed to increase cruding port at Tetney, which is already deep water, with many tanks at the Tetney terminal. It needs upgrades of pipes and pumps and the like, but clearly that's an attractive option as well. And this Able development was a relatively recent development which clearly presents another opportunity to us to get better oil facilities and competition into the area, which also, I think, in our submission to ABP's master plan, the draft which you talked about yesterday, both ourselves as Total and HOTT as our joint

venture submitted lots of comments along these lines, including the fact that the Government should welcome this development as introducing extra competition and capacity into the Immingham area.
Q. Yes. But you have not so far broached with government the possibility, which at the moment is only a remote possibility, of putting oil facilities on Able's intended Marine Energy Park?
A. I certainly haven't talked to anyone from the Government. I'm not sure that our negotiators haven't. We have had meetings off and on it with DECC and the Department for Transport, and to be honest I can't remember the timeline. Able has been rumbling for quite a long time, in the press and in discussions in the local area. We are part of this local planning authority development association. So there's a lot of discussion gone on in there, and I don't know personally what has been discussed in that meeting. I think our guy, Steve Odlin, and maybe Nigel Tranter, our refinery manager, got involved. It is local authority -- the name might come to me. There's a local planning -- not planning. Humberside development authority or --
Q. As far as you are aware sitting there, you don't know whether anybody in Total has talked about this possibility with DEC?

A. No, today I don't.
Q. You are right that the process that Able has engaged upon has already taken them some 12 to 18 months to get to this stage. Does that sound about right? There has been a lot about it in the local press.
A. Yeah, I think so. I think so.
Q. So they've spent 12 to 18 months working up their proposal to get to this stage without any oil facilities in it. It is right, is it not, that if they were to change their application they would have to go through maybe not another 12 to 18 months, but a substantial period to redo all the stuff they have been doing in the last 12 to 18 months?
A. I've already answered that.
Q. I know you have, I shouldn't require you to answer a question again. But do say anything you wish to say.
I may have a few more questions after lunch on that, but at the moment that's all I want to ask you about the possibility, that you've mentioned for the first time to us, about the Able development.
The other options you suggested to his Lordship were to close the refinery completely, which is something you said would cost 500 million and would make a lot of people redundant, and you personally would be very unhappy with.

A. Yes, I would be unhappy. I need to make clear by the way, this is not Total policy.
Q. No, no, I understand that.
A. Clearly this would be in the public domain. I am --
Q. This is your thinking.
A. This is me with my planning and other movements knowledge, long standing knowledge of the refinery and its economics, hypothesising about if we lose the various court cases and we are left standing with no defence, what Total's decision-making process would be. So I just don't want it quote that this is some kind of decided set of options. There may be option 4 and 5, that I haven't thought of, that the team will generate.
Q. Can I take it that total closure of the refinery is not something that is very likely to happen?
A. Yes. Not long term closure, by the way. Just to clarify that. The refinery's invested a lot of money to become an economic big player. This new process unit we've invested. So our long term viability from an economic standpoint, assuming we are not strangled at the jetty -- our long term viability looks good, to me, as an oil industry professional compared to other refineries in the Western Europe, but that isn't the same as a temporary shutdown for strategic reasons.
Q. The option that I think you suggested to his Lordship

before the break, you had a base case, which is the current position, and then you had option 1, which is using the jetty, option 2 --
A. Option 2, removing the kit and finding a new solution.
Q. Option 2 is the Able solution. And then I think you had an option 3?
A. The option 3 was the 0 option, if you like, that Total, the board, might decide they don't like either of those and to get out and shut entirely, but clearly that would be, I think, a very unpopular decision because the costs of shutting down and cleaning, land remediation, are high, and clearly at the moment Total's stated position is it wants to try to sell the refinery as a going concern with a high value.
So it will be -- option 3, I would hope, is the much more expensive option and therefore not chosen by my chief executive, but he did shut down -- I say "he", not he personally -- the Total ComEx decision to shut down Dunkirk refinery was taken despite political and union pressure in France, so these decisions sometimes have to be taken by big oil companies. But as I say, my belief is that our refinery is a strong economic performer with a long future provided we manage to protect our contractual position.
Q. Right, so I am going to ask you a question which I've

asked you before. The likelihood of option 3, which I think is total closure, is something that you regard as a small likelihood?
A. Yes.
Q. Yes.
Then you had an option 4, which was closing the refining bit and using it as a tank farm, effectively, tank storage.
A. I did not have an option 4. My option 3, I said I will be asked the question, which I've asked myself, about why not just leave it as a tank farm. And for me, based on the economics proposed by the port, there is no chance at all that anyone could operate a tank farm as a merchant terminal with those kind of rates for the transport of oil.
Q. Right. And the only other option was what you call "option 1", which is continuing to use the Immingham Oil Terminal on whatever terms you are able to agree?
A. A renewed lease, I think would remain the best option, yes.
Q. Well, we all understand that your preferred means of access to the jetty would be a new lease, but you can't have a new lease unless you either win these proceedings or ABP choose to agree one with you.

R/4033/01

PLANNING ACT 2008 (PA 2008) AND THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE)

APPLICATION FOR THE PROPOSED ABLE MARINE ENERGY PARK ON THE SOUTH BANK OF THE RIVER HUMBER AT IMMINGHAM, NORTH LINCOLNSHIRE

PLANNING INSPECTORATE REFERENCE NUMBER: TR030001
Unique Reference Number: 10015525

Written Representation

Peter Whitehead BSc (Hons) C.WEM MCIWEM CGeog FRGS

Coastal Processes/ Morphology/Modelling

ABP Marine Environmental Research Ltd

Abbreviations

AMEP	Able Marine Energy Park
ABP	Associated British Ports
ABPmer	ABP Marine Environmental Research Ltd
CD	Chart Datum
CIWEM	Chartered Institute Water and Environmental Managers
EIA	Environmental Impact Assessment
ES	Environmental Statement
ExA	Examining Authority
IECS	Institute of Estuarine & Coastal Studies
IPC	Infrastructure Planning Commission
GPH	Green Port Hull
Ha	Hectares
HIT	Humber International Terminal
HST	Humber Sea Terminal
IOTA	Immingham Oil Terminal Approach Dredge
IOH	Immingham Outer Harbour
M^3	Meters cubed
MMO	Marine Management Organisation
SAC	Special Area of Conservation
SDC	Sunk Dredged Channel
SPA	Special Protection Area
SSC	Suspended sediment concentrations
TSHD	Trailer Suction Hopper Dredger

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1. Personal Introduction

1. My name is Peter Whitehead. I hold a BSc (Hons) in Geography, am a Chartered Geographer and a Chartered member of the Institute of Water and Environmental Management (CIWEM).

1.1 Relevant Experience

2. I am an Associate employed by ABP Marine Environmental Research Ltd (ABPmer), with 32 years of experience as an applied marine and environmental scientist. I have contributed to and been responsible for numerous studies into the morphological development, estuarine processes and development assessments on estuaries throughout the UK, but primarily the Humber Estuary. These have involved interpretation of field hydrographic and sediment data, bathymetric analysis (historic and contemporary) and the results of both physical and numerical modelling. This understanding and has provided the baseline for interpreting the environmental effects of developments on the Humber.

3. I have worked on various studies on the Humber since 1979, predominantly concerned with understanding the physical processes and the morphological dynamics (changes in the shape and form of the estuary). This has included specific technical studies (both for the baseline and impact assessments) for a number of proposed developments throughout the estuary. Of particular relevance to the current proposal are the studies and assessments undertaken for the Humber International Terminal (HIT), Immingham Outer Harbour (IOH), the phases of Humber Sea Terminal (HST) development and the Immingham Oil Terminal Approach Dredge (IOTA), all of which have been consented, and, where constructed, with appropriate monitoring and compensation packages. Plans of the Humber Estuary are shown in Figure1 to 3.

4. In addition I have been involved with the monitoring and analysis of dredging data and bathymetric (sea bed depth) charts of the Sunk Dredged Channel (SDC) as part of the channel management process as well as the historical analysis of bathymetric (sea/estuary bed) change at various locations within the estuary. These studies have combined various evidence, including field measurements, chart and dredge record analysis along with both physical and numerical (computer) modelling.

5. This estuary understanding has been used to determine and design capital and maintenance dredge strategies within the estuary to minimise actual and potential impacts to the designated features (intertidal and subtidal habitats). This has helped to maintain the existing erosion and accretion in balance for the purpose of navigation and nature conservation and, therefore, the sustainable physical functioning of the Humber Estuary.

1.2 Scope

6. Associated British Ports (ABP) has commissioned ABPmer to review the Able Marine Energy Park (AMEP) development application documents with respect to marine impact issues in relation to:

a) The soundness of the Environmental Statement (ES) submitted by the applicant; and
c) The need to safeguard ABP's existing estuary operations.

7. The scope of this Written Representation is based on a review of the various documents which comprise the AMEP Environmental Statement (ES) (submitted to the Infrastructure Planning Commission (IPC) January 2012) concerning the studies and assessment undertaken with respect to the marine impacts of the proposed development. The review predominantly concentrates on Section 8 of the ES - Humber Estuary Regime - Hydrodynamics and Sedimentation, and the supporting Annexes, listed below. Comment is also made with respect to Section 10 Aquatic Ecology and Section 32 of the ES - Hydrodynamics of the Managed Realignment Compensation Site of the ES. The documents reviewed include:

- Able UK Ltd, ERM & Black & Veatch - Able Marine Energy Park Environmental Statement December 2011, principally Sections 8 and 32;
- JBA Consulting - Modelling Studies (v 9.1) - Annex 8.1;
- JBA Consulting - Geomorphology Assessment Report - Annex 8.2;
- HR Wallingford - Fine Sediment Modelling - EX 6603 (v 9) - Annex 8.3;
- HR Wallingford - Dredge Location Plume Modelling-EX 6627-Annex 8.4; and
- Third Party Representations to the IPC Process.

2. Summary

8. Associated British Ports (ABP) has commissioned ABPmer to review the Able Marine Energy Park (AMEP) development application documents with respect to marine impact issues in relation to:

a) The soundness of the Environmental Statement (ES) submitted by the applicant; and

c) The need to safeguard ABP's existing estuary operations.

9. The scope of this written representation is based on a review of the various documents which comprise the AMEP Environmental Statement (ES), particularly Able UK Ltd, ERM & Black & Veatch - Able Marine Energy Park Environmental Statement December 2011, principally Sections 8 and 32 and its technical annexes undertaken by JBA Consulting and HR Wallingford.

10. The potential marine impacts for the proposed new port are a matter of concern to ABP as a statutory undertaker and operator of adjacent ports on the Humber Estuary. The following general concerns are based on the information provided in the AMEP Application submitted of 13 January 2012.

11. The number of issues arising from the review of the documents has led to the conclusion that the ES is fundamentally flawed. First as to modelling:

11.1 There are inaccuracies, inconsistencies and omissions in the project description and therefore it is impossible from the information presented to determine all the actual impacts and their scale; that may arise should the development be undertaken. The ES is therefore deficient;

11.2 There are fundamental omissions in the computer modelling which is the cornerstone of much of the assessment. Deficiencies in the modelling raise significant concerns about the validity of the conclusions of the ES;

11.3 The baseline model does not appear to include the important sensitive receptor of Immingham Outer Harbour or the effects of the considerable jetty infrastructure along

Immingham Waterfront which affects the local sedimentary and hydrodynamic regime (and therefore the estuary dynamics at the AMEP site). This reduces confidence in the modelling results;

11.4 In particular, the development as proposed has not been modelled (or data presented) for all process parameters. Assessment has been made based on a larger reclaimed area, justified by stating that this would be a worse case. The effects next to the quay might well be worse. Local effects have the potential to affect the hydrodynamic and sedimentary conditions both up and down estuary. This again undermines the basis of the conclusions of the ES;

11.5 Modelling concerns are further exacerbated by insufficient calibration of the hydrodynamic model to give confidence that the hydrodynamics of the estuary are adequately reproduced in the areas of the ABP operational management and control locations. Suspended sediment concentrations in the fine sediment transport model are not well represented and the tidal distribution is incorrect. No information is presented on how well it is calibrated elsewhere in the estuary. Confidence in the effects of the development on the sediment distribution and particularly its quantification cannot be considered reliable. The deficient calibration and validation questions the models fitness for purpose as impact assessment tools in this instance; and

11.6 As the modelling results are the cornerstone for determining the requirements and quantities of any mitigation or compensation measures; the impact assessment again is questionable.

12. Second, as to the ES <u>methodology</u>:

12.1 The assessment methodology is deficient, being too broad brush to identify many of the issues which could be significant when aggregated, or which could have long term effects;

12.2 The assessment of the proposal on fisheries is also generally inadequate;

12.3 Modelling results need to be interpreted with care, in the context of reliable understanding of the natural processes operating in the estuary. The baseline understanding is deficient and therefore the interpretation of the modelling results and determination of significance of impact is unreliable;

12.4 The dredge disposal grounds have not been adequately assessed and there has been no consideration of beneficial use of disposing of the dredged material in a way that has least environmental impact, which for reasons of sustainability, is a standard regulatory requirement. The use of the disposal grounds is questionable and the risk to navigation in the Sunk Dredged Channel insufficiently considered;

12.5 The ES conclusion that the only residual impact of the development during operation is maintenance dredging of AMEP berth, with no maintenance dredging at existing facilities, is neither justified nor justifiable. There are multiple fundamental deficiencies in the data supplied and the assessment undertaken;

12.6 The ES assessment methodology does not adequately investigate or discuss the effects on the EU designated habitats and there is insufficient information to support an Appropriate Assessment. The quantification of habitat loss (and hence compensatory habitat required) does not include disturbance effects to designated habitats arising from major components of the development including: capital dredging of the berth pocket and navigational approaches, the deposit grounds, and the long term losses from morphological changes to the estuary. Following the precautionary approach it is not possible to conclude that there would be no adverse effect on the integrity of the site given the sparse evidence base provided;

12.7 The cumulative and in combination assessment is weak and does not include a sufficiently detailed assessment of the effects of other consented schemes in the estuary; and

12.8 As such, there is insufficient information provided to determine impacts with any confidence or to produce the necessary supporting mitigation and monitoring plan.

13. These flaws mean that the conclusions of the ES are not reliable and it cannot be concluded with any reasonable degree of confidence that:

- There would not be a significant adverse effect on navigation in the Humber Estuary and/or ABP's port operations; and
- The interests which the Habitats Directive/Regulations protect would be safeguarded, with the necessary mitigation/compensation measures as required by law under the Habitats Directive/Regulations.

14. The additional work identified in this Representation would be necessary to ensure a reliable assessment and is standard practice for regulators. Presentation of relevant data necessary for the identification of impacts and determination of their significance as well as cumulative and in combination assessments is a standard requirement. This is necessary for regulatory compliance, public participation and transparency in decision-making. By contrast the AMEP ES has dismissed changes which may be individually small but cumulatively and in combination, potentially significant, without any analysis or assessment.

15. ABP and other developers have been required to undertake such studies and assessments on both direct and indirect effects of their developments, in the formulation and implementation of the required mitigation and compensation measures. Standard practice would be commensurate with those necessary for IOH and the Welwick and Chowder Ness compensation sites which are considered to be good practice. It is noted that equivalent studies and assessments have not been undertaken for the AMEP development. This ES is fundamentally flawed in many areas. It is unsuitable for sound decision-making.

3. Introductory Remarks

16. The potential marine impacts of Able's proposed new port are a matter of concern to ABP as a statutory undertaker and operator of adjacent ports on the Humber Estuary. ABP works closely with Natural England, the Environment Agency and other statutory undertakers to minimise adverse environmental effects of its developments and operations on the estuary which is designated as a Special Protection Area (SPA) and Special Area of Conservation (SAC) under the EU Birds and Habitats Directives. These directives and their associated UK Regulations require a robust assessment of the likely significant affects of developments on the features of interest for which the sites are designated and must reach a conclusion of no adverse effect to the integrity of the sites. The Regulations require the Competent Authority to follow a precautionary approach and therefore robust, detailed and auditable assessments are required in support of the decision-making process.

17. Understanding estuary processes (the hydrodynamics of the estuary, the geology, sediments and how they interact) is the fundamental building block to underpin and quantify the baseline conditions against which the impacts of any coastal/marine development on the surrounding environment can be assessed. This is because the estuary processes are the pathways between the development and the surrounding environmental receptors such as protected habitats and species, water quality, navigation and flood risk.

18. An important tool for the assessment of estuary processes is numerical modelling, interpreted in the context of a good understanding of the physical processes operating in the estuary. These are generally hydrodynamic models with supporting packages to represent sediments (sand and mud), sediment plumes[1], waves and other parameters. A comprehensive understanding of the hydrodynamics is therefore required in time and space to provide a baseline to assess the magnitude of impacts from the AMEP development. This is important in that any results obtained from a model only refer to a single point in time (i.e. a fixed state), whereas the bed of the estuary is continually changing. Modelling is used to determine the changes a development makes on the hydrodynamic (water movement) and sedimentary effects (erosion, accretion and transport of sediment) and to inform changes to the estuary morphology[2]. The models provide the quantification to determine the magnitude of any impacts. The reliability depends on the accuracy of the model calibration and the assumptions made on the model input parameters ('RI-RO' Rubbish In = Rubbish Out or as the Americans say 'GIGO' Garbage In—Garbage Out)). These models are important snap-shots in time which have to be interpreted in the context of the physical and biological processes operating in the estuary, to assess potential impacts of developments. As such numerical modelling is a standard tool supporting, and feeding through, the EIA process; but is not the sole basis of any assessment. It is therefore important to understand its uses, limitations and uncertainties when reviewing the validity of ESs and other assessments.

[1] Sediment plume: the dispersal of sediment through the water
[2] Morphology: the plan and cross-sectional form (shape) of the estuary including the estuary bed, channels, banks and shoreline.

19. If an impact is considered to be significant with respect to the EIA Regulations and/or the Habitats Regulations, then mitigation or compensation measures are often required. Modelling results supply the data and/or quantification when determining the type, design and functioning of these measures, particularly in an EU designated estuary such as the Humber.

20. This standard practice therefore relies on a model (or models), that:

- Has a good representation of the bathymetry of the estuary at sufficient detail to define the processes, important infrastructure and the proposed development;
- Is calibrated to measured data, with emphasis on the main features/receptors likely to be affected;
- Contains correct dimensions of any scheme; and
- Has a proper understanding of the discrepancies of the modelled and measured data.

21. This Representation focuses to a large extent on the ES and the numerical modelling upon which it is based. This is because inadequacies of the modelling will affect the probability of an accurate result from the model and hence the validity of the ES conclusions.

3.1 Fundamental Flaws

22. A number of issues arising from the review of the documents listed above have been identified that have led to fundamental flaws or deficiencies in the ES. These are:

- Inconsistencies in the description of the development;
- Fundamental omissions in the supporting numerical modelling data; and
- Fundamental omissions in the impact assessment scope and methodologies (including cumulative/in combination effects, mitigation and compensation measures, and monitoring).

23. These flaws mean that the conclusions of the ES are not reliable and it cannot be concluded with any reasonable degree of confidence that:

- There would not be a significant adverse effect on navigation in the Humber Estuary and/or ABP's port operations; and
- The interests which the Habitats Directive/Regulations protect would be safeguarded, with the necessary mitigation/compensation measures as required by law under the Habitats Directive/Regulations.

24. The additional work identified in this Representation would be important to ensure a reliable assessment and is standard practice for regulators. ABP and other developers have been required to undertake such studies and assessments on both direct and indirect effects of their developments and when formulating the definition of mitigation and compensation measures It is noted that equivalent studies and assessments have not been undertaken for the AMEP development. In many cases the impact assessments in the AMEP ES are 'broad brush', with little consideration of the smaller, more widespread, effects which could give rise to significant indirect and in combination impacts. This is common to most topics.

25. In previous ES's and Appropriate Assessments for other port developments, presentation of relevant data necessary for cumulative and in combination assessments has been required. This is necessary for regulatory compliance, public participation and transparency in decision-making. By contrast the AMEP ES has dismissed changes which may be individually small but cumulatively and in combination potentially significant, without any analysis or assessment.

3.2 Structure of Document

26. Discussion of the issues which lead to the fundamental concerns relate to:

- Project Description (Section 5);
- Modelling (Section 6); and
- Impact Assessment (Section 7)

4. Project Description

27. The description of the development in the ES does not properly describe the project as required in the EIA Directive. Throughout the ES and the technical supporting documentation there is inconsistency and omissions. These include:

- The description of the berth works;
- Different plan configuration and dimensions of the reclamation;
- Variation in the volumes of dredging and omission of description of some of the materials required to be dredged for the stated project design; and
- A number of specific components of the works have not been detailed, described or assessed.

28. As a consequence the technical studies and topic assessments are assessing different schemes. The results cannot therefore sensibly be compared and in many cases the conclusions are therefore invalid for the scheme presented.

29. This makes it impossible from the information presented in the ES to determine all the impacts, and their scale, that will arise should the development be undertaken. The conclusions of the ES therefore cannot reasonably be drawn from the data supplied.

4.1 Dredge

30. There is confusion and omission throughout the ES and the supporting Annexes on the actual volume of material to be dredged. This confusion has led to uncertainty in the scale of the development and therefore the environmental impacts.

31. For example paragraph 4.4.8 (of the ES) states that the “berthing pocket … will be over dredged to top of natural bedrock [depth unknown] and then backfilled to -11mCD” i.e. dredging the silt/clay and sand from the berth and re-filling with suitable aggregate (no volumes given). This leads to the following problems:

- The volume quoted for removal from the berthing pocket in section Annex 7.6 paragraph 3.4.1 -3.4.3 is 827,000 m^3 but this appears to be based on a dredge depth of -11.5m CD and does not include the additional dredge to bedrock (rockhead) which is noted at between -12m and -20m CD. There is therefore an apparent underestimate in the dredge depth of up to 8.5m. It can only be concluded that the ES is underestimating the dredge and disposal requirements of material in the dredge pocket and hence environmental impact at the dredge location;
- There is also a knock-on effect for the ecology of the berthing pocket because the very different material type at the base of the new pocket (aggregate compared to existing silty clay and sand) is important to the ecology. This should have been assessed, particularly as the area is designated as a SAC;
- A further issue is that the additional disposal volumes arising as a result of dredging to the top of the natural bedrock may also not have been included in the impact assessment at the disposal site.

32. Also in relation to the berthing pocket, there is another inconsistency which has potentially significant environmental impacts. Paragraph 4.4.19 (of the ES) states that the top of chalk (i.e. bedrock) is indicated at between -8m and -10m CD (i.e. a variable, possibly sloping, level of the top of the chalk). If the ES chapter is correct this means the bedrock would need to be dredged - which is not indicated in the dredge material figures. This would require different dredging methods, resulting in different environmental pressures and no assessment has been undertaken. The assessment would need to include the identification of suitable deposit grounds for the chalk and the ecological effects that could occur at that site.

33. It is also noted that recent literature published on behalf of Able 'The Big Space in the Right Place' states "quays designed to be capable of operating – 17m CD". If this is the case then chalk would require further dredging (even if the second set of estimated depths (above) is correct), giving rise to further substantial quantities of material that would need to be dredged (and disposed of) from the berth pocket of which the majority would be chalk. If this is correct this would constitute a fundamental change to the design. This is a further deficiency in the ES.

34. To provide adequate navigation access to these lower depths further dredging of the approaches would be required beyond that which has been assessed in the ES. This additional dredged material would need to be disposed of, with commensurate effects at the deposit grounds that have not been assessed.

35. The capital dredge volumes may be further underestimated as they may not include the required over dredging to ensure the stated minimum depths. These over dredge depths are not provided, nor the associated volumes in the ES chapter. This would have the effect of underestimating the capital dredge volumes and the worst case effects on the estuary. This not only affects the hydrodynamic and sedimentary impacts due to changes in the physical processes, but also underestimates the construction impacts, both at the AMEP site and the dredge disposal locations.

36. Further inconsistencies arise when describing the dredge of the intertidal. The dimensions and volumes quoted change between the various reports making it difficult to asses what would actually occur. The result is that it is not clear that the scheme or the proposed construction works are correctly reflected in the ES. For example, the ES states 250,000m^3 (ES paragraph 4.4.16) will be removed from the intertidal by Trailer Suction Hopper Dredger (TSHD) but Chapter 7, Annex 7.6 paragraph 3.5.1 quotes a total of 294,500m^3. This paragraph also indicates that the difference between these two figures is backhoe dredged material from the quay construction anchor trench. This backhoe material would be of a different character to that dredged by TSHD and therefore would need to be deposited at a different location to that for the THSD. Note the TSHD would need a small draught and would still be tidally restricted. This is not mentioned or taken into account of in the modelling scenarios.

37. Further concerns arise through the misunderstanding in the ES with respect to the existing (baseline) maintenance dredging commitments. The ES states (paragraph 4.4.20) that “the majority of the approach is already dredged to allow access to Killingholme Oil Terminal and HST.” This is not the case. Only the very up-estuary end is dredged to maintain the approach to HST and then only to -7.2m CD as opposed to -9m +0.3m over dredge for the proposed development. Significant additional dredging of the approach channel would therefore be required to maintain access to the AMEP over and above that already committed for HST. The

ES has not modelled the implications of hydrodynamics, morphology, sedimentary and biological effects of the proposed design which would have effect in this area. This is important since the effects on the existing maintained areas may not have been correctly established.

4.2 Fill

38. The source of the fill material for the reclamation has been inadequately investigated. The nominated source of the fill material is unlikely to be available and therefore the ES underestimates the material required for the development and hence environmental impact. In the ES it is stated that fill for the reclamation would come from sea or estuary dredged material, but no volume is given in the project description although later two million metres cubed is mentioned. In another section of the ES it refers to using the dredged material from the IOTA dredging if done at the same time as AMEP but critically no consideration is given to the effects of these works, or alternatives if this material is unavailable. It is unlikely that the IOTA dredging will be available for AMEP as it has been identified for use in the Green Port Hull development. How the aggregate is sourced and the method of placement would have an environmental impact, for example, the number of vessel movements during construction (e.g. on navigation, noise, fisheries and marine ecology) and any sediment dispersal effects during the construction process (e.g. water quality, marine ecology etc).

4.3 Construction Processes

39. Several of the construction processes have not been modelled and likely scale of effects established. For example the sediment dispersed whilst dredging the intertidal to be reclaimed, the anchor trench and the run off effects from the infill behind the quay (rainbowing[3] and pumped discharges from dredgers) have not been included. These effects should have been assessed and the ES should have taken account of the level of model calibration achieved around the development site.

[3] Rainbowing: spraying dredged material onshore

5. Modelling

5.1 Fundamental Omissions from the Models

5.1.1 Existing Development

40. Immingham Outer Harbour (IOH) was constructed in 2006 and currently handles some 1,000 vessel movements a year, with maintenance dredge commitment of over 1 million m^3 per year. It appears that the berthing structure and dredge pocket of the IOH development has not been incorporated in any of the computer models (hydrodynamic and sediment models). If it had been this would have been stated.

41. The fact that it is not mentioned in the ES suggests that the authors are not aware of the development (ES paragraph 8.3.15 Sensitive Receptors). The tidal prism[4] in the harbour is large enough to locally change the flows through the waterfront jetties which would potentially influence flows through the AMEP site, and therefore influences the effect of the scheme. On this same point the models (and hence baseline) do not seem to include the flow blockage and alignment effects of the South Killingholme and Immingham jetty infrastructure which again affect the baseline flow regime and local sedimentary effects. A number of major features that affect the flow regime in the area have therefore not been included in the ES. The failure to represent these effects may affect the level of physical change anticipated from the AMEP development.

42. This is a major deficiency with the modelling and ES, particularly as a number of results show some of the largest changes in this area, which may be even greater if the IOH was included as it is a natural sink for sediment. Thus direct impacts from AMEP on IOH port functions, navigation and port/terminal operations (and vice versa) appear not to have been considered at all.

5.1.2 The Scheme

43. The numerical modelling studies omitted important aspects of the proposed development and therefore do not adequately support the ES. When considered at 'face value' the modelling

studies give the impression that they cover the determination of the marine impacts of the development. However, it is explicitly stated in Table 8.1 of the ES that the final design submitted to the IPC has not been used in all model studies.

44. This makes it impossible to compare and interpret results across the models to assess the adequacy or otherwise of the results.

45. In particular, the final proposed AMEP design is not included in the base hydrodynamic model presented in the ES which is the basis for other modelling studies (sediments and plume). The hydrodynamic model provides the information to assess impacts on sediments, plume dispersion, navigation, water quality, ecology etc. This is considered a fundamental deficiency which makes the model results, the ES and the Appropriate Assessment unreliable.

46. This is a fundamental requirement for a valid impact assessment.

47. The ES tries to overcome the deficiency in the hydrodynamic modelling in paragraph 8.1.5 of the ES where it infers that the modelling of the largest reclamation, extending an additional 80m in front of the final design submitted to the IPC, would be the 'worst case' (DCO alignment). From a hydrodynamic and sedimentary view, this is not a reasonable assumption because of the following:

- The dredge requirements at the DCO alignment would be greater than the worst case alignment because of the shallower bathymetry inshore;
- The shallower depth inshore on the DCO alignment would have a proportionally greater effect on the local flow patterns than the suggested worst case alignment and therefore greater hydrodynamic and sedimentary effects;
- In addition, the 'worst case' alignment is on the same berthing alignment as the adjacent waterfront infrastructure. However the DCO alignment is setback approximately 80m; resulting in a 1200m by 80m 'pseudo embayment'. This would

[4] Tidal Prism: The volume of water entering and leaving an estuary during each tide, i.e. the difference between low water and high water.

cause additional local deviations in hydrodynamics with further effects on the sedimentary patterns.

48. The effects arising from the DCO alignment could therefore be more significant than the suggested worst case and should therefore have been/be considered through the ES and Appropriate Assessment.

5.2 Deficient Model Calibration

49. The observed estuary hydrodynamics and local sedimentary dynamics are not reflected in the model calibration. The model set-up should have ensured this. It did not. Therefore the impact predictions in the ES are unreliable (applying the RIRO Rubbish In Rubbish Out principle).

50. The various model calibrations are limited in terms of the simulation of the estuary hydrodynamics and the local sediment dynamics and hence raises uncertainties with respect to the results and the conclusions of the ES. The limited calibration/verification exercises undertaken for these studies suggest that the impact predictions presented in the ES are, at best, unverifiable.

51. The models have not been demonstrated to work in a way which adequately reflects the actual hydrodynamic complexity of the Humber, particularly in the vicinity of the development and must, therefore, be viewed as failing to demonstrate that they are 'fit for purpose'.

52. For example, paragraph 8.3.13 of the ES notes the high uncertainty in sediment transport modelling. This is even more pertinent when the scheme being proposed has not been modelled in the hydrodynamic model, with uncertainty being pilled upon uncertainty.

53. For the mud transport model, I have questions on its calibration as presented, since it does not show the high concentrations of suspended sediment concentrations (SSC) on the flood tide which have been recorded over a number of years by different organisations including the

Institute of Estuarine & Coastal Studies (IECS) data commissioned for Able UK. This is illustrated in the attached Figures 4 to 7.

54. Since the high concentrations are not represented in the model then accumulations in baseline conditions and patterns of erosion and accretion must be considered unreliable. The maintenance dredging predictions are therefore also unreliable as these are based on the modelling results. The reports only show the change in accretion/erosion, they do not show the actual values for the baseline case to make sure sedimentation or erosion was occurring in the correct locations. This should have been discussed as part of the calibration. As with other results both a spatial and temporal form of presentation would give greater insight into the actual changes.

55. These concerns with the model calibration cast further doubt on the validity of the results and the conclusions of the ES.

6. Impact Assessment

56. The hydrodynamic effects of the proposed scheme submitted to the DCO have not been provided in the ES because the numerical modelling has not been undertaken on the final proposed scheme for all component processes and this throws all conclusions into doubt. This is a fundamental flaw in both the modelling and the ES and is of particular importance because this parameter forms the basis of other models and other assessments. Instead the modelling studies have been undertaken using different models but more importantly, on a number of different quay layouts. Whilst table 8.1 in the ES lists the different 'project designs' that have been used in each model, this is not always clear throughout the documentation, making the results of the modelling of different parameters extremely difficult to compare and interpret – and effectively of little use.

57. The information provided by the modelling studies for the purpose of ES and Appropriate Assessment therefore does not relate consistently to the layout of the proposed development. There is no discussion of the likely differences in impacts of the submitted development to those modelled and therefore the assessment will not have taken these potential differences

into account. This is very important as much of the data is required for the assessment of other related receptors, particularly navigation, water quality, fisheries and marine ecology.

58. The assessments made throughout the documentation are unsuitable and insufficient to adequately define and assess changes caused by the development. Little information is given to allow changes identified to be placed into correct context with the existing conditions and natural variability either temporally or spatially. In addition, most of the impact assessment is unacceptably broad brush, i.e. categorised as “significant” or “insignificant” without more.

59. Of fundamental concern is the omission of the areas at and around the dredge disposal sites which are designated EU habitats. Whilst it is acknowledged that large volumes are already deposited at these sites, the addition of depositions from the AMEP would represent a significant increase which would add to the variability at these sites. This could change the ecology and the features of interest of the designated sites. A full assessment was therefore required. With this defect the ES and Appropriate Assessment are unsound. The assessments are incomplete without such critical information and data.

60. More details on the concerns associated with the impact assessment are provided below.

6.1 Understanding of Estuary Processes

61. When assessing the potential impacts of a development on the environment it is vital that the decision-maker has a thorough knowledge of the existing environment (baseline) against which proposed development changes can be assessed. However in the case of AMEP, the baseline is incomplete without IOH (section 6.1.1). Furthermore the understanding of estuary geomorphology as produced by JBA Consulting in Annex 8.2 of the ES is deficient. It raises questions over the understanding of the hydrodynamics of the estuary which is required for an adequate interpretation of the numerical modelling data as illustrated below.

62. The geomorphological baseline outlined in ES Annex 8.2 states that between Grimsby and Hessle the estuary has a "stable configuration, resistant boulder clay deposits and a dominant northern channel". This gives the impression of fixed stable bathymetry in this area which

includes the AMEP development. This is not the case. It is true that the section between Grimsby and Immingham is the most stable in the estuary; however from Immingham through to Hessle the estuary is very dynamic, particularly from about North Killingholme up estuary. Here considerable depth changes occur year on year and over long time scales. The basic understanding of the estuary presented in the ES in the location of the development therefore has serious limitations.

63. The following deficiencies have also been identified:

- There is no characterisation of the intertidal areas at the estuary edge at the location of the AMEP development;
- The representation of the recent estuary changes is too simplistic to be meaningful and all it shows is that there is considerable variability and gives no idea of the cyclic nature of the changes which occur in different sections of the estuary; and
- The assessment of short term estuary behaviour is not coherent.

64. The baseline morphology appears to be based on a deficient understanding of the dynamic nature of the estuary, the trends occurring (cyclic[5] and spatial), against which an informed assessment can be made. There is no assessment of the change to the morphological parameters of the estuary or the potential for long term effects either with the scheme alone or in combination with other developments.

65. This lack of understanding raises questions over the validity of the interpretation of the modelling results and the conclusions as to significance of environmental impacts in the ES.

6.2 Insufficient Assessment

66. In general the impact assessment is very limited with the impacts only assessed as “significant” or “insignificant”, which is contrary to standard ES practice which details levels of significance (usually major, moderate, minor or negligible). Generally few references have been used to support predictions/assessments and statements are often unsupported. There is also little

[5] Cyclic change: relates to a reoccurring trend over a long period of time (years to decades).

information given that allows changes indentified to be placed into correct context with the existing conditions and natural variability either temporally or spatially.

67. The ES makes no assessment of any potential long term effects on the estuary as it has dismissed all water level changes and flow changes as insignificant except those very local to the development. However, assessment of other applications for other port developments in the vicinity, have quite properly required the potential long term effects on the estuary as a whole to be taken into account – including future sea level rise. As a consequence no detailed assessment has been made of the long term effects on the estuary morphology.

68. No assessment has been made with respect to the general morphological parameters of the estuary as a whole to show the overall scale of effect of AMEP, either alone or in combination with other developments, particularly with respect to the Habitats Regulations. This should include consideration of changes to the tidal prism, overall volume (including non-tidal volume) and cross-sectional change within the middle of the estuary. In particular:

- No long term assessment has been undertaken taking account of sea level rise (except waves);
- No consideration has been given to the effect AMEP may have on the natural variability and trends of bathymetric (bed level) change in the middle Humber. Even if the change is predicted to be negligible, the data should be supplied to allow others to make judgement of the significance or otherwise; and
- Effects on the morphology of the disposal grounds have not been considered. Such changes may have ecological significance.

6.3 Deficient Interpretation of Model Results

69. A principal concern with respect to hydrodynamics and sediments is that the assessments are based on the hydrodynamics for a larger reclamation, not the DCO scheme. They should not be used for decision-making as they clearly do not model the scheme correctly and no discussion has been made of the consequences of the different designs. The proportional changes in hydrodynamics and sediments are likely to be larger due to the quay being set back

further. I am particularly concerned that the model results seem to have been interpreted against the inadequate understanding of estuary morphology.

70. The lack of detailed assessment is especially relevant to the presentation of the modelling results. All predicted changes of less than ±1cm in water level and ±0.05m/s in flow speeds are dismissed throughout the ES without any consideration/assessment. An example of the importance of such changes occurs at the shoreline where a small vertical change of 1cm can translate to a large horizontal change across a shallow, flat, intertidal habitat. Such small instantaneous changes may aggregate into bigger changes over time. These can result in major losses of designated intertidal habitats and the requirement for substantial replacement habitat to be created.

71. Omitting to present these 'small' changes gives the false impression that there are no wider estuary effects of constructing AMEP than the very local effects shown. Presentation of the smaller scale changes must, however, be provided in order to give the information required to allow a transparent assessment of the impact of the AMEP on the Humber. Such changes are important for the assessment of cumulative effects or in combination effects as well as long term change.

72. On the assumption that flow patterns are correct (although we believe they are not) there is still a need to place these changes into perspective with the actual flows, particularly where they are around the thresholds for sediment movement/accretion (i.e. does this lead to a change and is that change significant?). There is a need for temporal and spatial analysis in areas of greatest change and at the sensitive sites.

73. Of particular concern is the assessment of the sedimentation of the intertidal arising from the reclamation. In paragraph 8.6.46 (of the ES) the ES uses the sedimentation upstream of HIT as an analogue for estimating distribution and thickness of accumulation that is likely up estuary of AMEP. It states the greatest distance that the accumulation occurs would be 600m away. However monitoring by ABPmer shows effects between 1.25-1.75km away over 10 years (ABPmer, 2011), where equilibrium seems to have been achieved. If the same changes from the AMEP development occur then effects would, for example, be seen at HST but the

arbitrary 600m “cut-off” means that any other impacts have been excluded from consideration, by default. This would make a significant difference in relation to the ES assessment at the HST and North Killingholme Haven receptors, and it should be noted the latter receptor has not in fact been considered anywhere in the assessment. I therefore question the detail of the analogue used as it would appear to underestimate the potential effect. The ES suggests the area of intertidal affected would be up to 12ha but based on the ABPmer monitoring it would be up to 25ha.

74. No assessment is reported as to what is likely to happen between HIT and AMEP except for about 1ha of change in the new drain. The model does suggest some accretion, which would be logical but this has not been discussed; nor has the issue of whether any build up could eventually move towards and increase long term siltation at South Killingholme and the Immingham Gas Jetty. i.e. there has been no long term assessment. In addition the new AMEP quay line is now set back from the berthing line at the South Killingholme Oil Jetty Terminal. The modelling does not show (because no hydrodynamic modelling is presented) any potential effects on flow speeds and directions at this terminal. From experience with the design of the HIT Terminal with respect to the location of the Immingham Gas Jetty an eddy is likely to exist on the ebb. With the set back there is a risk of flow speeds and direction changing particularly at the up estuary end of the South Killingholme Oil Jetty Terminal. This would affect the mooring conditions (in terms of safety and risk) at the jetty. No consideration or assessment of these potential impacts has been made in the ES.

6.4 Deposit Grounds

75. Two deposit grounds for capital dredge material have been proposed; for erodible material Middle Shoal (HU080) and for non erodible material HU082 (see Figure 3). HU080 is also designated as the location for the future maintenance dredging deposit. There has been no consideration of beneficial use of disposing in a way that has least environmental impact, which for reasons of sustainability, is a standard requirement. Furthermore there has been no discussion on the existing use of the sites, predominantly ABP’s maintenance dredging and how the additional AMEP volumes are to be accommodated. The data is deficient and the assessment is incomplete and this issue cannot as a consequence be properly considered by the ExA.

76. The ES states that the Marine Management Organisation (MMO) has confirmed these deposit grounds have sufficient capacity for the increase in capital and maintenance dredge volumes. This cannot properly be concluded in view of the deficiencies above.

77. No assessment of changes of the bed levels (bathymetric change) at the deposit grounds is made. Such an exercise should certainly have been undertaken and the effect of the change in morphology around the Sunk Dredged Channel (SDC), the main deep water navigation channel to the Ports of Immingham and Hull, assessed; both because of its importance and the natural dynamics of the area.

78. Any significant change to the hydrodynamics (flow patterns) as a result of the deposits, particularly the non erodible material, could change the short term (tidal) and long term (decadal) natural cyclic flow patterns and thus the local sediment regime with potential sedimentary consequences to the SDC. Such potential for this effect must be demonstrated to be an insignificant impact under existing conditions (cumulative and in combination) and potential future conditions (long term change).

79. A substantial part of the capital dredge material would be alluvium (predominantly silty clay). The disposal of this material at HU080 is not appropriate as it is placing predominantly fine silt material onto a predominantly sandy area. This area is also proposed for the maintenance dredge material which is also silty clay. This is likely to change the marine ecology in and around the deposit ground. The ES is flawed as it has not assessed or even identified it as a possible issue.

80. There is no evaluation of this change of material type on the future maintenance dredging commitment of the SDC, particularly from the ongoing AMEP maintenance dredgings.

81. The use of deposit ground HU080 for the erodible sediments does not ensure that (as far as is possible) the material being deposited has similar characteristics to the material which constitutes the bed. The deposited material would be highly dispersive raising suspended sediment concentrations (SSC) levels (proportionally more than if deposited further up estuary)

in an area where estuary background SSC levels are lowest. In addition, and significantly, a much larger proportion of maintenance dredged sediment would be dispersed from the estuary entirely. When dredging recommences in SDC, there would be a large volume of sand deposited, thus mixing with the mud. This could prevent mud dispersal and the character of the bed material would change. The deposit ground is a designated as a European site and as a consequence, the potential for such change must be assessed and mitigated as required, or the ES fails the relevant UK and European environmental and legal tests.

82. There are a number of other deficiencies of the dispersion of sediment from HU080 namely:

- There is no consideration of whether material being deposited matches the previous usage of the site as is the norm for licensing and required for previous assessments;
- The assessment for alluvium material discusses effects of only a proportion of the tidal cycle rather than complete dispersal from the deposit location over a spring neap tidal cycle which is standard/good practice;
- The assessment only considers SSC and not bed level change;
- Only the small dredger with material from the intertidal was modelled;
- The time period used in the model scenario does not take account of tidal restrictions, which would reduce the number of loads per day compared to that modelled.

83. Other flaws in the assessment particularly relating to the non erodible deposits at HU082 include:

- There has been no hydrodynamic assessment of the effects of the proposed disposals at each location (sediment studies only);
- There is no consideration of the local bathymetry. The model unrealistically assumes the bed level does not change over time. The actual bed is continually rising and falling with time which changes the local hydrodynamics; and
- This potential for increased bed levels (from the deposits) above the surrounding bathymetry (i.e. 'mounds') could cause a splitting in the flow leading to changes in the local hydrodynamics in and around the SDC, with potential for adverse impacts. The close proximity of the deposit ground to the channel is shown in Figure 3.

6.5 Navigation/Maintenance Dredge Requirements

84. A number of important features of the Port of Immingham are in close proximity to the AMEP development. ABP, through Humber Estuary Services is also responsible for maintaining the safe navigation of the estuary and its general conservancy. Navigation to the Port's facilities for all larger vessels is dependent on the sedimentary regime in the area of the SDC and access to the Port of Hull's facilities is controlled by channel depths in the area of Halton Middle, just up estuary of AMEP. For these to operate, continual maintenance dredging and its disposal locally in the estuary is required.

85. As a consequence, identification of issues relating to changes caused by the various components of the AMEP development, their assessment and quantification with respect to the effects on the existing hydrodynamic and sedimentary regime are of paramount importance.

86. The ES asserts that the only residual impact during operation would be maintenance dredging of the AMEP berth and that no increase in maintenance dredging would be required at existing facilities. This assertion is neither justified nor justifiable. As previously explained there are multiple fundamental deficiencies in the data supplied and assessment undertaken. It is deficient in its explanation and consideration of:

- The effects on IOH and other jetties as well as the order of hydrodynamic and sediment calibration:
- the morphological effects of the new maintenance dredging and its disposal from the AMEP site; and
- Other effects for the removal of sediment from around the Centrica/E.ON intakes and outfalls as maintenance dredging.

6.6 Fisheries

87. The fisheries assessment is also inadequate as illustrated through the following points:

- Indirect changes in water quality and the implications for fish have been described but not quantified and then just assessed as "not significant". There is no quantification of the number of adult fish potentially lost;
- The preservation of nursery areas is important for fish stocks and a significant loss of nursery area for commercial species is acknowledged in the ES with approximately 45ha of intertidal and subtidal habitat being lost through the development (ES paragraph 10.6.64). The same paragraph states that small indirect changes to intertidal and subtidal habitats either side of the quay may compensate for part of this loss. There is no discussion on how effective this would be or identification of other mitigation measures to offset losses. The potential gains appear small in comparison to the 45ha loss;
- There is no consideration of the potential for entrainment[6] of fish through dredging; and
- The methodology for the underwater noise assessment is deficient. For example, the source level of impact piling that has been assumed in the noise propagation calculations is based on a single observation and is considerably lower than the source level derived from the Environment Agency model which is based on numerous empirical observations (Adrian Fewings, pers. comm.). The reported effects are therefore significantly underestimated. Furthermore, behavioural impacts on fish have not been assessed using appropriate criteria e.g. Subacoustech's 50dBht[7] metric (Nedwell et.al.2007) which is a standard sound level threshold used for the purpose of EIA. Furthermore, the underwater noise assessment from piling has not been based on worst case assumptions.

88. The presented material does not justify the assertion that the development would result in a limited effect on the EU designated sea and river lamprey and other fish species, particularly Atlantic salmon. In addition, mitigation measures have not been presented or their efficacy evaluated. The statement of residual impact is therefore based on an inadequate impact assessment and insufficient mitigation.

[6] Entrainment: The incidental capture of fish or other small marine fauna in the water through due to the 'sucking' of organisms into dredge pipes or intakes. Examples of structures/activities which cause entrainment are intakes or outfalls into the aquatic environment or activities such as dredging.
[7] dBht: decibel hearing threshold

6.7 Designated Habitats

89. The treatment of designated habitats in the ES has deficiencies which include the following:

- The baseline description takes an inadequate number of specific reference points/receptors;
- There is no consideration of the effect of the scheme on the proposed deposit ground;
- Indirect changes to the intertidal and subtidal habitats (paragraph 10.6.25 of the ES) are dealt with in an unacceptable broad brush way without any quantification. In fact the tendency to filter from the modelling all of the smaller changes in water levels, which would cover a wide area of the estuary, means that the ES is unable to provide the necessary level of quantification of effects. It is noted that a brief reference is made to increased sedimentation on the mudflats up estuary of AMEP, however this is just described as insignificant due to scale of increase, without the required further assessment or analysis;
- The impacts on subtidal habitats in relation to maintenance dredging are described as not significant (paragraph 10.6.79 of the ES). Bearing in mind the large volume of additional maintenance dredging arising from the new berth and around the intakes and outfalls, this is a surprising conclusion that requires supporting data; and
- Throughout the ecological assessment there is no indication that there could be impacts other than those close to the AMEP site. This is unlikely to be what would happen in practice and therefore other impacts should be assessed by the applicant; and
- The conservation objectives/targets of the designated sites have been taken from the Regulation 33 advice but there is no description of the future baseline in the absence of the scheme (e.g. future Coastal Habitat Management Plan (CHaMP) predictions) as required by the Advice.

90. The total subtidal footprint of impact is quantified in ES paragraph 11.6.9 as 13.5ha loss and the intertidal impact as 31.5ha. These areas, however, only refer to the loss from the reclamation area. No mention (and therefore quantification) is made of the change to the EU designated subtidal habitat as a result of:

- The capital dredging of the berth pocket;
- The capital dredging of the berth navigation approach and turning area;
- Depositing new material at the deposit grounds;
- Sedimentation around the Centrica/EoN intakes and outfalls where the maintenance dredging would be required;
- Long term sediment accretion up and down estuary as a result of the development through changes in depth, flow conditions and sediment type; and
- Potential increased accretion or erosion as an indirect result of flow speed changes outside the areas identified above.

91. The ES acknowledges that the 45ha direct intertidal and subtidal loss from the reclamation would be significant and that this is proposed to be compensated at Cherry Cobb Sands. However, this 45ha loss is an underestimate of the total impact on the designated habitats. Furthermore, the design/quantification for the compensation site does not take account of 'like-for-like' habitat, timing and functional considerations (which have been up to now a standard regulatory requirement).

6.8 Cumulative/In Combination Assessment

92. There is no adequate presentation of the in combination effects of the AMEP development and its proposed compensation scheme. The overall cumulative and in combination assessment is insufficient based on the following:

- There is no proper assessment of the cumulative and in combination effects of other consented schemes which constitutes a critical defect in the ES;
- It concludes no impact, mainly on the basis that it has excluded small changes from the analysis which previous developments have been required to document and include in cumulative/in combination assessments;
- Information and assessments in previous ESs do not appear to have been used;

- The assessment made only looks at the hydrodynamic effects at a very high level. There is no assessment of the interactive effects of the sediment disposal or the long term effects of the maintenance dredging requirement; and
- Detailed information to inform the Appropriate Assessment is limited or non-existent and therefore an unsuitable evidence base for regulatory requirements.

93. The cumulative and in combination section of the ES is therefore inadequate and not fit for purpose.

6.9 Mitigation, Compensation and Monitoring

94. Many of the marine mitigation and compensation measures (necessary for the ES) have to be, and have been, based on the modelling information. The modelling forms the basis of the design and quantification of measures. Because of the study omissions and inadequacy of the modelling actually undertaken the mitigation and compensation measures proposed have not been properly identified and assessed. This is particularly true with respect to the indirect effects on the hydrodynamic, sediment and morphological regimes of the estuary. The inadequacy in the mitigation and compensation is further exacerbated by the simplistic approaches used throughout the ES.

95. These are important and relevant matters which affect the validity of the ES and make an Appropriate Assessment impossible.

96. No appropriate monitoring programmes could be formulated in the absence of identification and quantification of adverse impacts (which has simply not been done),

97. No information has been provided about monitoring agreements (apart from statements that these would be produced). The schemes presented at Welwick and Chowder Ness compensation sites are examples of good practice. These are crafted to cover so far as is possible, expected as well as unexpected consequences.

98. There is no discussion of monitoring the dredge and disposal strategy or the impact at the deposit grounds. In general, as most changes have been dismissed as insignificant, there appears to be a presumption in the ES that no monitoring is necessary. As stated earlier the assessment is unreliable and the presumption is unjustified.

7. References

Able (2012)The Big Space in the Right Place

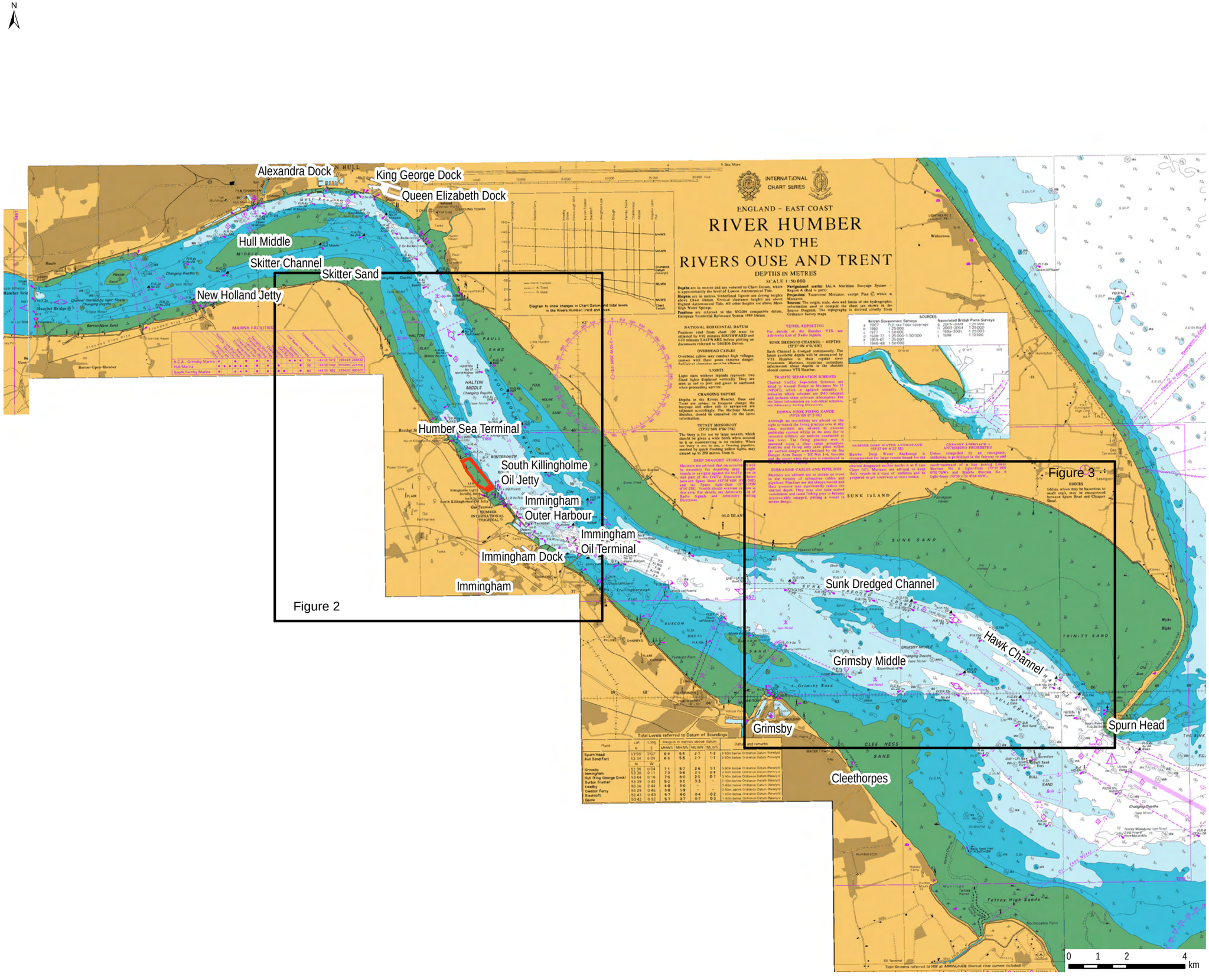
ABPmer (2011) Humber Estuary Environmental Management and Monitoring Plan: Data 2010/2011

English Nature (2003b The Humber Estuary European Marine Site: English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994.

Nedwell, J.R., Turnpenny, A.W.H. Lovell, J., Parvin, S.J., Workman, R., Spinks, J.A.L. and Howell, D. (2007). A validation of the dBht as a measure of the behavioural and auditory effects of underwater noise. Subacoustech Report No. 534R1231.

P A Whitehead

29 June 2012



Quay Alignment

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Produced by ABPmer Ltd			

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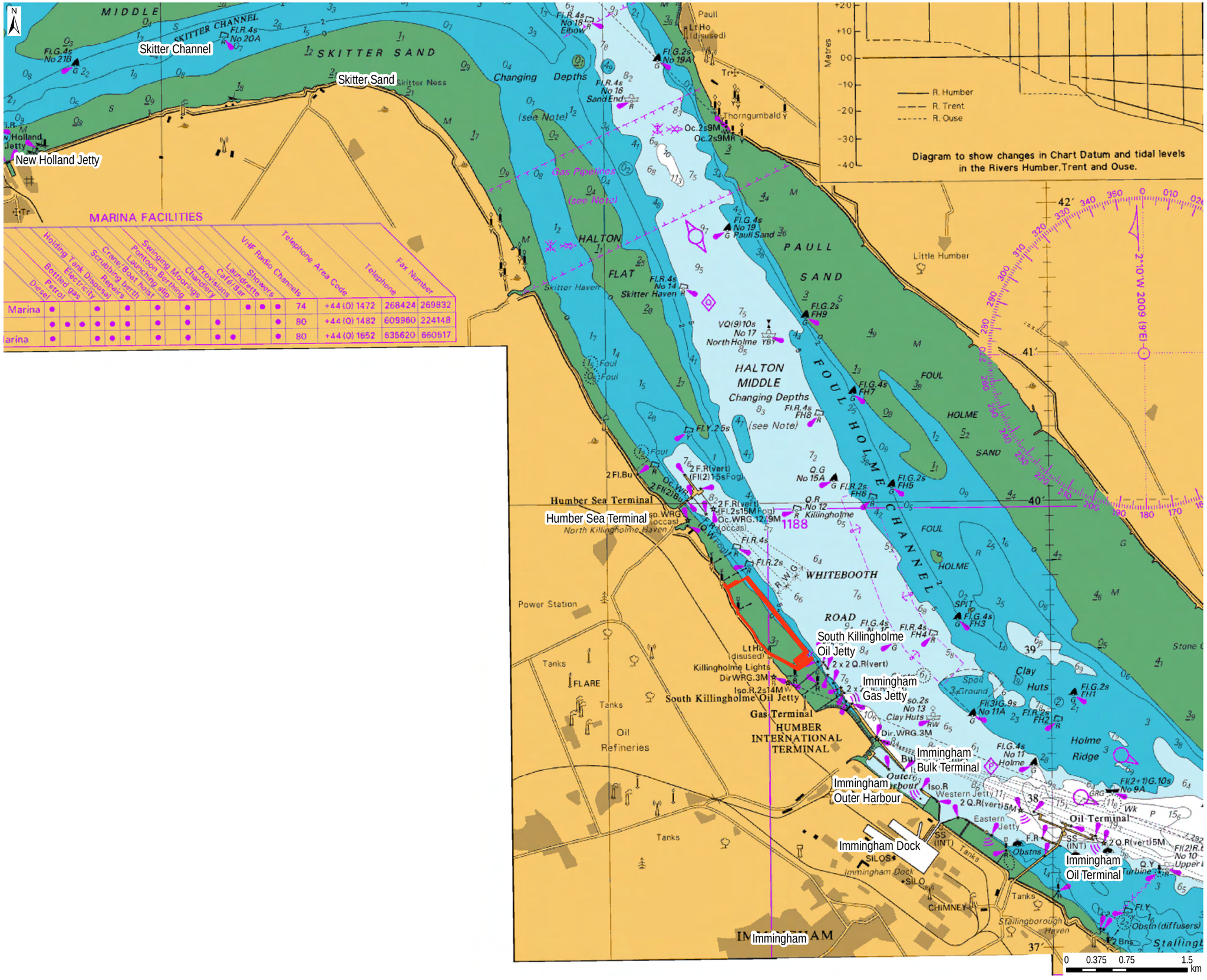
Humber Estuary Overview

Figure 1



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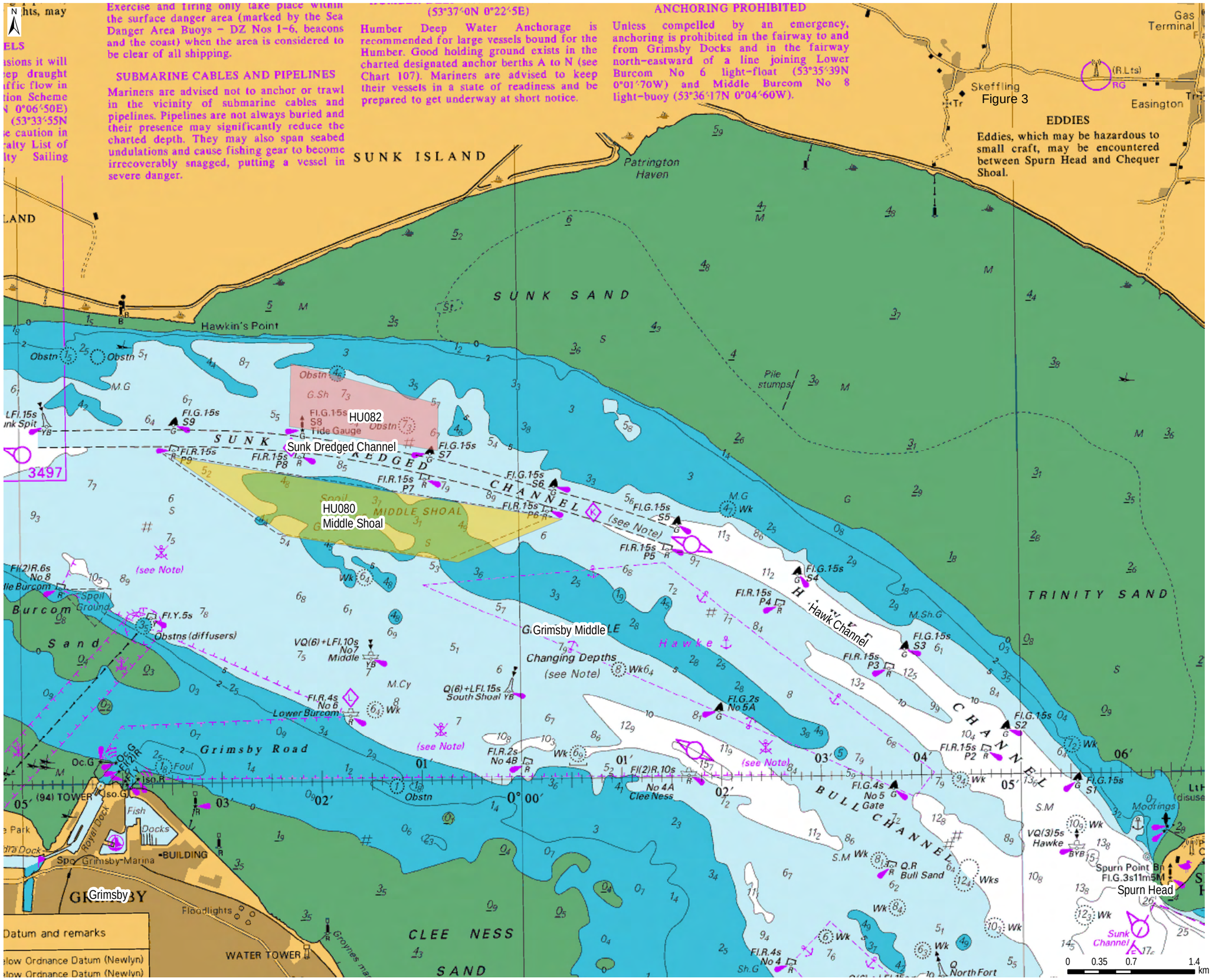
Infrastructure North Killingholme to Immingham

Figure 2



UK Disposal Sites 2012

- HU080
- HU082

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Produced by ABPmer Ltd			

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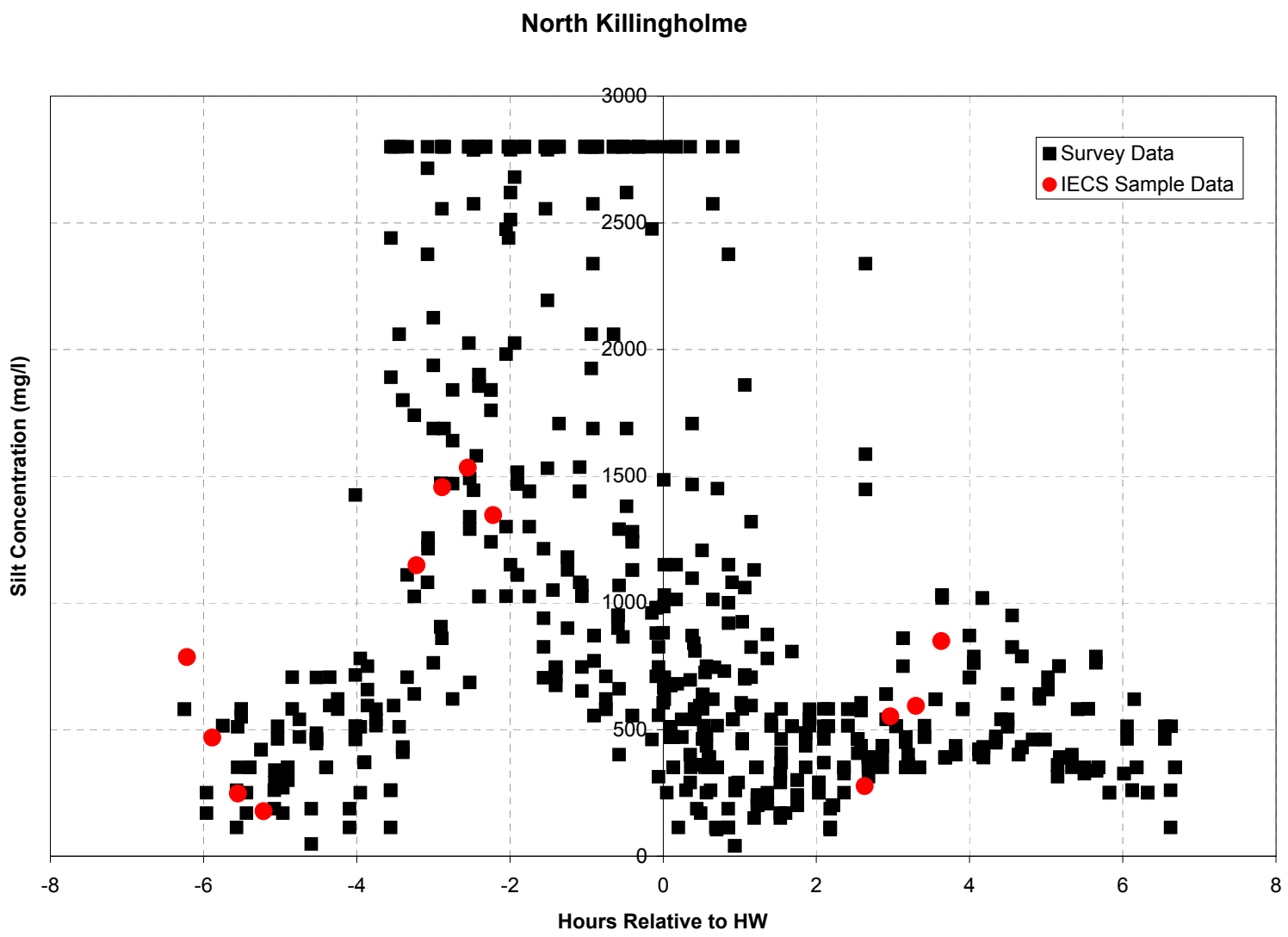
Proposed Deposit Grounds

Figure 3



Survey Data Source: Simon Storage Ltd. North Killingholme Cargo Terminal, Saltmarsh Level, Current and Suspended Sediment Monitoring, March 1995 to July 1997. ABP Research & Consultancy Ltd, Research Report No. R.0724.

Survey data represents an amalgamation of data from various depths. Surveys conducted approximately every three months between March 1995 and April 1997. Instrument maximum range was 2800 mg/l.

IECS Sample Data Source: Institute of Estuarine & Coastal Studies (IECS). South Humber Channel Marine Studies: Bathymetry & Hydrography Survey Report. Report: ZBB752A-F-2010.

Date	By	Size	Version
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Scale		n/a	
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Produced by ABPmer Ltd.			

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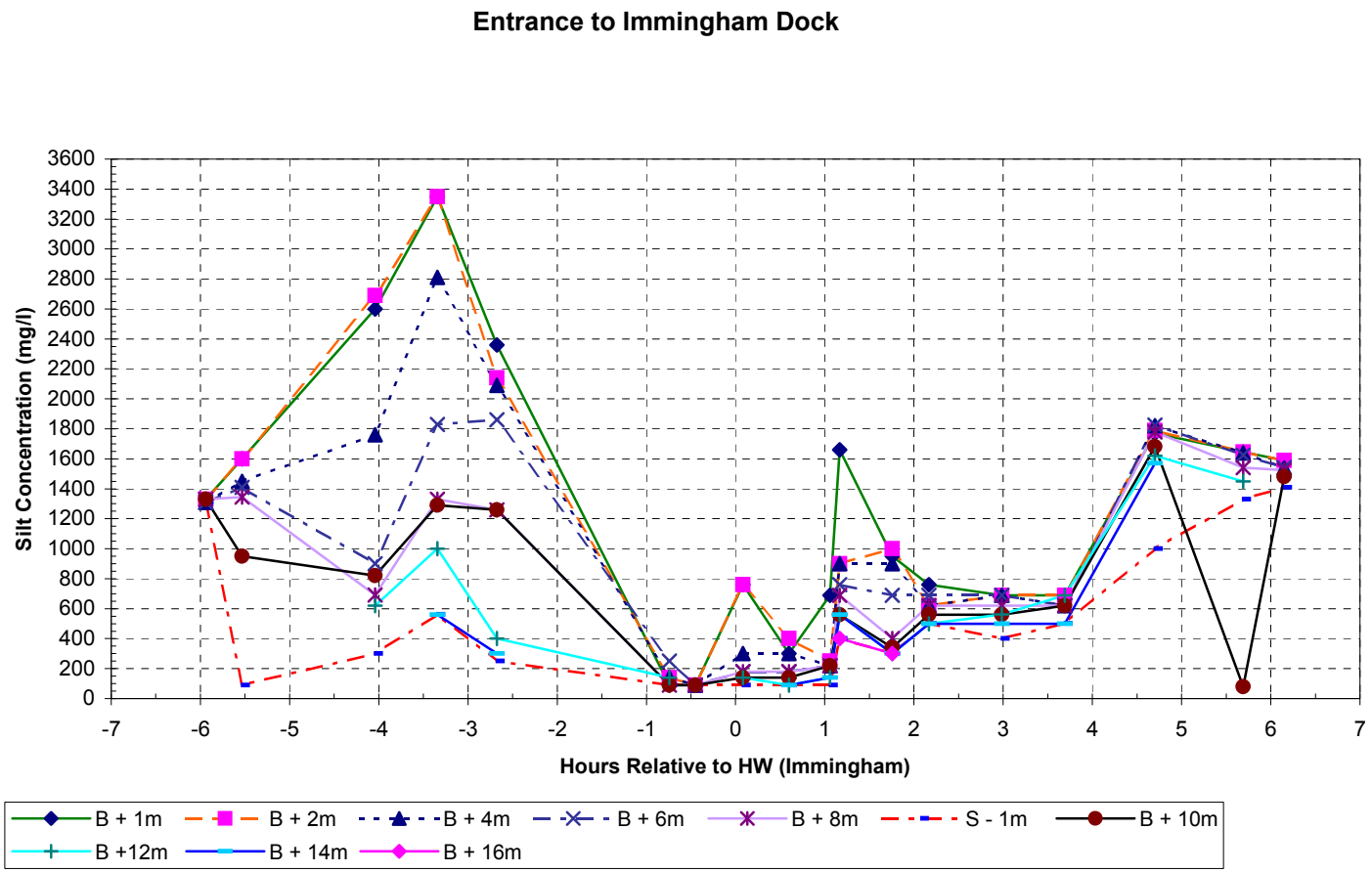
North Killingholme SSC data

Figure 4



Source: ABP Humber Estuary Services, Immingham Dock Entrance Current Metering and Sediment Concentration Survey 17 October 2001. ABP Research & Consultancy Ltd, Research Report No. R. 0925.

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Scale		n/a	
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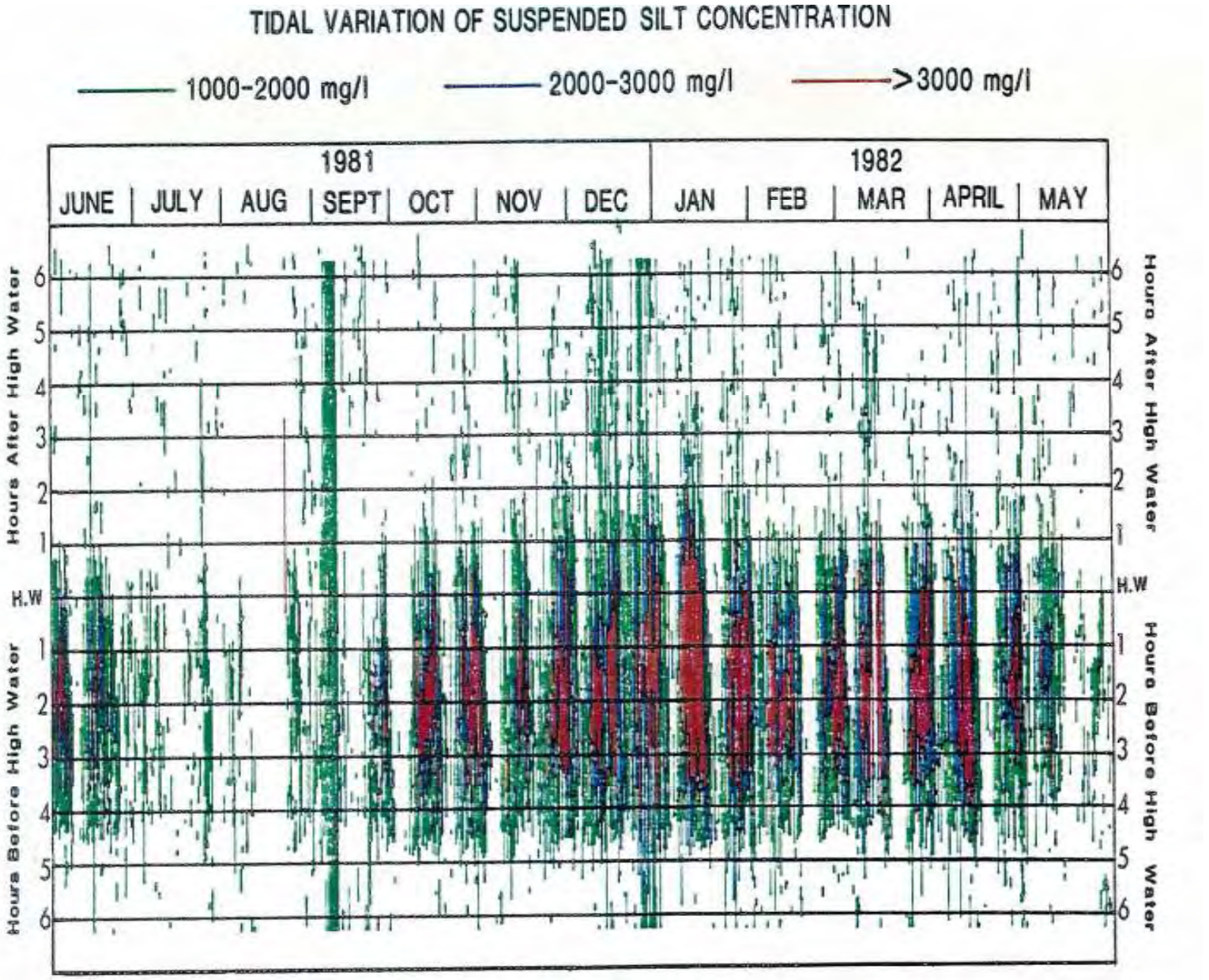
Entrance to Imminhgam Dock SSC data

Figure 5



Source: Immingham, Immingham Dock Impounding Study. ABP Research, Research Station, Report No. R.0305.

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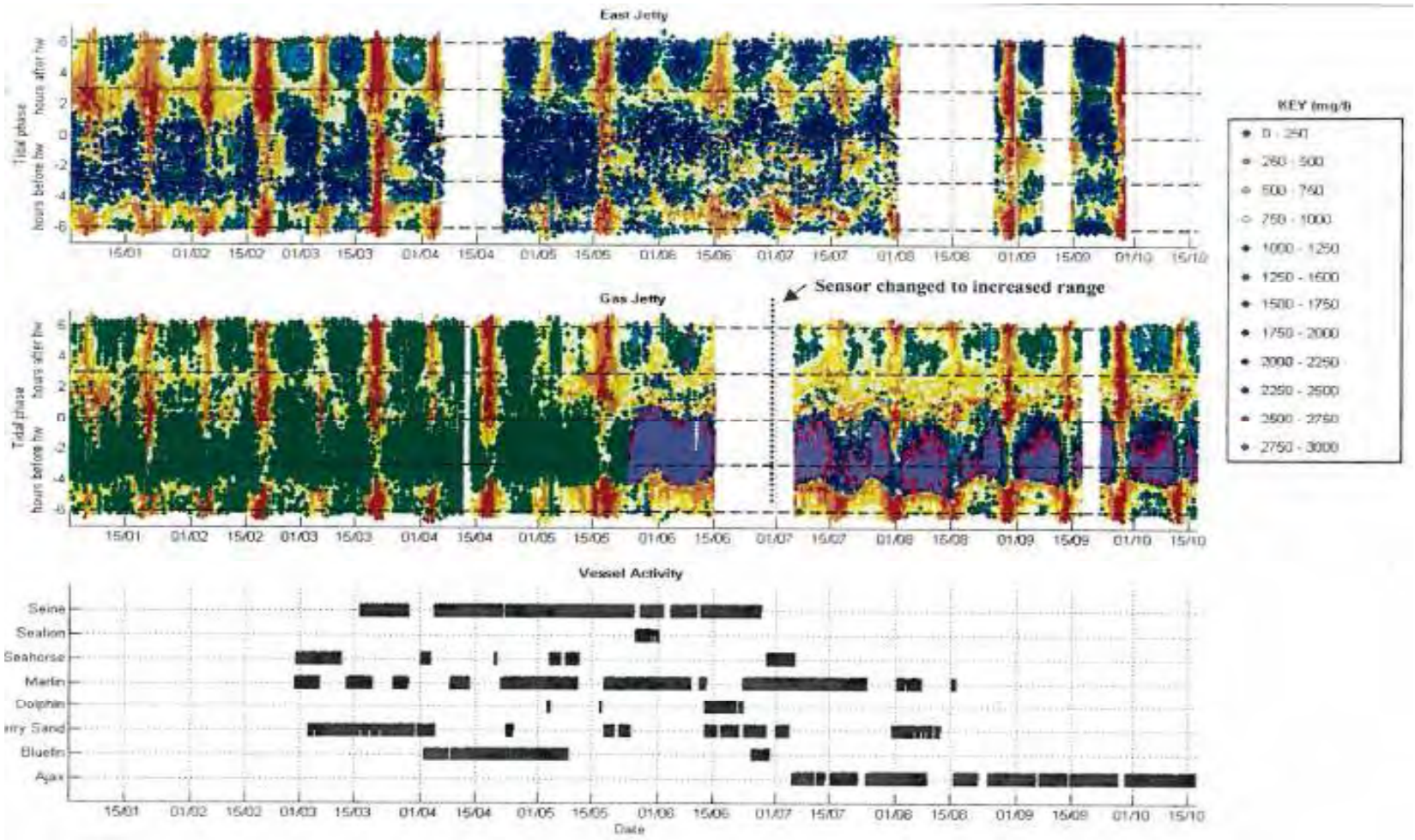
Variations in Silt Concentrations, June 1981 - May 1982

Figure 6



Source: ABP Grimsby and Immingham, Imminhgam Outer Harbour Dredge Monitoring Report. ABP Marine Environmental Research Ltd, Report No. R.1227

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Humber_additional_Figures.xls			
Produced by ABPmer Ltd.			

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East and Gas Jetties - Changes in Suspended Sediment Concentrations with Phase of Tide

Figure 7

PLANNING ACT 2008 (PA 2008) AND THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

APPLICATION FOR THE PROPOSED ABLE MARINE ENERGY PARK ON THE SOUTH BANK OF THE RIVER HUMBER AT IMMINGHAM, NORTH LINCOLNSHIRE

PLANNING INSPECTORATE REFERENCE NUMBER: TR030001

Objector Reference: 10015525

Written Representation of Christopher John Geldard
On matters of Rail Transport
on behalf of ABP

28th June 2012
Associated British Ports WR Rail final.doc

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Prepared For:

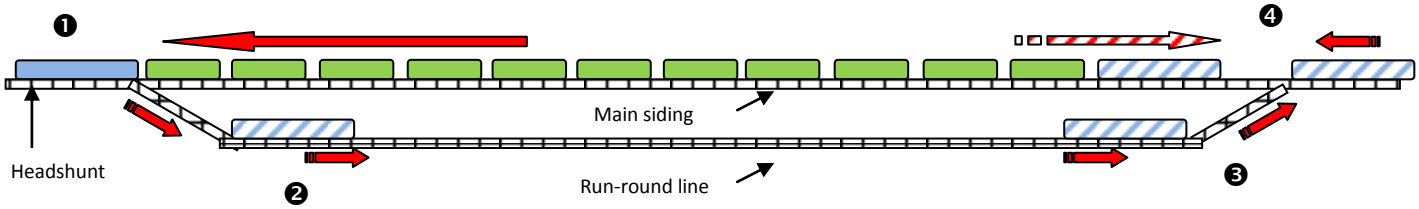
Associated British Ports

TABLE OF CONTENTS

APPENDICES

GLOSSARY

Bi-directional signalling	Signals allowing trains to travel in either direction on parallel lines
DfT	Department for Transport
ESI	Electricity supply industry
FOC	Freight Operating Company
Headshunt	Short length of siding used to allow a locomotive to run-round
HIT	Humber International Terminal (ABP)
IBT	Immingham Bulk Terminal (TATA)
Light loco move	The movement of a locomotive without wagons
LOA	Length over all (ships)
Locomotive	The power unit for a train
Lo Lo	Lift-on Lift-off, referring to vessels carrying maritime containers
ORR	Office of Rail Regulation
PIC	Person-in-charge
Ro Ro	Roll-on Roll-off, referring to vessels carrying freight trailers
Round trip	A rail journey out to a destination and back (2 moves)
Run-round	The operation to move a locomotive from one end of a train to the other, usually in preparation for departure. See below



Run-round operation

The train moves along the main siding in the direction of the large red arrow
The locomotive halts in the headshunt ❶ and uncouples from the wagons
The points are switched and the locomotive moves into the run-round line ❷
The locomotive moves along the run-round line past ❸ and
rejoins the main siding at ❹. The points are switched.
The locomotive reverses to the wagons and is coupled.
The train is now ready to depart in the direction of the red striped arrow.

RUS	Network Rail's Route Utilisation Strategy
SFN	The Strategic Freight Network
Shunting	The use of a shunt locomotive to move wagons within a terminal or port
SRFI	Strategic Rail Freight Interchange (inland rail connected container terminal)
TMD	DB Schenker's Train Maintenance Depot close to the Port of Immingham
Train	A locomotive and wagons
Wagon	Unpowered vehicle for the carriage of freight
Unitised cargo	Shipping containers or trailers
08 shunt loco	A commonly used shunting locomotive

1. EXPERIENCE AND QUALIFICATIONS

1.1 My name is Christopher John Geldard and I am a specialist rail consultant and I head my own business, Geldard Consulting Limited. The business focuses on all aspects of railfreight particularly linking to port operations. My client base includes blue-chip customers from the ports, logistics, developer and public sectors including work overseas.

1.2 I have worked in North Lincolnshire since 1979 when I left my first career as a regular Army Officer and have been involved in businesses in and around the Port of Immingham for much of that time. I have a detailed understanding of the port, its operations and in particular the rail issues in the Immingham area.

1.3 I have been involved in major rail infrastructure projects including the gauge enhancement from Southampton to the West Midlands (£65m), the reopening of the Brigg Line (£15m) and capacity enhancements to Hull Docks (£20m). I have advised Tesco on the rail aspects of their new Midlands based Distribution Centre and assisted in establishing new rail services for Maersk in Egypt.

1.4 Previously, I was Head of Rail Development for Associated British Ports (ABP) for 7 years from 2002 until 2009, prior to which my civilian career has been in the ports and logistics sectors. I have considerable experience in the railfreight industry and I have operated businesses in the rail and ports sector at managing director level for over 30 years.

1.5 I am a Director of the Rail Freight Group, Industry Advisor to the Rail Access Disputes Committee, sit on the Rail Council of the Freight Transport Association and am an Associate Advisor to Corbett Keeling, Corporate Finance.

2. SCOPE AND NATURE OF EVIDENCE

2.1 These written representations have been prepared on behalf of Associated British Ports (ABP) to provide a review of rail based traffic, transportation and infrastructure issues arising from the AMEP proposal. It should be read in conjunction with other representations and in particular those of Mr Simon Tucker who deals with the inter-related matter of road access and capacity.

2.2 A principal concern of ABP, as the owners of the adjacent Port of Immingham is the impact the proposals will have on rail operations and rail infrastructure. ABP objects fundamentally to the proposed compulsory purchase of the Killingholme Branch Line.

2.3 The Port of Immingham is not only the largest UK port by tonnage handled it also generates more rail freight traffic than any other UK facility contributing some 25% of UK railfreight. Currently, the Port of Immingham services up to 300 trains per week. Main commodities and 2011 throughput by rail were: Coal (13.5m tonnes), Iron Ore (5.4m tonnes), Liquid Bulk (0.8m tonnes), Steel (0.5m tonnes). It is essential to ABP and the UK economy that the proposed development should not prejudice the ongoing operation of the port and the UK Government's sustainability objectives for renewable energy and the use of rail transport.

2.4 ABP's concerns include three matters. Firstly as all rail traffic to the applicant's site would be required to pass through ABP's already congested port rail infrastructure there are serious capacity issues to be considered. Secondly, ABP has imminent plans to increase rail capacity at the Humber International Terminal (HIT) to accommodate significant volumes of biomass for the UK electricity supply industry (ESI). The AMEP proposal would jeopardise those plans. Thirdly, ABP has fundamental concerns regarding the proposed compulsory purchase of Network Rail's Killingholme Branch Line (KIL2) and the implications this would have on the Killingholme Loop, a future strategic rail development.

3. SUMMARY

3.1 On the basis of this review my representations are split into two distinct sections. The first considers the proposal as an offshore wind facility; the second as a general cargo port as provided for in the DCO.

Section 1 - The proposal as an offshore wind facility

Lack of rail detail

3.2 In both the Transport Assessment and the ES there is an acute lack of detail relating to the use of rail in support of the project as presented. The proposal contains no assessment of how and why the project would make use of railfreight and what little information is contained is vague and ambiguous offering no serious evaluation of the rail transport option.

3.3 As a minimum, it would be expected that the strategy for the use of rail and the associated environmental benefits would be assessed. Detail of traffic types, volumes, planned services, origins and destinations as well as pathing and proposed operations would normally need to be provided. Significantly, the AMEP Master Plan fails to show any details of on-site rail facilities.

3.4 Based on the above it is impossible to assess proposed rail use, indeed it is questionable with this cavalier approach to the use of rail, as to whether the applicant has a genuine desire to use the rail option.

Rail Capacity

3.5 Linking to the lack of information on the applicant's use of rail is the serious matter of capacity. All rail services to the applicant's facility must pass through the Port of Immingham on the west dock running line (KIL1), infrastructure which is owned and operated by ABP. This part of the port rail infrastructure is critical to deliver the supplies of the Nation's fuel. In 2011 over 10,000 services transported in excess of 14m tonnes of cargo along this rail infrastructure. During the next 12 months continued increases are expected.

3.6 Detailed capacity calculations have been undertaken. Using the current infrastructure and with planned new services, it is expected that the west dock running line will, in 2013 be required to accommodate 666 train moves per week. This is dangerously close to the calculated line capacity of 690 moves per week.

3.7 Tables 1 and 2 at paragraphs 6.1.4 and 6.1.5 in these written representations quantify the volumes of train traffic and freight carried on the west dock running line (KIL1). It illustrates the importance of this infrastructure. The Port of Immingham is the UK's largest source of railfreight traffic and provides 25% of the UK total.

The impact on ABP of the compulsory purchase of the Killingholme Branch Line

3.8 The compulsory purchase of the Killingholme Branch Line would put at risk the HIT headshunt and the Killingholme Loop.

The HIT Headshunt

3.9 ABP is currently in an advanced stage of finalising the implementation plan for the £7m HIT headshunt project which is an essential part of ABP's new £70million pound biomass import

facility. Overall the facility comprises ship discharge, conveyor movement to a bespoke storage facility and conveyor movement to an automated rail outloader. This facility is planned to handle over 3m tonnes per annum of sustainable, renewable fuel for the electricity supply industry. The HIT headshunt is an essential part of the biomass facility as well as delivering a more flexible rail operation for both biomass and coal trains being operated at HIT.

3.10 The project involves ABP entering into a long lease of land owned by Network Rail, adjacent to the north side of Killingholme Line between Marsh Farm Crossing and Regent Crossing, a distance of 700m. This land is included as part of the applicant's proposed compulsory acquisition of Network Rail's operational land, see appendix 5.

3.11 The project design involves the slewing of the original Killingholme Line to allow the installation of two new lines between Marsh Farm Crossing and Regent Crossing. There will be a headshunt to the south of Regent Crossing and a new bridge to replace the crossing at Marsh Farm Lane. Switches will be installed and new signalling will link with existing systems.

3.12 The project is due to move into the construction phase later this year. All design is completed, and terms agreed. A Basic Services Agreement with Network Rail and agreements relating to the new bridge are completed. Supplier contracts have been entered into.

3.13 ABP objects to the compulsory acquisition of this part of Network Rail's operational land, which acquisition is not in the public interest. An examination of the CPO plan reveals that there is no justification for the acquisition by Able of the route of the headshunt, as it serves no identifiable purpose within the AMEP proposal.

The Killingholme Loop

3.14 The Killingholme Loop is a project of strategic significance which provides rail access to all new and existing businesses within the South Humberside development area, see appendix 2. It was evaluated under Network Rail's Guide to Railway Investment Projects (GRIP) process during 2007 as a partnership between ABP, Network Rail and North Lincolnshire Council.

3.15 The aims of the project are to relieve rail congestion within the Port of Immingham, to open up the area of the South Humber Bank for industrial development with rail access whilst at the same time, increasing rail capacity for other rail users in the area. Network Rail identified

a number of key benefits including improved access and more efficient and resilient operations for all users of rail services.

3.16 The Killingholme Loop involves the creation of a "merry-go-round" facility. This allows trains to access the Port of Immingham and other development areas within the South Humber Bank on a continuous loop and depart without the need for any form of run-round or shunting operation. This would speed up all rail operations and greatly increase capacity.

3.17 Four routes were considered and the preferred route is shown as Option 2b in the plan at Appendix 2. This route extends to the northwest beyond the applicant's DCO boundary on the old track-bed towards Goxhill. Thereafter the route adopts a new alignment to the southwest linking with the Barton Branch Line to the north of Thornton Abbey.

3.18 The Killingholme Loop completed its evaluation in 2008 when it reached GRIP 4, Single Option Development which "develops the selected single option to the point of engineering scope freeze and in sufficient detail to allow finalisation of the business case and scheduling of resources". At that time it was not considered viable.

3.19 However, circumstances are now very different and, given the increasing demand for railfreight this project may soon be affordable and approved.

3.20 The Killingholme Loop would be a significant rail enhancement. However it would be dependent on access to the Killingholme Branch Line. The compulsory acquisition of Network Rail's operational land would be incompatible with this project to the serious detriment of all commercial users of the railway network operating along this part of the south bank of the Humber and the wider public interest in sustainable freight transport and regeneration of the North East.

Section 2 - A General Cargo Port

3.21 In the second section of this assessment I have addressed the possible alternative use of the applicant's port facility. Using ABP's extensive experience of port operations in the Humber area it has been possible to identify the types of traffic and likely volumes that could be generated through a general cargo port of the scale and design submitted by the applicant.

3.22 For the purposes of assessing the impact of a general cargo port, a mix of cargoes including bulks, petrochemicals and unitised cargoes can be assumed. Berth occupancy and the

amount of land typically required to store each type of cargo has been considered in order to estimate volumes of general cargo that AMEP could handle.

3.23 To convert these volumes to train paths I have applied normally accepted mode split percentages for each traffic type and industry averages for tonnage and units per train. The result of this exercise shows a demand for 254 train paths per week.

3.24 The capacity statistics provided in paragraph 6.4.2 and the current levels of congestion show that it is impossible to accommodate this significant additional rail traffic on the Port of Immingham rail infrastructure.

3.25 The Killingholme Loop could provide rail capacity and direct access to the applicant's facilities, whilst a further attraction of constructing the loop is that it would provide in-built resilience into the network in the Immingham area in the event of an incident. Thus if a part of the loop were to become unserviceable (for example due to a bridge-strike, a derailment or terrorist activity), access would be automatically safeguarded using the remainder of the loop. However, as already noted, the compulsory acquisition of Network Rail's land would jeopardise delivery of this rail improvement.

4. RAIL POLICY AND INDUSTRY STRUCTURE

4.1 Department for Transport Command Paper - Reforming our Railways, April 2012

In the recently published Command Paper, Reforming our Railways the DfT made the following statements concerning railfreight:

4.1.1 The rail network transports approximately 90 million tonnes of goods per year. It is of strategic importance - rail delivers over a quarter of containerised food, clothes and white goods and delivers nearly all the coal for the nation's electricity generation. Rail freight has expanded by 60% over the last decade and expects to grow by a further 30% in five years from 2014.

4.1.2 The Government recognises the valuable wider benefits that railfreight delivers and the need to give it certainty over its future. To support railfreight:

- Government will consider further investment in the Strategic Freight Network (SFN), both to help make best use of the existing network and by increasing its freight capability, to leverage private sector investment in freight growth;

- Government is continuing to provide support through the mode shift revenue support scheme to shift freight from road to rail where there are overall environmental and social benefits from doing so;

- Government will provide a clear planning policy framework to support further private sector investment in railfreight terminals and rail-connected distribution parks, including Strategic Rail Freight Interchanges(SRFIs) to support growth;

- Network Rail will work with the industry to safeguard strategic freight capacity and to facilitate strategic investment in SRFIs. It has also appointed a Freight Director to provide a single interface for freight in a world of greater devolution within Network Rail; and

- The ORR plans to give the freight industry early assurance over the level of access charges, by setting a cap on these in June 2012.

4.2 The Office of Rail Regulation (ORR)

4.2.1 The ORR is independent of central government and of the industry but accountable to Parliament and the courts for the achievement of certain objectives set out in UK and European law. It is the independent economic and safety regulator for Britain's railways.

4.3 Network Rail

4.3.1 Network Rail owns and operates the heavy rail infrastructure of Great Britain including the 20,000 miles of railway tracks, 40,000 tunnels and bridges, signals, level crossings and most of the 25,000 stations although it only operates the 17 largest and busiest.

4.3.2 Network Rail is also responsible for the maintenance, repair and renewal of the infrastructure. In 2010/11 it invested £2.2bn in renewals and £1.7bn in network enhancements.

4.3.3 Network Rail currently has around 35,000 employees and is structured into 10 Routes each with a Route Managing Director responsible for day to day operations. Immingham falls within the London North Eastern Route with head offices in York.

4.3.4 Network Rail has recently strengthened its Freight Team. A Freight Director has been appointed to provide more strategic direction for freight and his head office team has also

been strengthened. Based at each of the Routes is a Route Freight Manager who with his team deals with more local freight issues.

4.3.5 Network Rail is also responsible for the planning and development of the rail network. Key to this are the policy documents, the Route Utilisation Strategies (RUS) which cover each of the 10 Routes. In addition, a Freight RUS is also published, the last being in March 2007. This included plans for the Killingholme Loop. Also of key significance is the development of the Strategic Freight Network. This is a dynamic exercise involving most key partners in the industry and looks in a coordinated way at where to prioritise investment in network enhancements.

4.3.6 The following matters which affect Network Rail are also of direct concern to ABP:

- The compulsory acquisition of Network Rail land
- The change of status from national network to private sidings.
- The approval of rail infrastructure including crossings, switches, track and signals.

4.4 Freight Operating Companies

4.4.1 The Freight Operating Companies (FOCs) provide locomotives and wagons that together are defined as a “train”. FOCs are privately owned organisations operating in direct competition with each other. Currently six FOCs are operating in the UK with four providing the majority of open market services. These are DB Schenker (formally English Welsh & Scottish Railways (EWS) - now part of Deutsche Bahn the German National Railway), Freightliner, GB Railfreight (Part of Eurotunnel) and Direct Rail Services (Part of Nuclear Decommissioning Authority). The others are Colas Rail and Mendip Rail.

4.4.2 The FOCs operate in a wide range of markets including Intermodal (containers, both deep sea and domestic), coal (both ESI and industrial), bulk material (aggregate, iron ore, chemicals, petroleum) and steel (finished and scrap).

4.4.3 The FOCs negotiate access charges with Network Rail for access to the national rail network and also agree access charges and handling rates with the operators of rail connected facilities and terminals.

4.4.4 Most services are negotiated with customers on a contract basis whereby the customer will effectively hire the train to operate on a set route for an agreed period of time. A small number of services are operated on a shared or spot basis wherein a number of customers can purchase irregular and less-than-trainload use of a service.

4.5 Facility Owners (Ports, Terminals and Sidings)

4.5.1 A facility owner is the licensed operator of a rail connected facility such as a port, terminal or siding. The facility owner will provide services to the FOCs accessing the facility to load or discharge cargo on their trains. It is also responsible for the maintenance and operation of the facility rail network. Access for FOCs to a facility is agreed through a regulated Facility Access Contract which specifies the services that are available.

4.5.2 The facility owner must control access of FOCs and is responsible for allocating capacity. When total capacity is reached the facility owner must be able to demonstrate that a transparent and non-discriminatory allocation policy has been applied with all the FOCs.

4.5.3 The facility owner is also responsible for the safe movement of trains within the facility and also may be responsible for the operation of terminals. Most of these procedures are contained in Methods of Work which are agreed with all visiting FOCs.

4.6 Conclusions on Rail Policy and Industry Structure

4.6.1 The Government is a firm supporter of railfreight as demonstrated in Policy Statements and its ongoing funding for both the infrastructure enhancements and revenue grants. Road congestion and environmental considerations are clear drivers for this policy.

4.6.2 The ORR has a pivotal role in regulating the activities of Network Rail and also in policing the licensed users of the rail network.

4.6.3 Network Rail continues to make good progress and has been highly supportive of freight over recent years. Investments continue in the Strategic Freight Network and the Freight Team is well regarded by the industry.

4.6.4 The FOCs continue to compete strongly and generally provide high levels of service. New markets are being developed and increased innovation in terms of equipment and services are being provided.

4.6.5 Overall the railfreight market is well structured, supported by Government policy and continues to grow despite the current economic conditions.

5. RAIL INFRASTRUCTURE IN AND AROUND THE PORT OF IMMINGHAM

5.1 Network Rail

5.1.1 The main access to the Immingham area is from the west via Wrawby Junction at Barnetby where three lines carrying freight converge. To the west the main line runs to Scunthorpe (Tata Steel, formerly Corus and before that British Steel) and onward to the three power stations at Drax, Ferrybridge and Eggborough. The second line, recently reopened to freight, is the Brigg Line giving access to power stations at West Burton and Cottam. The third option is the Lincoln Line which carries large volumes of petroleum products from the Immingham refineries to Kingsbury in the West Midlands. See plan at Appendix 1.

5.1.2 The line between Wrawby Junction and Brocklesby Junction, close to the entrance to the Port of Immingham, is a three track railway although in years gone by a fourth track was available. Network Rail are known to be monitoring this route because of traffic pressure and should additional capacity be required then the reintroduction of the fourth track could be initiated.

5.1.3 To the north of Ulceby is the Barton Line which runs north past Thornton Abbey and Goxhill. This line is significant in the context of the Killingholme Loop, see paragraph 7.5 below.

5.1.4 Much of the signalling in the area is controlled from Barnetby however there are three signal boxes situated on the Port of Immingham which control the movement of trains in the port area, see below paragraph 5.2.4 below. One of Network Rail's major long term plans is to modernise all the signalling in South Humberside and move control to York.

5.2 ABP Immingham

5.2.1 Immingham has a one hundred year history as a port with significant involvement in rail. Over the years the port has developed and with it the rail infrastructure has been continually modified. Resulting from the privatisation of British Transport Docks Board and British Rail the responsibility for the rail infrastructure and operations has shifted to ABP.

5.2.2 As can be seen from the plan at Appendix 4 the main connection to Network Rail is at the entrance to the port at Humber Road Junction. From this point traffic travels through the

port estate on land and track owned by ABP. For rail services to the western part of the port including the Humber International Terminal (HIT), the Tata ore and coal terminals (IBT), the Simon Storage terminal as well as out of the port on the Killingholme Line, trains must pass along the west dock running line (KIL1), a facility owned and controlled by ABP.

5.2.3 This two track railway as shown on the plans at Appendix 3 and 4 is by far the most congested part of the port rail network and in recent years ABP has made significant investments in this infrastructure. This includes the installation of bi-directional signalling which provides increased flexibility in the use of the parallel running lines.

5.2.4 The movement of trains is controlled by ABP in conjunction with Network Rail staff who man the three signal boxes; one at Reception Sidings for trains entering the port and the oil refineries, one at Immingham West for trains entering HIT, the Tata terminals, Simon Storage and the Killingholme Line and one at Immingham East for east dock traffic. The two western signal boxes are shown on Appendix 4.

5.3 The Killingholme Line

5.3.1 The Killingholme Line runs past the HIT terminal in a north westerly direction to a point beyond Admiralty Sidings at C.RO Ports. From this point the track was lifted in the 1950s and only the track-bed now remains as far as the junction with the Barton Line.

5.3.2 The Killingholme Line is relevant because:

- The line is Part of Network Rail's operational railway, see Network Rail representation No 35
- ABP is about to construct an improved headshunt facility for HIT on Network Rail land adjoining the Killingholme Line, see paragraph 7.4
- C.RO Ports have a regulated connection agreement for their connection at Admiralty Sidings, see C.RO representation No 54
- C.GEN have indicated a need to be able to transport solid fuel by rail to their planned power station adjacent to the Killingholme Line, see C.GEN representation No 53
- The Killingholme Line is an integral part of the planned Killingholme Loop, see paragraph 7.5

5.4 Conclusions on Rail Infrastructure

5.4.1 General access to the port area from the west is much improved with three options being available on the main network beyond Wrawby Junction. This provides diversionary route capacity in the event of failure on any of the lines.

5.4.2 The rail infrastructure within the Port of Immingham is limited when considering the volumes and variety of traffic being serviced directly from the Port. The management of resources and the maximisation of capacity is a constant challenge.

5.4.3 The Killingholme Line is a vital link to facilities beyond AMEP including CRO Ports (HST) and CGEN.

5.4.4 From a strategic perspective the option of establishing the Killingholme Loop is a significant opportunity for all users of rail in the Immingham area, not just ABP.

6. PORT OF IMMINGHAM RAIL TRAFFIC

6.1 Current traffic flows

6.1.1 The scale of rail operations at the Port of Immingham is illustrated in Table 1 below which shows the number of trains operated by each of the three FOCs servicing the Port of Immingham during 2011. As can be seen the total number of services operated equated to 13,325 trains.

6.1.2 Coal comprises by far the greatest volume and this is imported through two major terminals. Coal for the electricity supply industry is handled through the HIT facility which can accommodate ships carrying in excess of 130,000 tonnes. The terminal uses two rail mounted slewing cranes discharging in excess of 1,500 tonnes per hour. Fully automated landside operations, include two stacker reclaimers, segregated coal stacking areas capable of holding 1m tonnes, conveyor systems and rapid loading rail bunkers. Given these facilities the operation provides a high quality service to its customers.

6.1.3 The IBT facility owned and operated by Tata has a further dedicated deep water berth and similarly automated land side operations handling iron ore and coal required by Tata for their major steel producing facility at Scunthorpe

Table 1

Trains operated 1st January to 31st December 2011	
Terminal Location	**Total**
Immingham West - Access from west dock running line (KIL1)	
Humber International Terminal	**4,880**
Immingham B.S.C. Ore Terminal	**2,988**
Immingham Bulk Terminal Cp1	**999**
Immingham Mineral/Henderson Quay	**50**
Immingham Simon Storage	**622**
Total	**9,539**
Immingham West - Access from centre dock running line (BRI2)	
Eastgate Material Handling (A2)	**23**
Eastgate Material Handling (RR1)	**1,043**
Eastgate Material Handling (NCB1)	**1,142**
Eastgate Material Handling (B3 / RR7)	**775**
Immingham C.P.L	**289**
Immingham Reception Sidings	**104**
Immingham Dock Nordic	**224**
Total	**3,600**
Immingham East - Access from east dock running line (BRI2)	
Immingham Ridley's Sidings	**3**
Immingham Storage W Tml	**103**
Immingham Texaco	**77**
Immingham Transit Quay	**3**
Total	**186**
Port of Immingham Grand Total	**13,325**

6.1.4 These representations only concentrate on rail traffic within the Port of Immingham on the western rail infrastructure.

6.1.5 The following table shows the breakdown of volume statistics the West Dock for 2011:

West dock volumes 2011 **Table 2**

Terminal	Traffic type	Volume Tonnes 2011	Trains per week	Services 2011
HIT	ESI Coal	7,320,000	187	4,880
IBT	Iron Ore	5,378,400	115	2,988
IBT	Coal	1,275,444	38	998
Simon Storage	Liquid bulk	933,000	24	622
Henderson Quay	Aluminium slabs	16,500	2	50
Mineral Quay	Train stabling	Nil	8	Nil
TOTALS		14,923,344	374	9,538

6.1.6 Tables 1 and 2 quantify the volumes of train traffic and freight carried on the west dock running line (KIL1) and illustrate the importance of this infrastructure. The Port of Immingham is the UK's largest source of railfreight traffic and provides 25% of the UK total.

6.2 Planned new ABP traffic flows

6.2.1 ABP is working with various organisations to increase the use of the port and move cargo inland by rail. These include:

- Biomass for Aire Valley power stations c3m tonnes, 72 trains per week
- Petrochemicals for the ABP owned site within the DCO boundary.
- Biomass for Centrica Power Station, Brigg, c1m tonnes, 24 trains per week.
- ABP is also in discussions with all the major UK coal fired power generators, who are considering conversion of their power stations to co-firing, about the possibility of importing significant quantities of biomass through the Port of Immingham.

6.2.2 A further factor is the likely impact of proposed changes in access charges paid by FOCs to Network Rail. A significant premium on access charges is being proposed by the ORR for ESI coal. Because access charges are distance related this will increase the attractiveness of the ports that are closest to the coal fired power stations. Immingham is perfectly placed for the

five big Aire and Trent Valley stations. This will drive additional ESI coal volumes through the Port of Immingham, using existing Port infrastructure.

6.3 Non-Port of Immingham traffic, current and future

6.3.1 In addition to the volumes of Port of Immingham traffic, consideration must be given to regular non-Port of Immingham traffic moving through the port to access the Killingholme Line. The relevant representation submitted by C.RO clearly states the need to safeguard their connection to the line for possible future rail use and C.GEN has also intimated the need to maintain the connection to their site for the use of rail to transport solid fuel to their proposed power station.

6.4 Capacity issues

6.4.1 Table 3 shows both the number of services per week that occupy the busy section of the Port's infrastructure and also, based on actual experience, the number of train moves associated with these services. In some cases this also includes the involvement of a shunting locomotive that has to pass along the line to effect the shunting operation. The volumes are based on current volumes plus contracted biomass planned at 12 trains per day.

Weekly movements on the West Dock Running Line (KIL1) **Table 3**

ABP Terminal	Base Traffic (services per week)	Total Moves (incl. shunting etc.)	Comment (see glossary for explanation of terms)
HIT	174	348	Round trip (move in and out)
IBT	80	200	Round trip plus 40 moves to/from TMD
Simon Storage	15	60	Round trip plus light loco/08 shunt loco moves, all services
Mineral Quay	8	50	Round trip, light loco plus additional use for stabling
Henderson Quay	2	8	Round trip plus shunting requirements
TOTALS	279	**666**	Equivalent average 4.6 moves per hour

6.4.2 <u>Projected moves per week and capacity</u>

As can be seen from Table 3 above the projected moves along the West dock running line (KIL1) is expected to be in the region of **666 moves per week**.

The total working capacity of the Killingholme running line is calculated to be **690 moves per week.**

On present and contracted new levels of usage the projected number of movements is dangerously close to the capacity of the line. This fact is confirmed by the views of the terminal operators, the Person-in-Charge (PIC) and ABP rail managers involved in the day-to-day operating of the port rail network.

6.5 Conclusions on Port of Immingham Rail Traffic

6.5.1 Statistics demonstrate the scale and intensity of the rail operations at the Port of Immingham. Indications are that this level will increase; with existing users opting for the growing use of biomass and preferred shorter coal haul, there are likely to be further increases in volume derived from ABP's existing port infrastructure at Immingham.

6.5.2 In addition to the overall increase in volume a further factor may also impact on train movements. Where biomass is used to replace coal at the power stations there is likely to be an increase in train movements. This is because of the lower density of biomass compared to coal (in practice, it requires three trains carrying biomass to carry the equivalent "burn value" of two trains of coal).

6.5.3 The statistics indicate the degree of pressure that 666 trains will impose on the west dock running line. The capacity of 690 trains renders a general cargo port on the DCO land incompatible with the present operation of the Port of Immingham and inconsistent with the Government's sustainability objectives. Furthermore the planned development for the HIT headshunt (see paragraph 7.4) and the requirements for the Killingholme Loop (see paragraph 7.5) are therefore vital elements in maintaining the efficient operation of the Immingham rail network and continuing to meet the UK's need for sustainable and renewable fuel supplies.

7. SECTION 1 REVIEW – THE ASSESSED SCHEME

7.1 Introduction

7.1.1 This section of the representation considers the rail aspects of the proposed development as presented by the applicant in the Environmental Statement and the Transport Assessment.

7.1.2 Overall it is extremely difficult to assess the plans for the use of rail as presented in the application as so little information has been provided.

7.1.3 With regard to the compulsory purchase of the Killingholme Branch Line there are several key aspects of this proposal that are significantly detrimental to ABP and the public interest.

7.2. Overall lack of detail relating to the use of rail in support of the Project

7.2.1 There is an acute lack of detail relating to the use of rail in support of the project as presented in both the ES and TA documentation. The proposal contains no assessment of how and why the project will make use of railfreight and what little information is contained is vague and ambiguous offering no serious evaluation of the rail transport option.

7.2.2 There is no indication of the overall strategy for the use of railfreight in preference to road. This should include how the use of railfreight will impact on road usage and what environmental benefits are to be achieved.

7.2.3 Table 15.5 in the ES is the only guide to the volumes and types of traffic that will be transported by rail. For the rail traffic indicated it is difficult to understand how these volumes have been determined, other than as an arbitrary split of traffic by mode percentage. There are manifest inaccuracies regarding these basic matters: as an example, turbine blades in the volumes indicated cannot be transported by rail on the route to and through the Port of Immingham due to their “out-of-gauge” dimensions.

7.2.4 No information has been provided for planned rail services. Such information should include traffic characteristics, frequency of services, origin and destination details, proposed operations, pathing arrangements and equipment requirements. It would have been expected that the applicant would have at least held preliminary discussions with FOCs to consider the rail requirements - we understand that no such discussions have taken place.

7.2.5 There appears to be no provision on the AMEP Master Plan for rail facilities. As a minimum this should include details of working sidings, cargo handling areas and equipment, headshunt and stabling lines. It would be expected that if the use of rail was a genuine requirement for this project then at least some of the infrastructure that is essential to actually operate a railway would be shown on the Master Plan.

7.2.6 Based on the above it is impossible to assess proposed rail use, indeed it is highly questionable as to whether the applicant has a genuine desire to use the rail option.

7.3. Volumes and Capacity

7.3.1. The applicant states it will run an average of 2 trains per day and it also rather surprisingly states that Network Rail indicates that this can be accommodated on the two access routes.

7.3.2. In fact, Network Rail are not in a position to indicate path availability on both the west dock running line (KIL1) and hence, the Killingholme Branch Line (KIL2). This is because the west dock running line (KIL1) is not owned by Network Rail but is part of ABP's Immingham rail facility. It is on ABP land, is ABP's infrastructure and is controlled by ABP not Network Rail.

7.3.3. As detailed above a capacity study, undertaken for ABP, shows that the most congested part of Immingham Dock rail infrastructure is the west dock running line (KIL1), which leads directly to the Killingholme Line. All trains passing to the Killingholme Line must pass along this route. Serious congestion regularly occurs in this area of the port rail infrastructure and at this stage ABP cannot give any certainty over paths for trains not operating from the Port of Immingham for the reasons set out in section 6.4 of this WR.

7.3.4. It is fully acknowledged that under the terms of The Railways Infrastructure (Access and Management) Regulations 2005 access cannot be denied by ABP if capacity exists. However as the route is already classed as congested it requires a capacity analysis to be undertaken when considering any non-Port of Immingham use.

7.4. The CPO of the Killingholme Branch Line - The HIT Headshunt

7.4.1. ABP is currently completing arrangements for a £7m rail infrastructure development to the north-west of the main coal terminal at HIT on Network Rail land which is included in the applicant's compulsory purchase plans. The development is being undertaken to provide additional rail capacity which will link to new handling facilities for the importation of biomass, the low-emission sustainable replacement fuel for power stations.

7.4.2. The Immingham biomass project is a major ABP funded development directed to help the shift from fossil fuels and to increase the use of sustainable biomass. It is a project which ABP has already contracted to provide and is an all too rare example of the private sector

contributing to the implementation of Government policies on sustainability and the use of rail transport.

7.4.3. The main investment entails specialised ship discharge facilities which in turn deliver the biomass onto a covered conveyor system leading to bespoke storage facilities. From this point the biomass is transferred using a second conveyor system to large hoppers in readiness for train loading. As with the automated coal loaders at HIT, the biomass is loaded from above into continuously slow moving (0.5mph) bulk wagons using sophisticated measuring equipment. A train can be loaded in around 20 minutes

7.4.4. The new facility will improve loading speeds for up to 12 additional biomass trains per day. However this can only be achieved through the construction of an extended headshunt which allows automated train loading, as well as providing less congestion on the west dock running line (KIL1) and quicker turn-round prior to trains departing.

7.4.5. The project involves ABP entering into a long lease of land owned by Network Rail, adjacent to the north side of Killingholme Line between Marsh Farm Crossing and Regent Crossing, a distance of 700m. This land is included as part of the applicant's proposed compulsory acquisition of Network Rail's operational land, see Appendix 5

7.4.6. The project design provides continued use of the original Killingholme Line which is slued to allow the installation of two new lines between Marsh Farm Crossing and Regent Crossing. There will be a headshunt to the south of Regent Crossing and a new bridge to replace the crossing at Marsh Farm Lane which leads to facilities owned by Conoco Phillips. Switches will be installed to give access to the Killingholme Line and HIT adjacent to the new loading facility. New signalling will link with existing systems.

7.4.7. The project is due to move into the construction phase later this year. All design is completed, terms are agreed, a Basic Services Agreement with Network Rail is completed and an Asset Protection Agreement is due for signature. Agreements with Conoco Phillips relating to the new bridge are completed and supplier contracts have been entered into.

7.4.8. ABP objects to the compulsory acquisition of this part of Network Rail's operational land which would have a serious impact on ABP and other users of rail. An inspection of the CPO plan demonstrates that there can be no justification for the acquisition by Able of the route of the headshunt, as it serves no identifiable purpose within the AMEP proposal.

7.5. The CPO of the Killingholme Branch Line - The Killingholme Loop

7.5.1. Between 2007 and 2008 ABP, in partnership with Network Rail and North Lincolnshire Council, evaluated this significant rail enhancement. The aims of this project are threefold:

- to relieve rail congestion within the Port of Immingham,
- to open up the area of the South Humber Bank for industrial development with rail access,
- whilst, at the same time, increasing rail capacity for other rail users in the area.

This project was included in Network Rail's Freight Route Utilisation Strategy published in March 2007 and which highlights network improvements and enhancements which are considered to be important in satisfying planned demands for railfreight.

7.5.2. This would be achieved through the creation of a "merry-go-round" facility to allow trains to access the Port of Immingham and other non-ABP development areas within the South Humber Bank, on a continuous loop and depart without the need for any form of run-round or shunting operation. This would speed up all rail operations and greatly increase capacity. This track layout is commonly used at power stations such as West Burton, Drax and Cottam.

7.5.3. Network Rail identified a number of key benefits including:

- Direct access to and from the Killingholme Line (KIL2) without the need to traverse the dock railway.
- Providing rail access to the designated development area of the South Humber Bank.
- Declared interest from developers in the Killingholme area.
- Improved coal and biomass operations at HIT.
- Improved access to the Tata ore and coal terminals.
- Incorporating regulating loops to accommodate "out of course" train movements.

7.5.4. Four routes were considered and the preferred route 2b is shown in the plan at Appendix 2. This route extends to the northwest beyond the applicant's DCO boundary on the old track-bed towards Goxhill. Soon after Manor House Farm the route leaves the old track-bed on a new alignment to the southwest and linking with the Barton Branch Line to the north of Thornton Abbey.

7.5.5. The Killingholme Loop was evaluated under Network Rail's Guide to Railway Investment Projects (GRIP) process during 2007. In February 2008 it reached GRIP 4, Single Option Development which "develops the selected single option to the point of engineering scope freeze and in sufficient detail to allow finalisation of the business case and scheduling of resources".

7.5.6. At the time the business case did not match investment criteria and the project was not considered viable. Circumstances are now very different as has recently been highlighted in discussions between ABP and Network Rail and given the increasing demand for railfreight this project may well be implemented at some time in the near future

7.5.7. The Killingholme Loop would be a significant rail enhancement that would however be wholly dependent on access to the Killingholme Branch Line. The compulsory acquisition of Network Rail's operational land would be incompatible with this project to the serious detriment of all commercial users of the railway network operating along this part of the south bank of the Humber and the wider public interest in sustainable freight transport and regeneration of the North East.

7.6. Other Rail issues

7.6.1. Rail Crossings - There are considerable requirement differences when considering crossings on private sidings and crossings on Network Rail infrastructure. Full details are available in the ORR publication Level Crossings: A guide for managers, designers and operators, Railway Safety Publication 7, December 2011. In short, my view is that the applicant is seeking to avoid the full cost of providing rail crossings within the application boundary by operating the Killingholme Branch Line as a private siding, without any regard to the implications on the national rail network or other users of the network in the area.

7.6.2. Travel to work - The applicant has indicated a low demand for travel to work by rail. I concur with this view.

7.7 Conclusions on Stage 1 Review - The Assessed Scheme

7.7.1. The application is devoid of any meaningful data on the intended use of rail. For this reason it is essential that the applicant provides appropriate data before this element of the application can be adequately assessed.

7.7.2. The ABP plans for the HIT headshunt pose serious concerns. This £7m investment to provide rail facilities to service significant volumes of biomass is a key part of an overall project valued at circa £70millions and is clearly at risk if the compulsory purchase progresses as proposed. ABP objects to this unjustified proposal.

7.7.3. The Killingholme Loop would be a rail development of strategic significance for the area. Previous work on the project in 2007/8 illustrated the benefit of this rail enhancement, not just to the Port of Immingham but other developments within the South Humber Bank.

7.7.4. The importance of safeguarding the route of the Killingholme Line for the benefit of all and to maintain its public ownership makes the CPO unacceptable.

8. SECTION 2 REVIEW - IMPACT OF A GENERAL CARGO PORT

8.1 Introduction

8.1.1 This application has been assessed on the basis of very narrow assumptions for the use of the port, being a port to service the renewable marine energy sector.

8.1.2 Many of the assumptions adopted in the application are either unsubstantiated or conflict with other elements of the assessment. Examples include employee numbers, requirements for car parking, assumptions on the use of rail. Furthermore the draft DCO allows for the site to be used as a “General Cargo Port” as detailed in the WR prepared by Adams Hendry.

8.1.3 The ES acknowledges this in saying at Para 4.10.1 that there will be “…an over-riding requirement to maintain the quay rather than decommission it”. It notes that “In the event that demand for port space by the off-shore energy sector reduces in the future, the quay will find other uses related to the import and export of goods”.

8.1.4 However, the Transport Assessment and associated ES chapter give no assessment of the likely impact of such a use. Further analysis of the environmental impacts of a general cargo port and, in particular, the impacts on the rail network must be provided before it can be

concluded that the proposals are acceptable. Indeed, on the basis of the current information provided in the applicant's ES, I fail to see how the ExA's consideration of this proposal can in fact proceed.

8.2 Potential Alternative Uses

8.2.1 ABP, based on considerable local knowledge and recognising the scale of the applicant's proposed operation has evaluated various cargo types that it believes AMEP could handle were it to operate as a general cargo port. This evaluation includes consideration of ship sizes, cargo-carrying capacity, berth occupancy and the amount of back-up land required to store cargo. This information is shown at Table 4 below.

Alternative Port Use **Table 4**

Cargo type	Units	Amount	Terrestrial land-take / ha	Modal split: rail	Modal split: road	Under 200 m LOA?	Maximum cargo parcel size	Ship discharge/load time (ie berth occupancy per ship) / hours	No. ship visits per year	No. of ship days (24 hrs) per year quay access required
Petroleum products	Tonnes	1,000,000	5	50%	50%	Yes	35,000	12	28.6	14.3
Bulk coal	Tonnes	3,000,000	16.1	90%	10%	Yes	40,000	48	75	150
Bulk biomass	Tonnes	2,000,000	2	90%	10%	Yes	47,000	84	42.6	149.1
Agribulks	Tonnes	500,000	5	0%	100%	Yes	35,000	72	14.3	42.9
Other bulks	Tonnes	500,000	3	10%	90%	Yes	35,000	48	14.3	28.6
Breakbulk/general	Tonnes	500,000	5	10%	90%	Yes	20,000	120	25	125
Unit load: RORO	No. trailers	200,000	8	0	100%	Yes	150 in, 150 out	12	666.7	333.4
Unit load: LOLO	No. boxes	350,000	10.9	30%	70%	Yes	400 in, 400 out	24	437.5	437.5
Cars	No. cars	400,000	60.7	20%	80%	Yes	1500	12	266.7	133.4
Total			115.7							1414.2

Total yearly Able quayage availability (6 berths of 200 m each @365 days each) = 2190 cargo-handling days per year.
Basis 1414.2 days of cargo handling capacity required per year, berth occupancy = 65%

8.2.2 This information assumes the port becomes a genuine mixed cargo port accommodating all the traffic types and volumes as shown. Clearly this is a theoretical calculation but importantly it shows the scale of operations that could be undertaken and, from that, the impact on inland traffic flows, both by road and rail can be evaluated.

8.2.3 Using this data including the likely mode split, which is currently typical for UK traffic, it is possible to convert these volumes into likely train numbers as shown in Table 5. Train lengths, wagon numbers and payload per commodity have been used to determine typical weights/units per train.

Traffic to rail for alternative port use **Table 5**

Cargo type	Units	Amount	Rail %	Tonnes/units per train	Trains per year[1]	Paths per week[2]
Petroleum products	Tonnes	1,000,000	50%	1672	299	12
Bulk coal	Tonnes	3,000,000	90%	1500	1800	72
Bulk biomass	Tonnes	2,000,000	90%	1210	1488	60
Other bulks	Tonnes	500,000	10%	1500	33	1
Breakbulk/general	Tonnes	500,000	10%	1000	50	2
Unit load: LOLO	No. boxes[3]	350,000	30%	26 each way	2019	81
Cars	No. cars	400,000	20%	120	667	27
Totals					6356	255

Notes
1 50 working weeks per year
2 2 paths per service
3 intermodal trains loaded in both directions

8.3 Impact on Rail

8.3.1 As can be seen table 5 the scenario of mixed traffic and modal split creates the requirement for a significant number of additional paths per week. It should be noted that the basis of this calculation is of two paths per train i.e. 1 in and 1 out.

8.3.2 As has already been stated all rail traffic to the applicant's site must pass through the Port of Immingham along the west dock running line (KIL1) along with all ABP traffic from the west side of Port.

8.3.3 To gauge the pressure on the west dock running line (KIL1) resulting from the Port of Immingham's current traffic and contracted growth as shown in Table 3, the Port's existing infrastructure, as well as railfreight originating from AMEP (if not restricted from becoming a general cargo port), it is necessary to add together the projected rail traffic from all sources. Doing so suggests a total of 920 train movement along KIL1, in respect of which it is estimated that 255 movements are to/from AMEP.

8.3.4 An increase in rail traffic along the west dock running line in excess of 30% would be impossible to accommodate.

8.4 The Killingholme Loop

8.4.1 The Killingholme Loop was originally designed as a single track railway with passing loops and with the option for bi-directional signalling. It would therefore be capable of providing both entry and exit routes from the applicant's site and away from the port.

8.4.2 A further attraction of constructing the Killingholme Loop is that it would provide in-built resilience into the network in the Immingham area in the event of an incident. Thus if the loop were to become blocked (for example due to a bridge-strike, a derailment or terrorist activity), access would be automatically safeguarded using the remainder of the loop. When it is borne in mind that around 25% of the UK's railfreight originates from the Port of Immingham, the provision of in-built resilience for the benefit of all rail users in the Immingham area is highly advisable.

8.4.3 There is a clear difficulty for the port rail infrastructure to accommodate the likely levels of rail traffic from the applicant's site in the alternate use scenario. Any proposal for a use that contemplates or will need the use of rail must first be comprehensively assessed and any authorisation granted cannot be so granted unless there is a specific requirement imposed upon the applicant to fund the Killingholme Loop as "remote rail works" for Network Rail as part of their planning conditions.

8.5 Conclusions on Section 2 Review – impact of a General Cargo Port

8.5.1 The current application fails to restrict the types of cargo using AMEP at any time after it is constructed. This will have far-reaching implications in terms of use of the existing rail infrastructure in the Immingham area, for the reasons explained above. This issue must be addressed.

8.5.2 The initial assessment based on probable volumes across the applicant's quay indicates substantial potential tonnages. When converted to actual train loads and path requirements it is clear that the Immingham Port rail infrastructure would not be capable of accommodating this volume of traffic.

C J Geldard
28th June 2012

Appendix 1

SOUTH HUMBERSIDE
RAIL INFRASTRUCTURE

NOTES.

ASSOCIATED BRITISH PORTS
HUMBER Engineering Department

Rev.	Description	Date	Drawn
-	-	-	-

Location: PORT OF IMMINGHAM

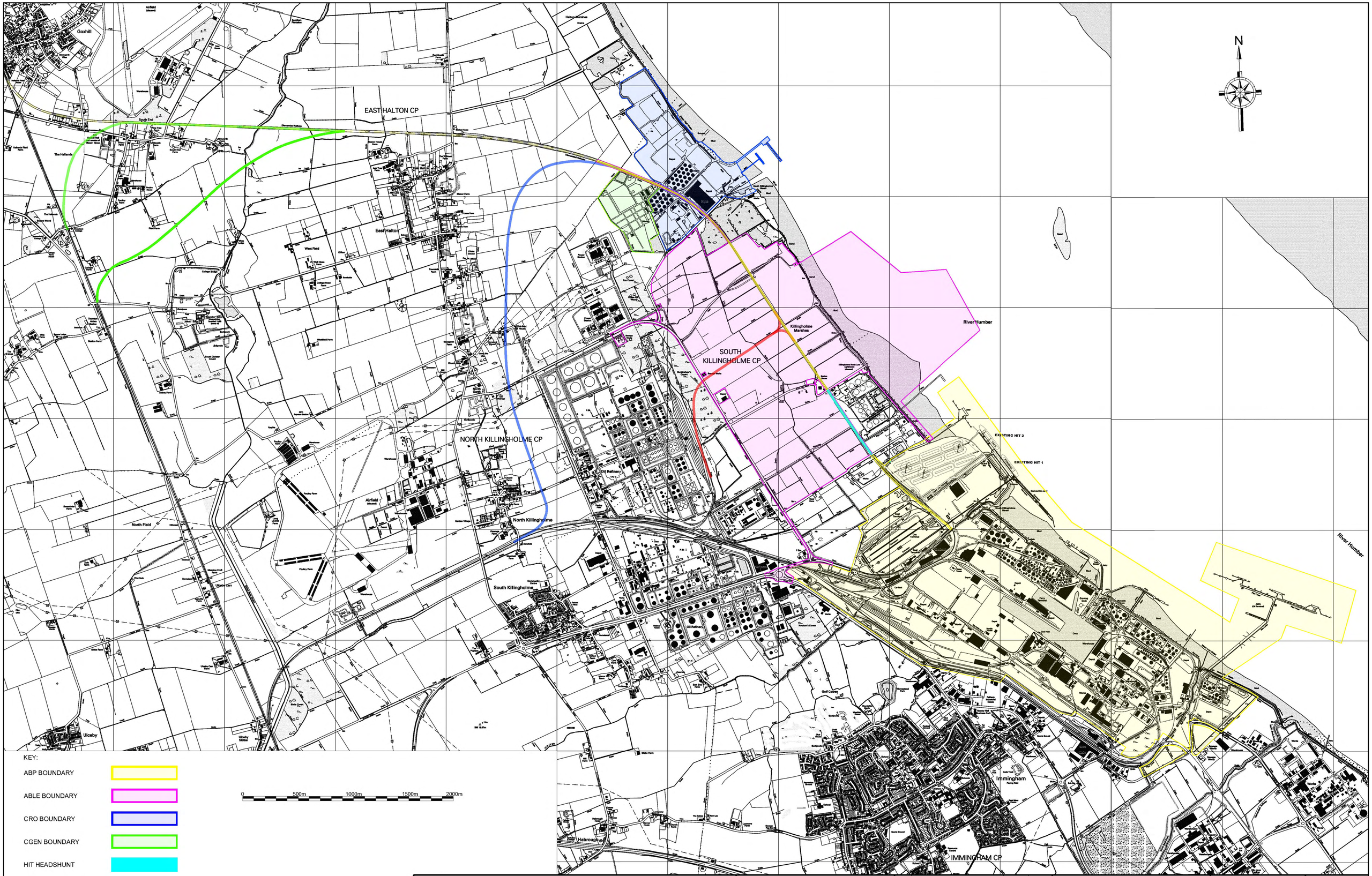
Status: -

Title: APPENDIX 1 OF RAIL REPRESENTATION BY C J GELDARD SOUTH HUMBERSIDE RAIL INFRASTRUCTURE

Drawn	MJB
Checked	-
Approved Projects Manager	-
Correspondence Ref.	-
Date	June 12
Scale	NTS@A4
Contract Drawing No.	-
Drawing No.	12/G/106
Revision	-

Appendix 2

IMMINGHAM AREA



KEY:

- ABP BOUNDARY
- ABLE BOUNDARY
- CRO BOUNDARY
- CGEN BOUNDARY
- HIT HEADSHUNT
- KILLINGHOLME LINE-
  - EXISTING
  - TRACKBED
- KILLINGHOLME LOOPS-
  - LOR OPTION 1
  - GOXHILL OPTION2A
  - GOXHILL OPTION 2B
  - ABLE OPTION 3

NOTES:

ASSOCIATED BRITISH PORTS
HUMBER Engineering Department

Rev.	Description	Date	Drawn

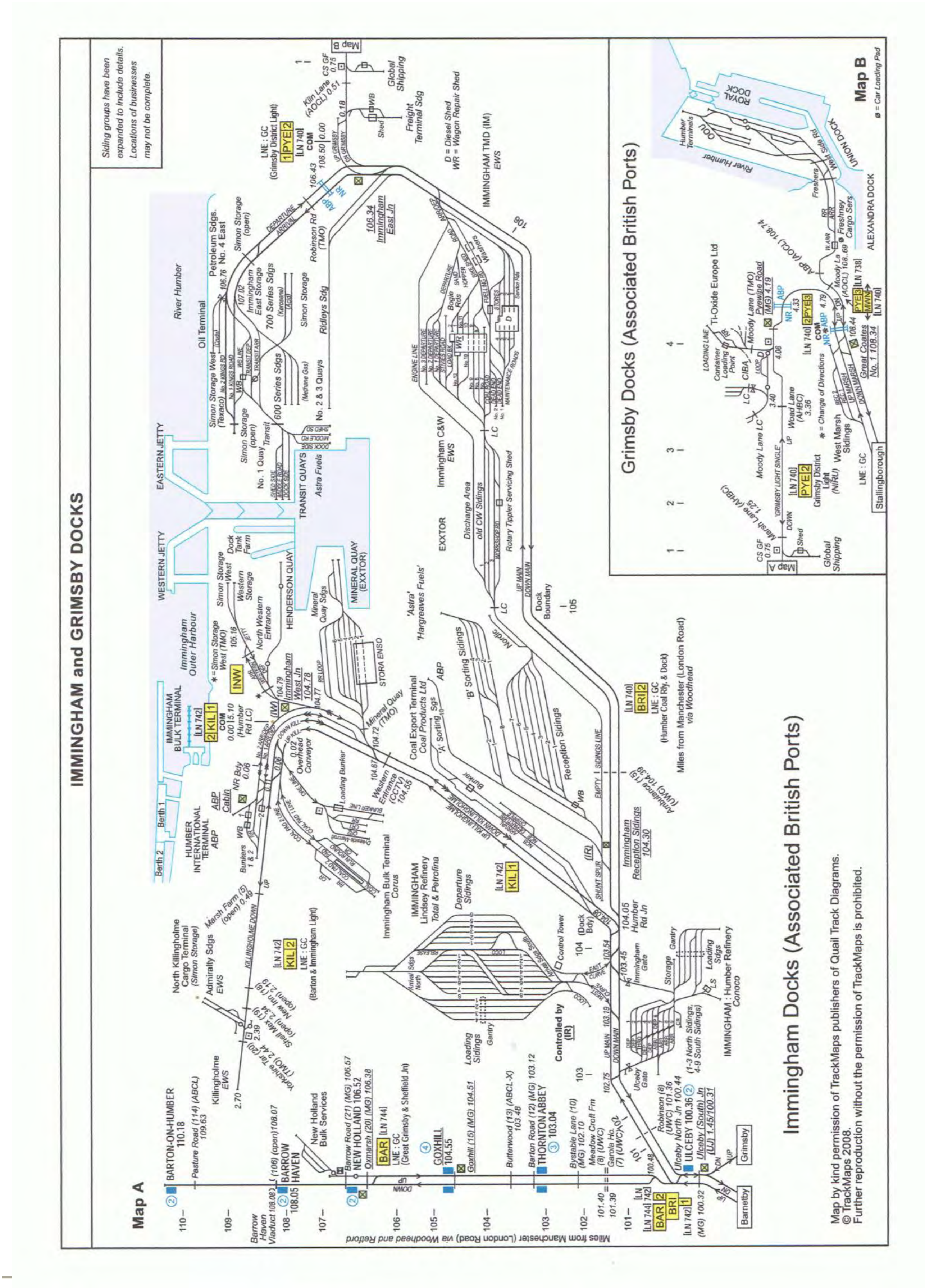
Location: PORT OF IMMINGHAM

Status: -

Title: APPENDIX 2 OF RAIL REPRESENTATION BY C J GELDARD IMMINGHAM AREA

Drawn: MJB	Date: June 12
Checked: -	
Approved Projects Manager: -	Scale: nts@A1
Correspondence Ref.: -	
Contract Drawing No.: -	Drawing No.: 12/G/107
	Revision: -

Appendix 3


IMMINGHAM and GRIMSBY DOCKS
Map A
Map B
Siding groups have been expanded to include details. Locations of businesses may not be complete.
Immingham Docks (Associated British Ports)
Grimsby Docks (Associated British Ports)
River Humber
Miles from Manchester (London Road) via Woodhead and Retford
Map by kind permission of TrackMaps publishers of Quail Track Diagrams.
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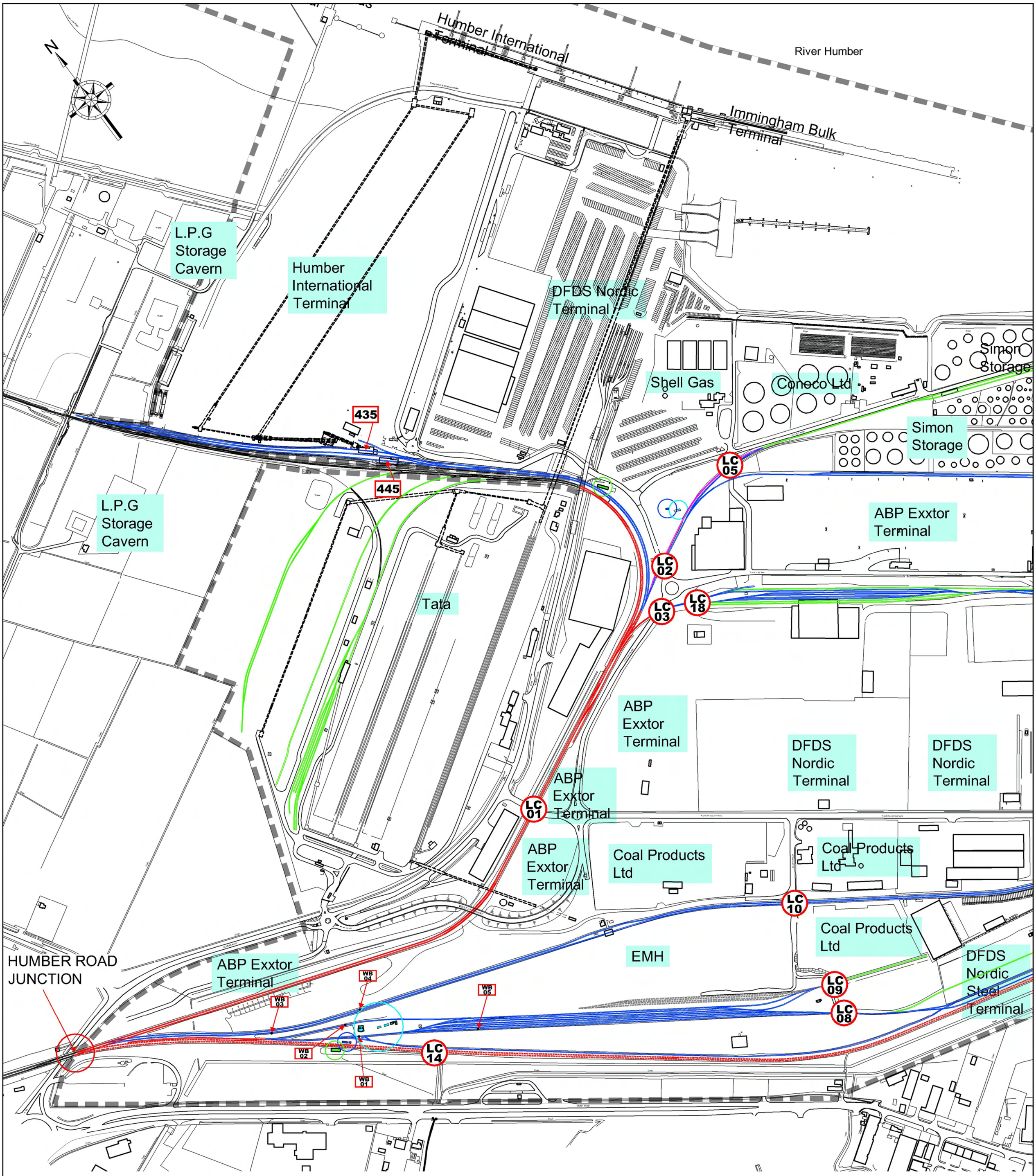
Appendix 4

PORT OF IMMINGHAM WEST
RAIL INFRASTRUCTURE



LEGEND:

PORT RAILWAY INFRASTRUCTURE

PRIVATE SIDINGS

PORT RAILWAY INFRASTRUCTURE - WEST DOCK RUNING LINE (KIL1)

PORT RAILWAY INFRASTRUCTURE RUNNING LINES TO TRACTION AND TRAINCREW DEPOT

DANGEROUS GOODS ROUTE (1WEEKLY)

ABP BOUNDARY

KEY TO SYMBOLS:

LEVEL CROSSING WITH IDENTIFICATION No. (e.g. LC 55)

RELAY ROOM

OTHER RAIL RELATED BUILDINGS

SIGNAL BOX

HIT COAL OUT LOADERS (e.g. 435)

WEIGHING EQUIPMENT WITH IDENTIFICATION No. (e.g. WB 01)

NOTES:

ASSOCIATED BRITISH PORTS
HUMBER Engineering Department

Location: PORT OF IMMINGHAM

Rev.	Description	Date	Drawn
-	-	-	-

Status: -

Title: APPENDIX 4 OF RAIL REPRESENTATION BY C J GELDARD
PORT OF IMMINGHAM WEST RAIL INFRASTRUCTURE

Drawn	MJB
Checked	-
Approved Projects Manager	-
Correspondence Ref.	-
Date	June 12
Scale	NTS@A1
Contract Drawing No.	-
Drawing No.	12/G/108
Revision	-

Appendix 5

HIT HEADSHUNT

N

BM 4.16m

Drain

Drain

Drain

Drain

Pipeline

Drain

Drain

Drain

Drain

Drain

Grit Chamber No. 2

Settling Pond No. 2

PROPOSED
OVERBRIDGE

Split line
continued
below

Split line
continued from
above

Sub-Station

Office

Conveyor

HIT BIOMASS

Wheel Wash

Water

Drain

Water

Pond

Pond

Pond

SOUTH EASTERN ROAD

CABLE ZONE

WEST RIVERSIDE

West Junction Signal Box

Cefetra Terminal

21

0 100m 200m 300m 400m 500m 600m 700m 800m 900m 1000m

KEY :-

NEW WORK

EXISTING TRACK SLUED

EXISTING TRACK

PROPOSED BOUNDARY
FENCE LINE

ABP BOUNDARY

ABLE BOUNDARY

NOTES:

ASSOCIATED BRITISH PORTS
HUMBER Engineering Department

Location
PORT OF IMMINGHAM

Rev.	Description	Date	Drawn

Status.
-

Title
APPENDIX 5 OF RAIL
REPRESENTATION BY C J
GELDARD
HIT HEADSHUNT

Drawn MJB
Checked -
Approved Projects Manager -
Correspondence Ref. -
Date June 12
Scale 1:1250@A1
Contract Drawing No. -
Drawing No. 12/G/109
Revision -

PINS TR030001

Planning Act 2008 and the Infrastructure Planning (Examination Procedure) Rules 2010

Application for proposed Able Marine Energy Park on the south bank of the River Humber, North Lincolnshire

Planning Inspectorate Reference No.: TR030001
Objector Reference: 10015525

Written representations of John Fitzgerald, Port Director of the Ports of Immingham and Grimsby, Associated British Ports

Proposed Authorisation of Compulsory Purchase Powers

1 Summary

1.1 ABP objects to Able's proposals:

(a) to acquire compulsorily an area of land ("the ABP Land") in which ABP holds an interest for the purpose of its undertaking, which lies to the west of the existing Port of Immingham, and comprises:-

(i) a triangular shaped piece of land with two narrow strips of land abutting it (together the "Triangle"), all in the freehold ownership of ABP;

(ii) that area of foreshore and bed of the estuary which lies adjacent to the Triangle ("the Foreshore") over which ABP enjoys the benefit of a 999 year lease granted by the Crown Estate;

(iii) a strip of land over which ABP has a benefit of a right of way for the purposes of providing access to the Triangle ("the Right of Way Land")

all of which has been identified and held for port expansion use and for port development for the Immingham West Deep Water Jetty; and

(b) to acquire compulsorily land in the ownership of Network Rail, the acquisition of which would result in serious detriment to future operations at the Port of Immingham and indeed to the detriment of other commercial operators on the south bank of the Humber, as noted in the relevant representations.

Port of Immingham

1.2 Together with its sister port of Grimsby, the Port of Immingham is the largest port by tonnage in the UK. In 2008 it handled over 55 million tonnes of cargo, representing some 10% of UK seaborne trade.

1.3 The growth of the port has been achieved by consistent investment by ABP and the port's principal customers to maximise the advantages of its location. The port offers a diverse port operation with a broad range of traffic.

1.4 The port's business includes containerised trade, dry bulks, forest products, general cargo, liquid bulks, ro-ro, minerals and ores. The "Humber International Terminal" ("HIT") on the western side of the port comprises two riverside berths and is capable of receiving vessels carrying in excess of 100,000 tonnes of cargo. The predominant cargo at HIT is solid fuel. Also located within the Port is: the Immingham Bulk Terminal, which is operated by Tata Steel and which handles iron ore and coal for its Scunthorpe works; the Immingham Oil Terminal, which handles oil and major spirits for local refineries; the Eastern and Western jetties, handling oils, spirits and liquid chemicals; and the Immingham Gas Jetty, which deals primarily with propane and butane.

Immingham West Deep Water Jetty

1.5 The Triangle which the applicant wishes to acquire compulsorily comprises port operational land and has been identified as such in both the North Lincolnshire Local Plan and ABP's emerging Master Plan. The site was acquired for port operational use and has been held as such as part of ABP's necessary long-term strategy for port growth.

1.6 ABP has a verifiable and pressing operational need for the Triangle, which will build upon current port operations, as part of its statutory undertaking. The development which ABP wishes to bring forward on the Triangle and the Foreshore is the Immingham West Deep Water Jetty. The deep water jetty will incorporate a jetty head within the Humber estuary, linked to the Triangle of land via a finger pier. ABP is currently in advanced discussions with an existing liquid bulks operator concerning the development of the Deep Water Jetty for the importation of fuels. A Memorandum of Understanding has now been signed, a proposed Harbour Revision Order has been drafted and scoping assessment documents are being prepared by external consultants.

1.7 ABP's proposal will entail the use of the entirety of the Triangle and the Foreshore, together with the Right of Way Land over which it enjoys access. Only if all of this is available to ABP can the deep water jetty be brought forward. The customer will require the jetty, which will be constructed on the Foreshore in order to berth vessels, and the whole of the Triangle in order to provide storage capacity for the liquid bulks that those berthed vessels will discharge.

1.8 The Right of Way Land will provide the necessary access from this new facility to the public highway network.

Conclusions on the Triangle Land

1.9 ABP has firm port operational proposals for the use of the ABP Land. These proposals, which ABP has progressed over a number of years:-

- are consistent with local and national policy at every level;

- will entail the construction and utilisation of a deep water jetty, that will add significantly to the capacity of the Port of Immingham; and
- are being brought forward in conjunction with a commercial partner.

Status of the Triangle

1.10 Despite an ill-informed letter from Bircham Dyson Bell addressed to the Secretary of State on behalf of the applicant which suggested to the contrary, the position is that:

- the Triangle is not land-locked and ABP enjoys a right of access from the public highway - as is acknowledged by Able in their CPO plans;
- development proposals for the Triangle are well advanced and are being actively progressed;
- the Port Master Plan is due shortly to be adopted;
- the Triangle was originally acquired for port operational purposes and has been held in readiness for this purpose since that time;
- compulsory acquisition of the Triangle would cause ABP serious financial and operational detriment.

Funding

1.11 The applicant is required under Regulation 5(2) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 to provide a statement indicating *"how an Order that contains the authorisation of compulsory acquisition is proposed to be funded"*.

1.12 The Funding Statement provided by the applicant provides no meaningful information and raises considerable concern as to whether the applicant has recourse to the funds required for both the project and those sums that will be payable to dispossessed parties in respect of compulsory acquisition.

1.13 Indeed as regards to the latter, there is no indication that Able has even undertaken an appraisal of its potential liabilities in this regard.

Planning Act 2008 - Case for Compulsory Acquisition of the ABP Land

1.14 ***Sections 122 and 123*** - The applicant has failed to meet the tests set down in sections 122 and 123 of the Planning Act 2008.

1.15 Further, no *"compelling case in the public interest for the land to be acquired compulsorily"* (s122(3)) has been proven or demonstrated.

1.16 ***Section 127*** - The compulsory acquisition of the ABP land can only take place, as a matter of law, in the event that the Secretary of State has first certified that such acquisition:

(a) would not cause serious detriment to the carrying on by ABP of its undertaking; or else

(b) that the ABP Land could be replaced by ABP without causing serious detriment to the carrying on of its undertaking.

Neither of these scenarios has been proven or demonstrated and ABP contend that neither is applicable, so that the Secretary of State should not issue the certificate required. ABP will correspond separately with the Secretary of State in this regard.

Network Rail Land

1.17 ABP objects to the proposed compulsory acquisition of land in the ownership of Network Rail on the basis that that no justification has been provided for this aspect of the proposal, and that if such compulsory acquisition were authorised it would have a critically detrimental impact upon the operations of the Port of Immingham. The Port of Immingham is the UK's largest source of rail freight traffic and provides 25% of the UK total, thus the rail infrastructure at the Port of Immingham is, for example, critical for the delivery of supplies of the nation's fuel. Acquisition of the Network Rail Land in respect of which the Applicant is seeking compulsory purchase powers would frustrate two important rail-related projects, namely:

(a) The HIT headshunt (a project in which ABP has already invested several million pounds); and

(b) The Killingholme Loop (this being a project that would increase the ability of rail traffic to serve the Port of Immingham and other commercial development on the South Humber).

UK and European Law

1.18 The proposed compulsory purchase of ABP's land at South Killingholme is unsound in UK and European law and is in contravention of ABP's human rights.

2 Introduction

2.1 These representations have been prepared by Associated British Ports ('ABP') in response to the inclusion by Able Humber Ports Limited, in its draft Development Consent Order, of powers of compulsory purchase. Such powers would, if authorised, have severe implications for ABP in connection with its current and projected operations at the Port of Immingham.

2.2 In summary, ABP objects to Able's proposals –

(a) to acquire compulsorily an area of land ('the ABP Land') in which ABP holds an interest for the purposes of its undertaking, which lies to the west of the existing Port of Immingham, and comprises:

(i) a triangular shaped piece of land[1], with two narrow strips of land abutting it[2], both in the freehold ownership of ABP (together, 'the Triangle');

(ii) that area of foreshore and bed of the estuary which lies adjacent to the Triangle ('the Foreshore')[3] and over which ABP enjoys a 999 year lease granted by the Crown Estate; and

(iii) a strip of land over which ABP has the benefit of a right of way, for the purposes of providing access to the Triangle ('the ROW Land'[4])

all of which have been identified for port expansion use as the Immingham Western Deep Water Jetty; and

(b) to acquire compulsorily land in the ownership of Network Rail ('the Network Rail Land'), the acquisition of which would result in serious detriment to future operations at the Port of Immingham, and indeed to the detriment of other commercial operators on the south bank of the Humber, as noted in the relevant representations.

3 The ABP Land and Network Rail Land

3.1 The areas of land referred to above are identified on the plans provided in Exhibit JF1 to these Written Representations.

3.2 As regards the ABP Land, the Triangle comprises 13.803 acres in total, incorporating 12.848 acres owned by ABP as absolute freehold and a further 0.955 acres held with possessory title. The Registered Titles HS360474 and HS363120 detail the extent of ABP's holding. The original conveyance, dated 21 March 1967, is referred to in Title HS360474 and also shows ABP's right of way over the RoW Land.

3.3 The Triangle was purchased by the British Transport Docks Board (BTDB) on 12 March 1967. Under the Transport Act 1981 all property held by the BTDB transferred to ABP. The interest was acquired by the BTDB prior to changes made to the Town and Country Planning Act on 6 December 1968 and was purchased for its statutory purposes as operational port land. The Triangle continues to be held by ABP as such, notwithstanding that, since 1968, it has been let out in a series of short term agricultural tenancies and is currently put to an agricultural use.

[1] Book of Reference, Plot 03020
[2] Book of Reference, Plots 03023 and 03022
[3] This area of foreshore falls within Plot 09001 of the Book of Reference
[4] The RoW Land comprises 4 separate plots in the Book of Reference, namely Plots 03009, 03021, 03014 and 03016.

4 ABP and the Port of Immingham

4.1 ABP is the UK's largest ports group. It operates 21 ports around the coast of Great Britain, together with other transport-related businesses. Its wide geographical spread means that ABP is capable of handling almost any commodity to or from anywhere in the world. Typical examples include dry bulks, containers and motor vehicles from Southampton and Grimsby & Immingham; the cruise businesses operating from Southampton and Hull; the offshore wind energy sector serviced from its ports in South Wales, Lowestoft and shortly Hull; and solid and liquid bulk goods from Immingham. ABP was formed in 1982 as an independent statutory body corporate after the privatisation of the BTDB. The BTDB and its predecessor, the British Transport Commission, owned and operated various transport undertakings in the UK, including many docks, following nationalisation in 1948. ABP owns over 12,000 acres of land and enclosed docks in the UK, predominantly at port locations, to enable it to operate its port businesses. Strategic land banks allow for planned growth in response to customer requirements and can often result in the need for a strategic approach to be taken to business growth as a longer term policy.

4.2 ABP's port interests on the Humber Estuary form a significant part of its overall business focus. The Humber Estuary is the busiest trading estuary in the UK and the port complex of Immingham and Grimsby ranks fourth in size in Northern Europe after Rotterdam, Antwerp and Hamburg. Immingham is the pre-eminent facility on the Humber due to its natural advantage of deep water, and offers excellent access to the trade routes between the UK and Scandinavia, the Baltic States and mainland Europe. Continental Europe is less than 24 hours' sailing time from Immingham, making a potential market of more than 170 million people easily accessible to UK businesses. Beyond that, the rest of the world is accessible through well-established and proven routes. The port's links also extend, throughout Europe to North and South America, Africa, Australia, the Middle East and the Far East.

4.3 The history of the Port of Immingham dates back to 1912, since when regular new developments have helped the port to move with the times and maintain a strong competitive position. ABP has a proven track record of being committed to modernising its port facilities in response to customer requirements, growth in international trade and port labour practices. The port comprises just under 1,200 acres of land and 58 acres of enclosed dock.

4.4 The growth of the port has been achieved by consistent investment by ABP and the port's principal customers to maximise the advantages of its location. Consolidation within the industry, operational economies of scale and the efficiency of the transport infrastructure to and from the port have also contributed to its success.

4.5 Over the past 10 to 20 years, the size of vessels calling at Immingham has increased significantly as has the quantity of cargo carried by them. International companies, particularly the bulk, ro-ro, oil/petrochemical and container lines, have progressively sought to achieve economies of scale, particularly on long distance, deep-sea shipping routes. The result has been a reduction in real terms of the unit cost of delivering goods from many parts of the world, resulting in similar reductions in the price of many consumer goods on the high street. This has been achieved in part, through the introduction of larger vessels with greater cargo-carrying capacities.

4.6 Immingham is a very diverse port operation, and the broad range of traffic it accommodates ensures a secure base throughput with any fluctuations in a particular trade or commodity often being balanced by other port activities.

4.7 The port's business includes containerised trade, dry bulks, forest products, general cargo, liquid bulks, ro-ro, minerals and ores. The "Humber International Terminal" (HIT) on the western side of the port comprises two riverside berths, capitalising on the deep water location, and is capable of receiving vessels carrying in excess of 100,000 tonnes of cargo. The predominant cargo at HIT is solid fuel. Also located within the port is the Immingham Bulk Terminal which is operated by Tata Steel and which handles iron ore and coal for its Scunthorpe Works; the Immingham Oil Terminal, which handles oil and major spirits for local refineries; the Eastern and Western jetties, handling oils, spirits and liquid chemicals; and, the Immingham Gas Jetty which deals primarily propane and butane via an underground storage cavern for Calor Gas and Conoco Phillips.

4.8 The port complex of Immingham and Grimsby is the largest by tonnage in the UK, handling almost 56 million tonnes in 2008, representing about 10% of UK sea-borne trade. It has consistently outgrown the UK ports sector since de-regulation of labour practices in 1989, growing at four to five times the rate of the combined UK ports industry. Between 1997 and 2008 the throughput of cargo handled at the port grew by 23%, compared with growth of just 0.7% for the UK overall. Immingham increased its market share significantly during this period.

5 Immingham West Deep Water Jetty

Genesis of Proposal

5.1 Inset Map 57 of the North Lincolnshire Local Plan, adopted by North Lincolnshire Council in May 2003, identifies the Triangle as being within the "O*perational Area of The Port of Immingham Boundary"*, the specific subject of policy IN4A. This policy, found within the section of the local plan that considers 'Industry and Employment', is titled 'IN4A – Port

Related Development – ABP' and states that 'Port related development within the port area designated on the Proposals Map will be supported'.

5.2 The vast majority of the Triangle is also included within a wider area of land identified in the local plan as a site for proposed industry, subject to policy IN1. This policy (again found in the section of the plan dealing with Industry and Employment) is titled 'IN1 – Industrial Development Location and Uses' and makes clear that new industrial development consisting of 'Estuary related B1, B2, B8' uses will be allowed on this site.

5.3 The Triangle is also included within an area identified in North Lincolnshire Council's Core Strategy (adopted June 2011) as the South Humber Bank Strategic Employment Location. Described as a broad location, this area is the subject of various policies of the core strategy, including policy CS12. That policy begins by stating that this employment site 'will be reserved for B1, B2 and B8 port related activities to take special advantage of its location, flat topography and adjacent deep water channel of the River Humber as an extension to Immingham Port and the Humber Sea Terminal'. (Extracts are produced as JF2)

5.4 In addition, the draft Port Master Plan for the Port of Immingham identifies the future use of the Triangle as a satellite deepwater terminal handling liquid bulks. This draft Master Plan, first promoted by ABP in March 2010 in accordance with Government guidance published by the Department for Transport, states that the Deep Water Jetty will be driven by future market demand:

> *"There is potential for a further deep-water river jetty capable of accepting Panamax-sized vessels west of Humber International Terminal and the Oil Pipeline Agency-operated South Killingholme Jetty. The development site fronts an existing 12-acre area of strategic development land owned by ABP. This opportunity to construct a new facility will be driven by future market demand and progressed when remaining port capacity is full or when a specific demand arises in association with a new industrial user or inward investor. It is envisaged that the development will be required between 2020 and 2030. Any development will require a Harbour Revision Order and additional consents as required, for which the appropriate planning process would be completed.'*

5.5 It was in this context that a submission was made in 2010 to ABP's Board for their approval to develop viable business options and scenarios for the Triangle. This was approved on 16 December 2010 (Board Minute 10/151) in recognition of the constantly increasing demand being placed on the Port's riverside berth facilities and the fact that the area comprised the last remaining piece of undeveloped land within ABP's ownership at Immingham that has unrestricted estuary frontage. The minute records that:

"The Board approved the termination of the agricultural licence of 11.39 acres of land and foreshore to the west of the Port estate at Immingham (the 'Western Deep Water Jetty') in order to secure vacant possession and enable access route development in preparation for proposed port-related development plans, with a market case to follow in due course".

5.6 Subsequently, on 14 September 2011, I made a request to the Chief Executive in my capacity as ABP's Port Director at Immingham, for capital expenditure funds to be released. These funds were required to commission preliminary works to assess the suitability, design and permission process for further riverside berths to be developed at Immingham. This included the third berth at HIT for solid fuel cargoes, and the resultant need to relocate existing cargoes using the Immingham Gas Jetty to the West Deepwater Jetty. Consent for an expenditure of £650,000 in pursuance of these objectives was granted on 30 September 2011 (Works authorisation No. CE 25/11). My letter explains that:

"*It is clear from the scale of the contracts being considered that the existing HIT berth capacity would not be sufficient given that biomass discharge is much less productive than coal. With this in mind, we urgently need to progress our planned expansion of dry bulk riverside capacity at Immingham. Our Master Plan envisaged the creation of a third berth at HIT and simultaneous transfer of the gas and white oil unloading capacity at Immingham Gas Jetty*".

I conclude by emphasizing the need for these investigations to take place, since these preliminary works will serve to "*support the progress of these contractual discussions*".

5.7 Consistent with this intention to bring the Deep Water Jetty forward, ABP instructed their Parliamentary Agents, Winckworth Sherwood LLP, to draft a Harbour Revision Order which would incorporate the necessary works. The draft 'Associated British Ports (Port of Immingham Riverside Quays) Harbour Revision Order' is currently being formulated.

5.8 Alongside this process ABP also commissioned its environmental consultants, ABPmer, to prepare an environmental feasibility study of the Immingham West Deep Water Jetty proposal. This has now been completed, with the aim that the bulk of its text and preliminary assessment work will provide the majority of the information required for an environmental scoping report under the Environmental Impact Assessment Regulations. In addition, ABP's Dockmaster at the Port of Immingham, responsible for the safe navigation of all vessels using the port's marine infrastructure, has programmed the proposed Deep Water Jetty berth's characteristics and location in to a nautical simulator at South Tyneside Nautical College. This will assist with the modelling work required to be undertaken, and will enable examination of

viable ship sizes, safety of navigational manoeuvres in the vicinity of the proposed new berth, and potential arrival/departure windows throughout the tidal cycle.

The Proposal

5.9 ABP has a verifiable and pressing port operational need for the Triangle, which will build upon current port operations in the Port of Immingham, as part of its statutory undertaking. The proposed Immingham West Deep Water Jetty will incorporate a jetty head within the Humber Estuary, linked to the Triangle via a finger pier. A plan and illustrative photomontages depicting the Jetty are provided at Exhibit JF3 to these Written Representations.

5.10 ABP is currently in advanced discussions with an existing liquid bulks customer at the Port of Immingham concerning the development of the Deep Water Jetty for the importation of fuels. Discussions have progressed to such an extent that a Memorandum of Understanding has now been signed. One attraction of the site, reinforcing its high strategic value to ABP, is its proximity to the Oil and Pipelines Agency terminal already in existence at South Killingholme, which has a direct link to the 'Government Pipeline Storage System.' This is a network of pipelines running in and around the UK mainland; large oil companies book slots or 'windows' in this pipeline system to assist with the distribution of fuel around the country. In particular it links up with major airports for the distribution of aviation fuel. Nevertheless there is still considerable capacity within this pipeline, considered to be in the region of millions of tonnes, and ABP's customer is aware of the current market trends in this sector, where the oil market in the UK is moving away from refining of crudes and more towards the distribution of imported refined fuel. Indications point towards imports of around 1 million tonnes per year being achievable through the proposed Deep Water Jetty.

5.11 ABP's proposal will entail the use of all three elements of the ABP Land – namely the Triangle itself, the Foreshore and the ROW Land. Only if all three elements are available to ABP can the Deep Water Jetty be realised. The liquid bulks customer with which ABP has signed the Memorandum of Understanding will require both the Jetty (constructed on the foreshore and the bed of the estuary) in order to berth vessels, and also the Triangle in order to provide storage capacity for the liquid bulks that those vessels will discharge. The RoW Land will provide the necessary access from this new facility to the highway network.

Relevant Policy

5.12 The proposal also accords with the draft Port Master Plan, relevant extracts of which are provided in Exhibit JF4 to these Written Representations. In this context, I note that although the Master Plan is currently in draft, it is my understanding that it will be adopted by the ABP Board during the second half of this year. The draft has been subject to extensive public consultation and is being amended following consideration of the consultation responses received.

5.13 The ABP proposal is also consistent with policies of the Development Plan. In particular, it is consistent with the policies earlier identified. Further so far as the local planning authority is concerned, I should say that North Lincolnshire Council participated in the consultation relating to the draft Port Masterplan. In responding to the consultation exercise, the Council raised no objection to the proposed use of the Triangle by ABP.

5.14 In addition, ABP's proposals for the Deep Water Jetty are consistent with national policy relating to ports, in particular, the recently published National Policy Statement for Ports ('NPSfP').

5.15 Further, in terms of energy policy, the proposal would also assist the UK Government's strategic need to maintain liquid bulk fuel supplies to the UK, especially in the light of the reducing refinery capacity which now is being experienced in the UK as a whole.

Concluding Remarks on Immingham Western Deep Water Jetty

5.16 ABP has firm operational proposals for the ABP Land. These proposals, which ABP has progressed over a number of years:

- are consistent with policy at every level – that is with the draft Port Masterplan, the Local Plan, the NPSfP and UK energy strategy;
- will entail the construction and utilisation of a deepwater jetty, that will add significantly to the capacity of the Port of Immingham; and
- are being brought forward in conjunction with a commercial partner.

6 Able UK

Negotiations and Correspondence

6.1 Although Able did comment upon the draft Master Plan during the consultation period, it did not object to the proposed Immingham West Deep Water Jetty. Rather, it confined its contribution to raising a number of questions of clarification. These did not elaborate upon Able's development proposals nor give any indication of the company's intention to compulsorily acquire the land allocated for the Deep Water Jetty.

6.2 The first contact made by Able regarding its firm intention to acquire the ABP Land comprised a letter from Able's Executive Chairman dated 20 July 2010, detailing the company's desire to purchase the Triangle. I responded by letter dated 6 August 2010, stating that "*this land is operational land of ABP as a statutory undertaker and forms part of a planned future terminal*

development". I went on to state that "*we therefore have no intention of disposing of what is a key expansion area for the Port of Immingham*".

6.3 On 29 October 2010 Able's solicitors and parliamentary agents Bircham Dyson Bell ('BDB'), wrote to me, stating that '*Able intend to use the land that is identified in your draft Masterplan for the Port of Immingham as possible future development of a Western deepwater jetty and associated development area*.' The letter, provided as Exhibit JF5, goes on to say that:

> "*Able acknowledge your intentions but nevertheless, provided that they find such land necessary for their proposed Marine Energy Park, intend to make an application under the Planning Act 2008 next year for a quay and associated infrastructure that will include the acquisition of that site*".

6.4 I also responded to BDB by letter on 9 November stating very clearly that the ABP Tiangle was not for sale. This letter is attached as JF6.

6.5 In their recent letter to the Secretary of State for Transport of 26 March 2012[5], in which clarification is sought as to whether a certificate under section 127 of the Planning Act 2008 is necessary, BDB claim in respect of the Triangle that –

(a) It is land locked;
(b) ABP has no short-term plans for it;
(c) The Master Plan, which did allocate a use, has been withdrawn;
(d) It can be acquired by Able with no serious detriment to ABP;
(e) It was never acquired by ABP for port purposes;
(f) It is not port operational land.

The letter was not copied to ABP until 15 May 2012

6.6 All of these statements contained in the BDB letter are inaccurate and ill-conceived; more, they are misleading. That such a letter could be sent to the Secretary of State without the knowledge of the land owner is a matter of very considerable concern, especially since neither Able nor BDB contacted ABP to discuss the various assertions contained within it, or to check whether or not they were correct.

6.7 By way of reply to these points, the ExA should note that contrary to the assertions of Able and their lawyers:-

[5] Exhibit JF7 to these Written Representations.

- The Triangle is not land-locked, and ABP enjoys a right of access from the public highway (as Able themselves duly acknowledge in their CPO Plans);
- Development proposals for the Triangle are well advanced and are being actively progressed;
- The Port Master Plan has never been withdrawn, and is due shortly to be adopted following amendments made in consequence of the public consultation;
- Compulsory acquisition of the Triangle would cause ABP serious financial and operational harm;
- The Triangle was indeed originally acquired for port operational purposes, and has been held in readiness for this purpose since that time.

Proposed use of the Triangle

6.8 Able's original proposals did not incorporate the Triangle. Further, the purpose to which Able intend to put the Triangle has only recently become apparent. ABP now understand that Able propose to use the site of ABP's deep water jetty for the location of a surface water drainage pumping station, with the remaining area shown as 'overspill low level storage'.

6.9 It appears from Annex 13 of the ES that Able have taken the decision to site the proposed pumping station on the Triangle, on the basis that it represents the cheapest option available. Details of the pumping station proposal are included as plans AME – 02013 and 02014 in Able's application documentation. A feasibility study was undertaken which identified various options for the location of the proposed pumping station, of which two did not involve utilizing the Triangle and one was determined to be impracticable. Since the two remaining viable options would, however, involve greater expenditure than if the pumping station were sited on the Triangle, Able has apparently determined to pursue compulsory purchase of the area.

6.10 Further, in selecting the Triangle as the appropriate location for the proposed pumping station, there is no recognition in the ES (nor indeed elsewhere in the application documents) that the Triangle comprises operational land, acquired and held by ABP (and its predecessors) for its statutory purpose. Nor is there any acknowledgement of the specific project (the Western Deepwater Jetty) which ABP is seeking to bring forward on that land, notwithstanding that the existence of such project was known to Able before the application for the DCO was submitted.

Funding

6.11 Regulation 5(2) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 provides that an application for Development Consent must be accompanied by, *inter alia*, the following:-

"(h) If the proposed order would authorise the compulsory acquisition of land or an interest in land or right over land, a statement of reasons and a statement to indicate

how an order that contains the authorisation of compulsory acquisition is proposed to be funded."

6.12 Able has produced what it terms a "Funding Statement" – although in reality it provides no meaningful information as to how the development, let alone the compulsory purchase, will be funded. At paragraph 3, under the heading "Land Acquisition", the document states that –

> *"The Applicant will provide appropriate guarantees to the relevant planning authorities and that it will pay compensation under the compulsory acquisition provisions of the Development Consent Order before implementing them, and that the compensation will be met from Group's existing funds."*

6.13 This bland statement, read in the context of the rest of the funding statement which extends to little more than half a page, raises considerable concern as to whether the applicant actually has recourse to the funds required. Such concerns arise both in terms of the monies necessary to deliver the project, and in relation to the sums that would be payable to dispossessed parties in respect of compulsory acquisition. Indeed, as regards the latter, there is no indication that Able has even undertaken an appraisal of its potential liabilities in this regard.

6.14 It is simply insufficient to say only that the cost of implementing the works will be "*financed with a combination of the Group's resources and borrowing from external sources*", adding that the applicant – "*may also apply for funding from government business incentives such as the Regional Growth Fund and the European Regional Development Fund*".

6.15 The statement is manifestly deficient. Quite apart from the fact Able's proposals do not justify the authorisation of compulsory powers in terms of their substance, the ExA cannot accede to the application for exercise of such powers since detailed and verifiable information as to funding, in the context of both the project and the proposed land acquisition, has not been provided.

7 Case for Compulsory Acquisition of the ABP Land

7.1 On the information currently available and in the context of the requirement placed upon the applicant to demonstrate that there is a compelling case in the public interest to justify the deprivation of ABP's property rights, the applicant appears to be proposing:-

(i) The construction of a new quay – for a purpose that, even at this late stage is ill-defined and unassessed; and

(ii) The destruction of many acres of internationally protected mudflat[6]; without having satisfied either -

(a) the stringent tests laid down in European and UK law in terms of environmental assessment; or

(b) the similarly stringent European and UK law environmental tests in terms of matters such as habitat protection and IROPI.

7.2 In the context of this test, therefore, the decision-maker must *"weigh up the public benefits that [the] scheme will bring against any private loss to those affected by compulsory purchase, in order to determine where the balance of public interest lies"* (Para 30, Guidance related to procedures for compulsory acquisition published by the Department for Communities and Local Government in February 2010). On this basis alone, the application for authorisation of compulsory purchase powers must be rejected. Such an application cannot be confirmed in that, as already noted, the area of land which Able seeks to acquire not only meets no genuine requirement for its new port development, but rather has instead been identified by the landowner for significant and nationally important UK infrastructure requirements.

7.3 In the light of these circumstances any decision to confirm the compulsory acquisition of the ABP Land would, having regard in particular to relevant sections of the Planning Act 2008, be unlawful.

7.4 Section 122 of the 2008 Act stipulates that a Development Consent Order may only authorise the exercise of compulsory purchase powers if certain specific conditions are satisfied. Able has manifestly failed to demonstrate that its proposal to acquire the ABP Land satisfies any one of those conditions.

7.5 Section 122 of the 2008 Act further provides that compulsory acquisition can only be authorised in circumstances where an applicant has demonstrated:

> *"A compelling case in the public interest for the land to be acquired compulsorily."* (s122(3))

7.6 In this case, there is no question of Able having demonstrated a compelling case to justify compulsory acquisition of ABP's Land. Rather, its efforts might fairly be characterised as an attempt to prevent ABP from expanding its own port operations – expansion proposals which were published in the Port of Immingham draft Master Plan well in advance of the submission by Able of their own proposals.

[6] Able is seeking powers of compulsory acquisition in respect of 45 ha (111 acres) of estuary, and proposes dredging 65ha (161 acres).

8 Section 127 Planning Act 2008

8.1 Section 127 of the Planning Act 2008 requires that the Secretary of State give prior certification where it is proposed that a DCO authorise compulsory acquisition of land acquired by a statutory undertaker for the purpose of its undertaking.

8.2 The letter dated 26 March 2012 written by BDB to the Secretary of State, made various observations in the context of section 127 certification process. As has already been explained, such observations were ill-conceived and misrepresented the position as regards the status of the ABP Land and the purpose for which it was acquired and is held.

8.3 I understand that ABP's solicitors have asked the National Infrastructure Directorate to clarify the latest position with regard to certification under the Act and their response is awaited. In consequence, however, ABP has necessarily had to prepare these representations without full knowledge of the circumstances relating to the proposed compulsory acquisition. ABP therefore reserves the right to supplement or alter these representations once this matter has been clarified.

8.4 Suffice it to say that ABP contends that compulsory acquisition of the ABP Land can only take place, as a matter of law, in the event that the Secretary of State has first certified that such acquisition would not cause serious detriment to the carrying on by ABP of its undertaking, or else that the ABP Land could be replaced without causing serious detriment to the carrying on of its undertaking. Neither of these conditions is met. ABP is making separate representations to the Secretary of State in this regard, to which a copy of these Written Representations will be appended.

9 Network Rail Land

9.1 I do not comment at any great length regarding the basis on which ABP opposes the application for compulsory purchase powers in respect of the Network Rail Land, since the relevant issues are discussed in the Written Representations of Mr Chris Geldard. I do, however, summarise the position in the paragraphs below.

HIT Headshunt

9.2 ABP is in negotiations with Network Rail so as to enable it to reconfigure existing track, lying immediately outside the boundary of the Port of Immingham, effectively by "shifting" the single track to permit the construction of two lengths of track which will facilitate an operation known as a railway "shunt". Trains currently enter the port from the main line at the single junction to the east. They then work through the port and return to the main line effectively at the same point, i.e. having entered the port, trains cannot at present pass through the port continuing to

the west, (across Able land), returning to the main line at a point further to the west of the port.

9.3 The headshunt will comprise an extension of the new biomass loading line and the existing coal loading lines at HIT. It will extend for 700m and allow any train to move completely clear of its loading terminal along the new length of line, (thus allowing a following train to commence loading without delay). On arrival at the distant end of the headshunt the locomotive can uncouple from its wagons and return down the parallel line past the wagons before reversing across the points to reconnect to the tail of the loaded wagons. Such facility will very substantially increase the rail capacity of the loading terminal, thus improving the efficiency of port operations and the Port's ability to efficiently and effectively service the UK's major power generators' renewable fuel requirements.

9.4 The key issue as far as the proposed compulsory acquisition is concerned, is that the land upon which ABP propose to construct the head shunt (comprising some 1.54 acres) falls entirely within the ownership of Network Rail, is outside the Port, and falls within the boundary of the land which Able proposes to acquire compulsorily. ABP is currently in negotiations with Network Rail regarding the grant of a 99 year lease of the land on which the head shunt will be constructed. Negotiations are proceeding and the necessary documentation should be concluded in the near future.

9.5 I refer the ExA to the separate written representation on this matter submitted by Mr Chris Geldard of Geldard Consulting which will form the basis of ABP's objection to this part of the proposed compulsory purchase.

Killingholme Loop

9.6 The second component of the proposed compulsory acquisition of the Network Rail Land to which ABP objects, relates to the fact that Able wish to acquire compulsorily the entire length of Network Rail land that runs through their land ownership, thereby precluding the opportunity for the construction at some later time of a railway "loop" that would effectively complete the existing track from the main line junction in the east affording a new egress point to the main line to the west.

9.7 Again, the ExA's attention is drawn in this respect to the written representations of Christopher Geldard which detail ABP's objection to this aspect of Able's proposed compulsory acquisition.

10 Human rights

10.1 In the light of the representations detailed above, and for the reasons provided, ABP contends that any proposed compulsory acquisition of the ABP Land would be contrary to Article 1 of

the First Protocol to the Convention for the Protection of Human Rights and Fundamental Freedoms. Section 1 of the Human Rights Act 1998 incorporated Article 1 into English law when it came into force on 2 October 2000.

10.2 Article 1 relates to the protection of property, and states that:

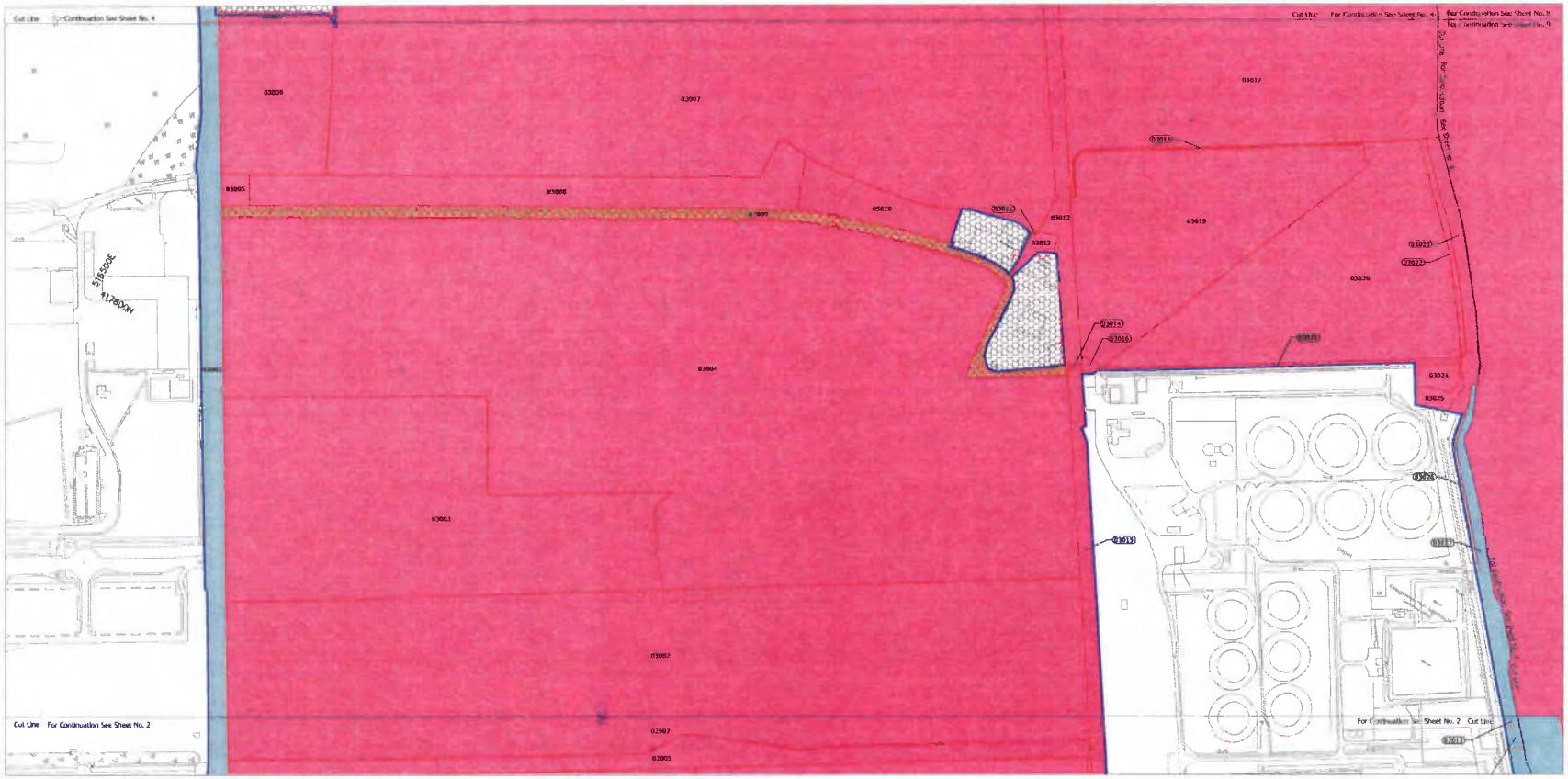
> *"Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law."*

JF1

Planning Act 2008

ABLE Marine Energy Park

NORTH LINCOLNSHIRE



KEY

- Order land
- Temporary Land
- Land in relation to which it is proposed to extinguish easements, servitude's and/or other private rights
- Land not included
- Boundary of land required for or affected by the proposed development

Land Plan

50 0 50 100 150 200 250 metres

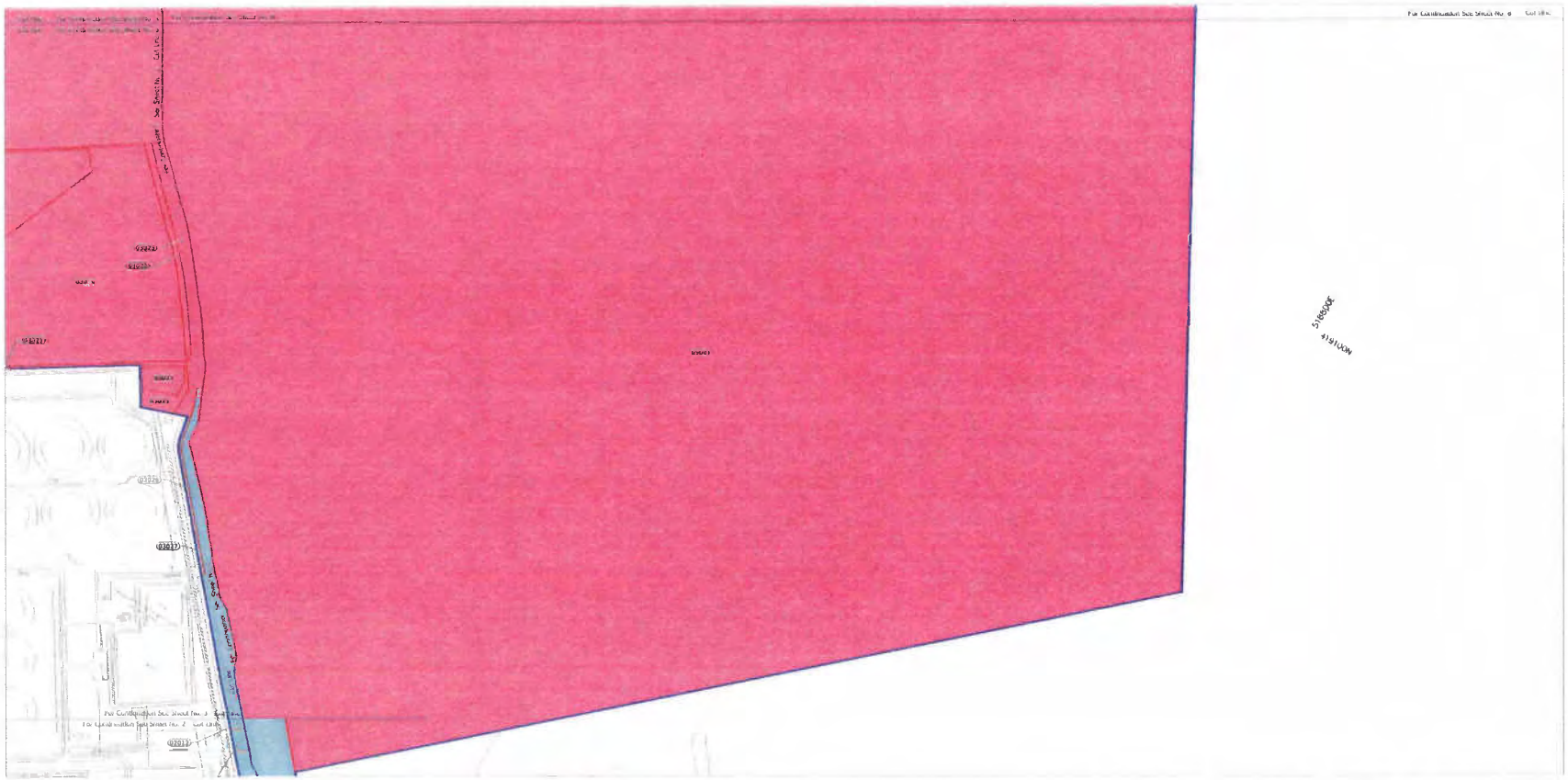
HORIZONTAL SCALE FOR PLAN AT A1 1:2500

Drawn By: Able UK Limited
Date Produced: November 2011

Land Plan

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
Regulation 5(2)(i)
Document reference: TR030001/APP/11
Revision: 1

Planning Act 2008
ABLE Marine Energy Park
NORTH LINCOLNSHIRE

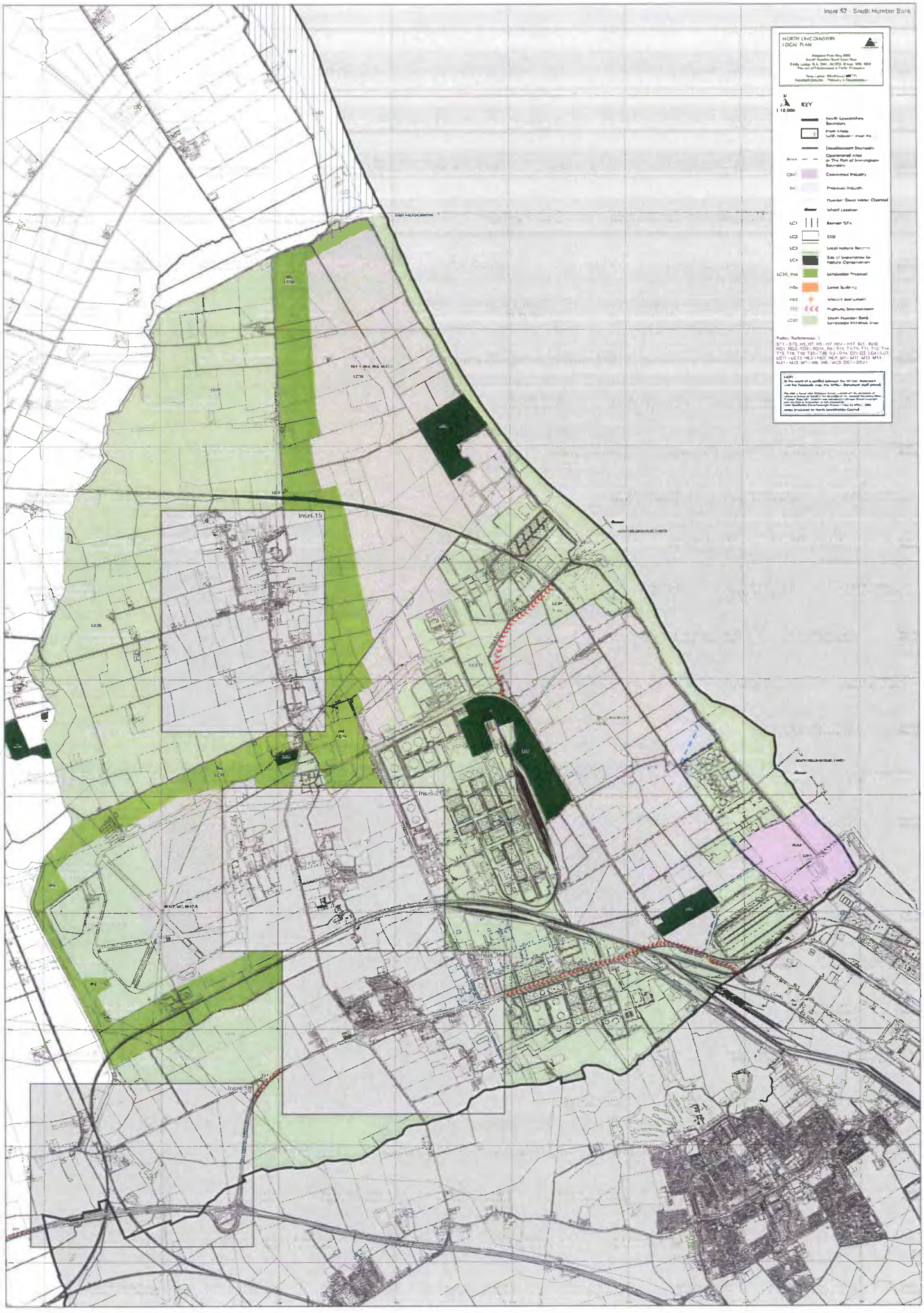


Drawn By: Able UK Limited
Date Produced: November 2011

Land Plan

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
Regulation 5(2)(i)
Document reference: TR030001/APP/11
Revision: 1

JF2


NORTH LINCOLNSHIRE LOCAL PLAN
KEY
1:10,000
North Lincolnshire Boundary
Inset Area
Development boundary
Operational Area of The Port of Immingham Boundary
Committed Industry
Proposed Industry
Humber Dock Water Channel
Wharf Location
Ramsar/SPA
SSSI
Local Nature Reserve
Site of Importance for Nature Conservation
Landscape Proposal
Listed Building
Ancient Monument
Highway Improvement
South Humber Bank Landscape Enhance Area
Policy References :
Inset 15
Inset 57
Inset 58

IN1 - Industrial Development Location and Uses

New industrial development as defined by the Town and Country Planning Use Classes Order 1987 (as amended) will be allowed on the following sites.

Site	Location	Area Hectares	Use Classes Permitted	Brownfield %	Greenfield %
IN1-1	South Humber Bank	740.7	Estuary related B1, B2, B8	0	100
IN1-2	North Killingholme Airfield	141. 0	Estuary related B1, B8	100	0
IN1-3	Normanby Enterprise Park, Scunthorpe	68.1	B1, B2, B8	100	0
IN1-4	Normanby Road, Scunthorpe	4.1	B2, B8	100	0
IN1-5	Railway land south of Trent Remine, Scunthorpe	6.6	B2, B8	100	0
IN1-6	Trent Remine, Scunthorpe	15.5	B2	100	0
IN1-7	Dawes Lane, Scunthorpe	3.5	B2	100	0
IN1-8	Orbital Park, Scunthorpe	29.7	B1, B2, B8	100	0
IN1-9	Former British Sugar Site, Brigg	20.5	B1, B2, B8	100	0
IN1-10	West of Falkland Way, Barton.	8.5	B1, B2, B8	0	100
IN1-11	Humber Bridge Industrial Estate, Barton	5.5	B1, B2, B8	0	100
IN1-12	Humberside International Airport	11.0	Airport Related B1, B8	100	0
IN1-13	Sandtoft Airfield	3.8	B1, B2, B8	100	0
IN1-14	South of Railway, Ealand	7.4	B1	100	0
IN1-15	South of Railway, Station Road, Kirton in Lindsey	0.9	B1	100	0
IN1-16	Redbourne Road, Kirton in Lindsey	1.3	B1	0	100
IN1-17	Station Yard, Station Road, Barnetby	8.0	B1	100	0
IN1-18	Beck Lane, Barrow upon Humber	2.2	B1	100	0
IN1-19	Soff Lane, Goxhill	2.5	B1	100	0
IN1-20	Railway Station, Ulceby Skitter	1.0	B1	100	0
IN1-21	South of Railway, Keadby	1.6	B1	100	0
	Total	1083.4		30.2	69.8

5.17 *The Local Plan aims to ensure that sufficient land for industry is available with a suitable variety of well distributed sites to meet differing needs of existing and future industrial users. The majority of the area allocated is either within the main centres of population of Scunthorpe, Barton and Brigg or is located to take advantage of the River Humber deep water channel or the Humberside International Airport. The remaining smaller scale sites are situated in or close to villages with the intention to provide some employment opportunities for the rural population. Specific Use Classes are stated to ensure a degree of certainty and to ensure that potential investors are given firm guidelines on acceptable uses in different locations. There are certain instances where the nature of surrounding land uses will mean that only business (Use Class B1) would be an acceptable use. Consideration may be given to B2 uses if it can be demonstrated that there will be no adverse impact on residential amenity or environmental quality generally. Policies DS1 and IN3 are relevant in such cases as they cover the issues of development standards generally. Equally there are some areas where a wider range of land uses would be permissible because of the overriding need to exploit nationally scarce resources. Some of these sites will require more detailed policies and where appropriate are covered in this chapter.*

5.18 *Brownfield and greenfield sites have been identified in line with government guidance and the strategy of this Plan. Within settlements the majority of land allocated for industrial development is located on brownfield sites (91.7%). Although there are significant areas of industrial development allocated on greenfield sites, it should be recognised that these are principally located at the South Humber Bank. The South Humber Bank Industrial Area is located adjacent to a deep water channel of the River Humber and is of national and regional importance to the economy of the area.*

5.19 *The Council recognises, that some of the sites have development constraints which will need to be investigated further. For example the sites allocated at the South Humber Bank Industrial Area (IN1-1) has access and accessibility problems which have to be addressed. The South Humber Bank Industrial Area is covered by policies IN4, IN5 and IN6 which together with the policy justification outline the known development problems. Policy IN5 is a phasing policy covering land north of Chasehill Road.*

IN2 – Alternative Uses of Industrial and Commercial Sites in the Urban Area and Principal Growth Settlements

The change of use of existing industrial and commercial sites to non employment uses in the Scunthorpe and Bottesford Urban Area and the principal growth settlements of Barton upon Humber and Brigg will be permitted provided that it can be demonstrated that:

i) evidence of attempts made to sell the site on the property market for the twelve months prior to the application being made, to retain the site for employment use has been fully explored, without success; and

ii) its future use would not harm residential amenity, cause highway or traffic problems, or have other significant adverse environmental effects.

Environment Agency, who would need to be satisfied as to the impact of any proposal on the environment. Also the Environment Agency will need to be satisfied that the integrity of the existing South Humber Bank tidal defence system is not compromised by further development as all land behind the flood defences is at risk from flooding. Policy DS16 covers this issue.

5.36 The South Humber Bank area contains a number of important wildlife habitats. Non designated pasture and agricultural land provides habitats for key bird species. It is therefore important to ensure that development of the two allocated sites has no adverse impact on local nature conservation. Policy LC1 specifically covers this issue.

IN4A – Port Related Development – ABP

Port related development within the port area designated on the Proposals Map will be supported.

5.37 The local, regional and national economic and functional importance of the Port of Immingham is acknowledged. The further development of the port area will be supported and encouraged. Most of the available land in the port area is likely to be developed for port related activities. The port area is within the control of Associated British Ports (ABP) which is a 'statutory undertaker' as defined by section 262 (i) of the Town and Country Planning Act 1990 and through the duties and powers invested in the company through the Transport Act 1981 (as amended). Under the provisions of sections 57 and 59 of the 1990 Act, planning permission is granted by virtue of the Town and Country Planning (General Permitted Development) Order 1995, Schedule 2, Part17, Class B, for many of the ABP port related development activities for Immingham Docks.

IN5 - Estuary Related Development - South Humber Bank, Land Between Chase Hill Road and East Halton Skitter

Land between Chase Hill Road and East Halton Skitter is proposed for the expansion of existing estuary related industry. Proposals for new estuary related B1, B2 and B8 industry will be permitted provided that:

i) provision is made for an appropriate standard of access to the remaining undeveloped land; and

ii) a high standard of landscaping is achieved, in particular providing for belts of appropriate planting within large sites incorporating and enhancing existing landscape features.

5.38 This policy is additional to policy IN4 and aims to promote the land north of Chase Hill Road. The requirements for estuary related industry specified in policy IN4 will therefore apply to policy IN5. This policy is necessary because there is a basic lack of infrastructure. Access directly into the site and the overall accessibility pose particular problems. The site is within the Structure Plan allocation which seeks to make provision for estuary related B1, B2 and B8 major new industrial uses needing very large greenfield sites.

5.39 For development proposals relating to the South Humber Bank Industrial Area to proceed it is important that the surrounding highway system has the capacity to cater for the increased volume and loads likely to be generated. A Highways Agency study completed in November 1999, examined these development

CS12: SOUTH HUMBER BANK STRATEGIC EMPLOYMENT SITE – A BROAD LOCATION

The South Humber Bank Strategic Employment Site (SHBSES) will be reserved for B1, B2 and B8 port related activities to take special advantage of its location, flat topography and adjacent a deep water channel of the River Humber as an extension to Immingham Port and the Humber Sea Terminal.

The delivery of the SHBSES will be achieved through the following Plans, Boards and Delivery Groups:

- South Humber Bank Master Plan (2004);
- Individual South Humber Bank Infrastructure, Economic and Environmental Studies that up date the South Humber Bank Master Plan where relevant
- South Humber Bank Gateway Board (formed May 2009)
- South Humber Bank Gateway Delivery Group and its South Humber Bank Ecology Sub-Group

The Plans, Strategies and Investment Decisions and Programmes for the SHBSES should:

a) Role and Function of the Site

Maintain, increase and enhance the role of Immingham Port as part of the busiest port complex in the UK, by extending port related development northwards from Immingham Port to East Halton Skitter in harmony with the environmental and ecological assets of the Humber Estuary. This will include safeguarding the site frontage to the deep water channel of the River Humber for the development of new port facilities and the development of new pipe routes needing access to the frontage. The deep water channel offers the opportunity of developing a new port along the River Humber frontage between Immingham Port and the Humber Sea Terminal. The role of the South Humber Ports should be strengthened by providing an increased number of jobs particularly giving employment opportunities for North Lincolnshire and North East Lincolnshire residents.

b) Economic Development

Diversify and develop the economies of North Lincolnshire and North East Lincolnshire Council areas within the Humber sub area's economy. This can be achieved in the following ways: by making the most of the multimodal transport links and proposed highway improvements on site and to the port entrance along the A160 from the A180; by enhancing and improving the railway line between the East Coast Main Line at Doncaster and Immingham; by enhancing the established South Humber Ports; by taking the sustainable opportunity to transfer goods by trans-shipping goods from the southern and south eastern UK ports and by offering berths for transporting goods by barge/boat inland along the well connected inland waterways; and by utilising the workforces of the nearby towns of Scunthorpe, Immingham, Grimsby and Cleethorpes.

Attract value added employment port-related activities and maximise opportunities around the ports by enhancing and improving skills. This can be achieved by encouraging the expansion of existing training centres such as CATCH near Immingham and taking opportunities to create new training centres within the South Humber Ports area. These opportunities should also benefit the existing and growing economic clusters of the energy, chemicals and food sectors. This will include the diversification of the energy sector into the development of renewable energy such as biomass opportunities.

c) Infrastructure

Develop an infrastructure strategy to improve transport accessibility and movement, drainage and flood defence.

Improve multimodal land access to the South Humber Ports and develop their complementary roles. The transport strategy includes the delivery of the South Humber Bank Transport Study outcomes within the SHBSES, the Highways Agency A160/A180 Highway Improvement Scheme (top priority in the Regional Transport Priorities) anticipated to begin construction around 2015 and the Network Rail Freight Utilisation Strategy that programmes line speed and signalling improvements between Immingham and Doncaster (being carried out within the current strategy 2007 and 2014) and the Killingholme Loop (that will enable a one way freight rail route into the South Humber Ports) post 2015.

In improving transport accessibility, it is vital that the ports can be accessed by a range of transport modes, including public transport, cycling and walking. According, robust travel plans should be developed to show how the area will be linked to surrounding settlements.

Development will be assisted by a drainage programme. Works are programmed to start and be completed in 2011. The outcome will be to include surface water and sewage management solutions to accommodate development of the SHBSES without harming the natural environment.

Safeguard and improve the flood defences of the SHBSES from tidal flooding through partnership working with the Environment Agency and its Humber Flood Risk Management Strategy (March 2008), North Lincolnshire and North East Lincolnshire Councils, Yorkshire Forward, landowners and industry. This will include managing the predicted effects of climate change in harmony with the development of port related activities by managing and minimising the risk of flooding.

d) Environment

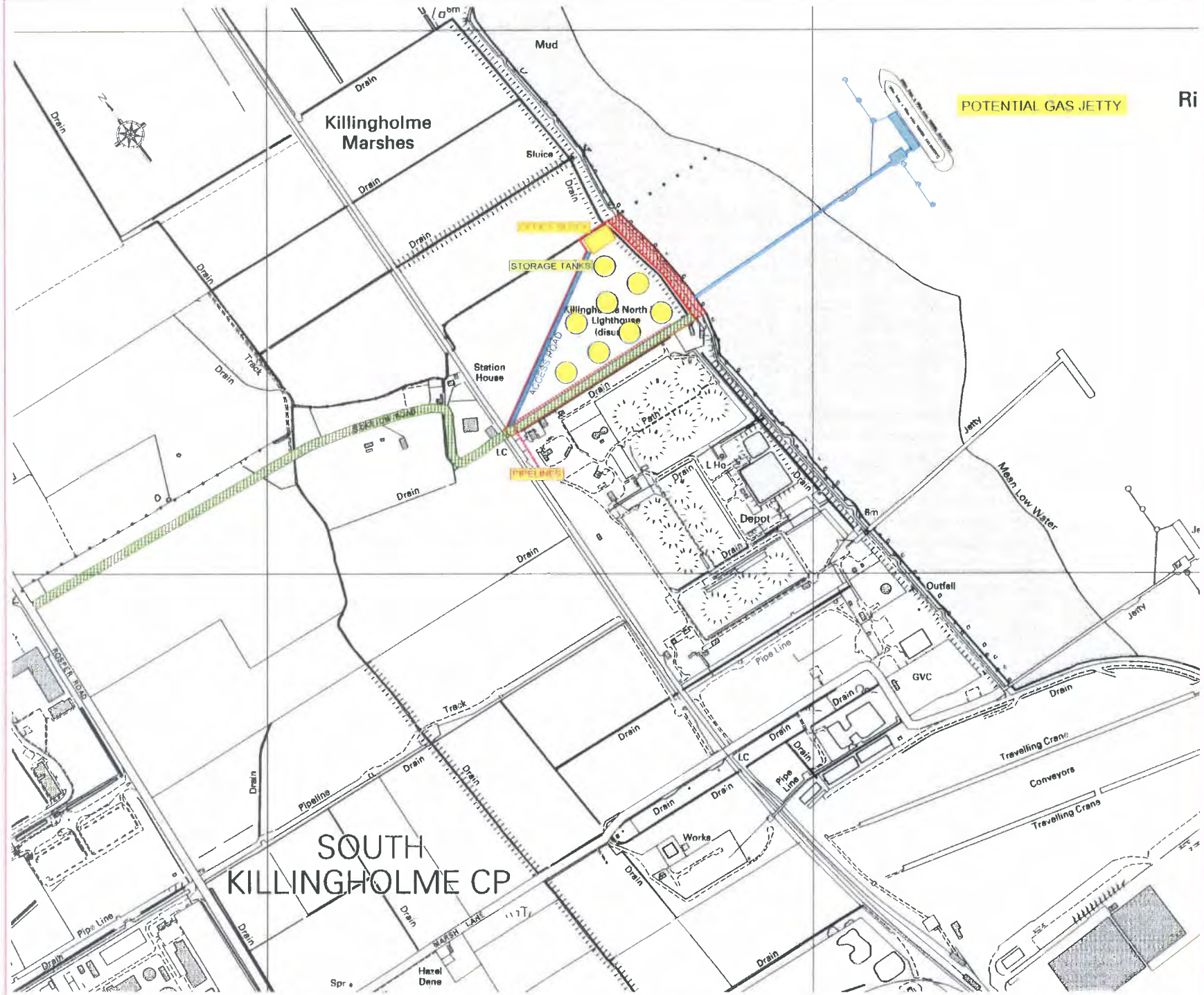
Protect and enhance the biodiversity and landscape character of the Humber Estuary by harmonising the ecology, nature conservation and landscape with port related development activities. This will be achieved by implementing the South Humber Gateway Conservation Mitigation Strategy Delivery Plan (SHGCMSDP). The SHGCMSDP will identify appropriate areas of mitigation for the loss of offsite SPA and Ramsar waterbird roosting and foraging habitat. These areas will be delineated and safeguarded in the Housing and Employment Land Allocations DPD. The SHGCMSDP will help unlock the economic development opportunity of the South Humber Bank Employment Site whilst ensuring the protection of the Humber Estuary Special Protection Area, SAC and Ramsar site and developing new green infrastructure. The delivery of this SHGCMSDP will link directly to the Green Infrastructure Strategy for North Lincolnshire and will be produced by partnership working with Natural England, Royal Society for the Protection of Birds (RSPB), Lincolnshire Wildlife Trust, Environment Agency, Yorkshire Forward, North Lincolnshire and North East Lincolnshire Councils, landowners and industry. New development will also need to harmonise with the North Killingholme Haven Pits SSSI and the Local Wildlife Sites such as Chase Hill Wood (a proposed Local Nature Reserve) Burkinshaws Covert, Halton Marsh Clay Pits and Rosper Road Ponds.

9.49 The aim of this policy is not just to recognise the economic advantages of developing the site for employment use and port extension but also to acknowledge the importance of the environmental and ecological assets of the area. Any proposed development must harmonise with these assets.

Lifelong Learning and Skills

9.50 Businesses in North Lincolnshire have identified skills as a key factor in remaining competitive. Therefore it is vital that the council continues to support educational and training development in the area to ensure that today's workforce and the workforce of the future are equipped with the necessary skills to meet the ever-increasing demand from local employers.

JF3



NOTES -

Rev	Description	Date	Drawn

ASSOCIATED BRITISH PORTS
HUMBER Engineering Department

Location
PORT OF GRIMSBY/IMMINGHAM

Title
PORT OF IMMINGHAM

TRIANGLE OF LAND WEST OF PORT ESTATE
POTENTIAL GAS JETTY FACILITY

Drawn	Date
S.J.NEWSON	February 2012
Checked	
-	
Approved Property Manager	Scale
-	N.T.S.@A2
Correspondence Ref	
-	
Contract Drawing No.	Drawing No. / Revision
-	12/G/33 -

Status
PRELIMINARY

JF4

resultant increase in unit load volumes:

- A new link road connecting to the South Humber Bank development lands lying to the west of the Port
- Connections to the 20-30 acres of land released following the Exxtor Terminal redevelopment
- An intermodal rail hub at the Port's Mineral Quay to service growing unit load movements by rail.

Sunk Dredged Channel Deepening

7.30 The Humber Estuary is a significant natural waterway fed by the rivers Trent and Ouse, which combined drain one-fifth of England. The Estuary provides stable, deep-water access to the Port of Immingham. The Sunk Dredged Channel guarantees 9.0 metres of water at all states of tide, allowing vessels drawing up to 12.8 metres to navigate into Immingham over all high water periods. Depths up to 14.2 metres can be accepted on spring high tides. The Port is consequently able to accept vessels of up to a capacity of 180,000 dwt tonnes, meaning that the largest Cape-size vessels can serve the Port on a part-cargo basis.

7.31 Commercial demand, particularly within the liquid bulk sector, has resulted in a proposal to deepen the Sunk Dredged Channel and ancillary approaches to 11 metres, thereby allowing vessels drawing 15 metres to access the Humber over all high-tide periods. Such an improvement will allow large crude oil carriers (and dry bulk vessels, subject to further dredging operations) to enter the Estuary with more cargo, thereby further enhancing the efficiency of operations.

7.32 The impetus for this development has derived from Total's need to feed its refinery with crude oils from more distant origins as a result of declining North Sea reserves. Applications to facilitate the deepening were submitted in early 2009 and the relevant dredging licences have recently been obtained. Works are expected to start in 2010 (Figure 7.5).

Immingham Oil Terminal Developments

7.33 Immingham Oil Terminal (IOT) provides the premier deep-water berthing facility within the Humber Estuary. Prior to 2010 the terminal had been operated for the exclusive use of Total and ConocoPhillips, who are likely to continue to be primary users of the terminal for the medium to long-term. With the prospect of ABP operating the terminal, however, there will be opportunities to focus the terminal on wider commercial opportunities for liquid bulks as well as maintaining service provision for the existing nearby refineries.

7.34 The terminal provides an important gateway for both crude oil imports and refined product exports. As such, security of the supply chain is a primary concern of the refineries and is the principal operating concern of the terminal management. The deepwater facilities at IOT do however have the capability to service a wider customer base in the future. Land has been assembled in the vicinity of IOT to provide sites for future storage capacity for new traffic. The equipment at the terminal can be upgraded and improved to facilitate the movement of additional volumes, while still maintaining continuity of supply to the two refineries.

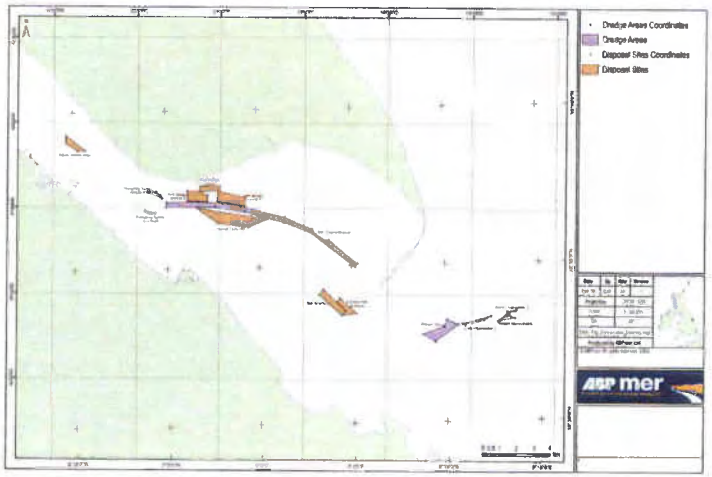


Figure 7.5: Map showing dredging areas of the Sunk Dredged Channel deepening scheme

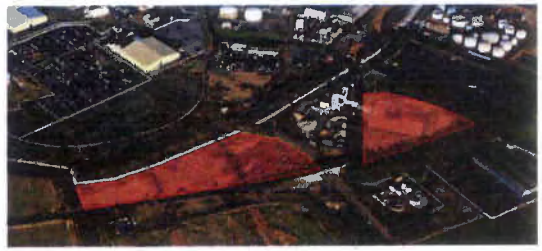


Figure 7.6: Aerial plan showing the East Gate development areas

7.35 Opportunities exist for new liquid bulk traffics such as additional oil cargoes, aviation fuel, white oils and gases and will require further capital investment in the current facility to develop its commercial potential capacity and throughput. A new deep-sea berth for large tankers and a short-sea berth for intra-European and coastal trades can be constructed to meet these demands alongside additional tank storage. Furthermore, plans to redevelop the Immingham Gas Jetty as part of the Humber International Terminal berth 3 construction will subsequently require alternative exit supply routes for the Port's gas and white oil trades which are currently served by the jetty. It is proposed to transfer the operation to the new IOT developments.

Stallingborough Satellite Terminal

7.36 In 2008 ABP acquired 48 acres of farmland at Stallingborough. The land is situated within approximately 2 km of the Port to the south east and is easily accessible. The intention is to create an off-dock storage area for the Port's automotive traffic. This will release land currently used for automotive storage for alternative use for less mobile cargoes. ABP intends this site to be operational by 2011.

East Gate Development

7.37 ABP owns 14 acres of land immediately adjacent to the east gate of the Port. This undeveloped land is ideally located for an eastward extension of the Port's perimeter as demand dictates. Combined with a reallocation of some of the existing land use at the east gate, the land would be available for either open or specialist storage, offering the possibility of further automotive storage, biofuel development to support future developments at IOT (Figure 7.6).

West Gate Entrance Development

7.38 In conjunction with the development of land around the Port's west gate and the planned improvements to the A160 being made by the Highways Agency, it is intended to develop the west gate entrance, which is the Port's principal access point. Redevelopment will be necessary to accommodate an increasing amount of traffic serving the Port's unit load terminals and to facilitate improved and enhanced security and safety checks to be carried out at the Port's entrance.

Immingham Outer Harbour Lo-Lo Berth and Container Terminal

7.39 The final phase of IOH permitted within the current Harbour Revision Order is planned for implementation between 2020 and 2030. Following the successful development of berths 1-4, a lo-lo berth is planned to service future trade increases in the unit load sector. Adjacent areas of land will be incorporated into the existing container operations at the Port to support the berth development.

Western Deepwater Jetty

7.40 There is potential for a further deep-water river jetty capable of accepting Panamax-sized vessels west of Humber International Terminal and the Oil Pipeline Agency-operated South Killingholme Jetty. The development site fronts an existing 12-acre area of strategic development land owned by ABP.

7.41 This opportunity to construct a new facility will be driven by future market demand and progressed when remaining port capacity is full or when a specific demand arises in association with a new industrial user or inward investor.

7.42 It is envisaged that the development will be required between 2020 and 2030. Any development will require a Harbour Revision Order and additional consents as required, for which the appropriate planning process would be completed.

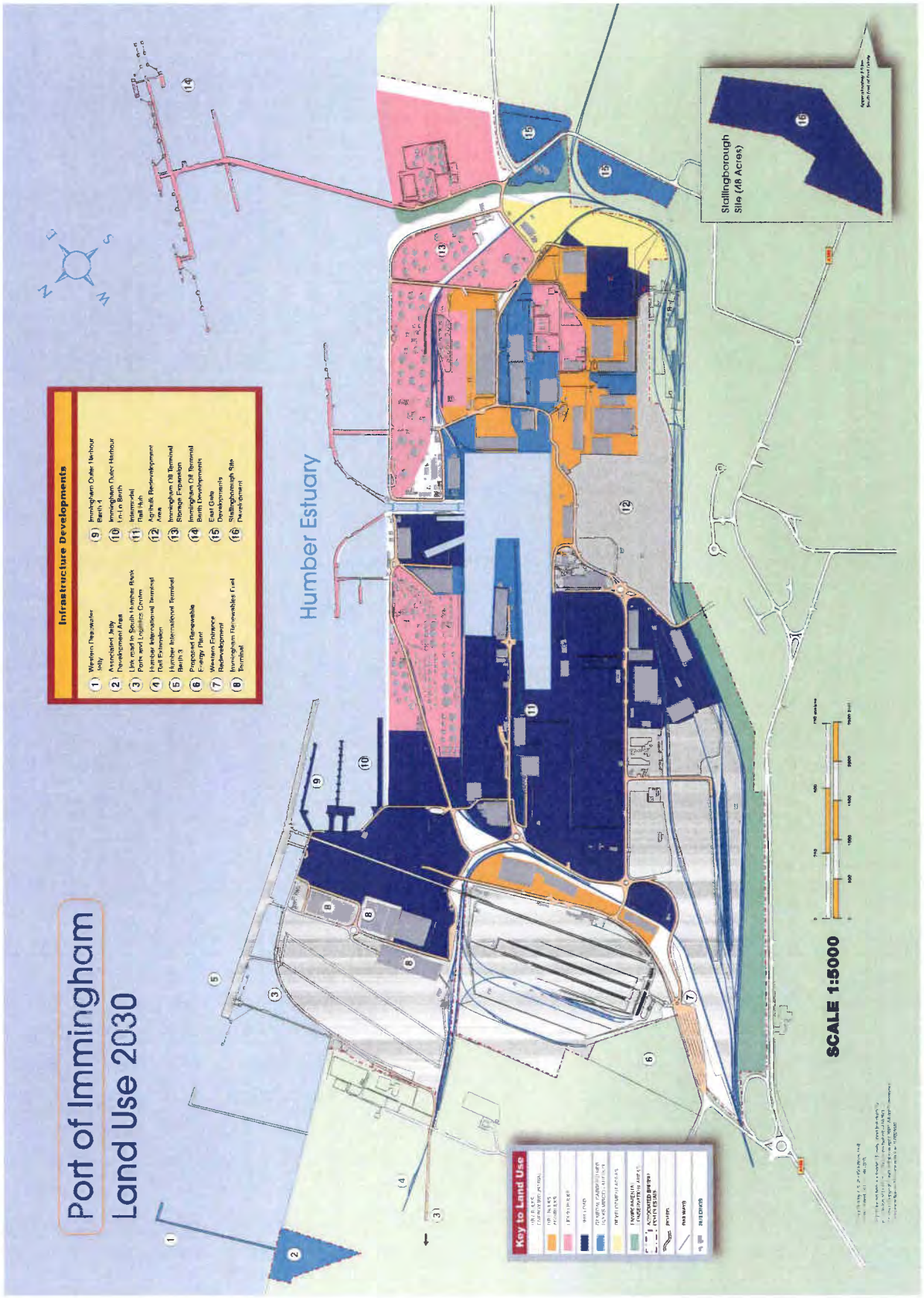


Figure 7.2: Port of Immingham land use plan 2030 (ABP)

JF5

Solicitors and Parliamentary Agents

[redacted]

John Fitzgerald
Port Director
Port Office
Cleethorpe Road
Grimsby
DN31 3LL

Your Ref

Our Ref
ADW/Y059258
Date
29 October 2010

Dear Mr Fitzgerald

Able UK Ltd: proposed Marine Energy Park, Killingholme

We are acting for Able UK in connection with the above project. Thank you for responding to the informal pre-application consultation on 2 August this year, and for your reply to Peter Stephenson's 20 July letter about land acquisition.

As you mention at point 2 in your response and your 6 August letter, Able intend to use the land that is identified in your draft Masterplan for the Port of Immingham as possible future development of a western deepwater jetty and associated development area.

Able acknowledge your intentions but nevertheless, provided that they find such land necessary for their proposed Marine Energy Park, intend to make an application under the Planning Act 2008 next year for a quay and associated infrastructure that will include the acquisition of that site.

You are also likely to have other land interests in the area that will be the subject of acquisition, such as part of the foreshore. Able will employ land referencers to ascertain this, but it would be helpful to know now of any other interests you have within the proposed development boundary. I am sending a copy of this letter to Mike Hill, Regional Property Manager, should he also be able to assist.

You will understand that Able will include the triangular site and any other interests within the scope of compulsory acquisition powers that will form part of its application as a last resort, but this letter is to advise you, despite the lack of intention to sell expressed in your 6 August letter, that Able remains, at all times leading up to the grant and exercise of those powers, willing to reach agreement with you for the purchase of the land in preference to the exercise of compulsory powers.

Bircham Dyson Bell

If you are able to supply any further land ownership information, or wish to consider the sale of the land you identified in your letter, please get in touch.

Yours sincerely

[redacted]

Angus Walker
Partner
For and on behalf of Bircham Dyson Bell LLP

[redacted]

JF6

ASSOCIATED
BRITISH PORTS
GRIMSBY & IMMINGHAM

PORT OFFICE
CLEETHORPE ROAD
GRIMSBY
N. E. LINCOLNSHIRE
DN31 3LL

[redacted]

9 November 2010

ADW/Y059258
JF/KB

Mr Angus Walker
Partner
Bircham Dyson Bell LLP
50 Broadway
London
SW1H 0BL

Dear Mr Walker

ABLE UK LTD
PROPOSED MARINE ENERGY PARK, KILLINGHOLME

With reference to your letter dated 29 October 2010 please be advised that the triangular shaped area of land on the western boundary of the Port of Immingham is not for sale and any proposal to compulsorily acquire this land will be vigorously opposed.

You acknowledge that the subject land is identified as Development Land in the ABP Immingham Master Plan with construction of the Western Deepwater Jetty envisaged between 2020 and 2030.

It is frankly preposterous that your client should threaten ABP with CPO procedures for your clients' highly speculative and as yet unconsented development proposals.

Immingham is the principal UK Port annually handling over 55 million tonnes, representing around 10% of all UK sea-borne trade. It is therefore of established vital national economic significance.

Over the Master Plan period of 2010-2030 ABP will be acquiring additional land for expansion both by the purchase of property in third party ownership and through resisting the renewal of strategic leases. We, therefore, wish to make absolutely clear that no ABP land held either freehold or leasehold is available for sale to your client.

Yours sincerely

[redacted]

John Fitzgerald
Port Director

JF7

BIRCHAM DYSON BELL

Ellen Duffy
Maritime Commerce and Infrastructure Division
Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR

Your Ref

Our Ref
ADW/Y059258

Date
26 March 2012

BY EMAIL AND POST

Dear Ellen

Planning Act 2008

Proposed Able Marine Energy Park

Able UK submitted an application under the Planning Act 2008 to the Infrastructure Planning Commission in December 2011 and it was accepted in January 2012. A period for making representations is currently running and ends on 2 April.

The application made by Able is for a quay and associated onshore facilities on the south bank of the Humber north of Immingham, together with a compensatory environmental site on the north bank. The onshore facilities are intended to be used for the manufacture and assembly of marine energy infrastructure, which will then be shipped to sites in the North Sea and elsewhere via the quay. Some raw materials may also arrive by sea to the quay.

Although Able owns the vast majority of the land that will be used for the project, some powers of compulsory acquisition are included in the application. One particular parcel of land belongs to Associated British Ports (ABP), operators of Hull, Grimsby, Immingham and other ports, and harbour authority for the Humber conservancy. This is a triangular area of land of about 5 hectares with a frontage to the River Humber, and is shown as parcel 03020 on the land plan accompanying Able's application (attached).

It is likely that ABP will object to the acquisition of this land, given past correspondence on the matter (see the paragraph at the bottom of page 2 of the enclosed letter as an example), and will forward the objection to you once it has been made.

I am therefore writing to you to seek either a declaration that a certificate under section 127 of the Planning Act is not necessary, or to apply for such a certificate if you do not agree with that contention.

No certificate required

Section 127 applies to land that has been acquired by statutory undertakers for the purposes of their undertaking. Although the land is owned by ABP, who are a statutory undertaker, it is not at all clear that it has been acquired for the purposes of their undertaking. It is not developed and has not been so since it was acquired, according to the registered title, in 1967. It does not share a boundary with any other land owned by ABP, has no access to the road network and we do not believe it to be 'operational land' within the meaning of sections 263 and 264 of the Town and Country Planning Act 1990. The land appears to be a speculative acquisition for possible future development that has not been forthcoming for 45 years so far.

If, as we contend, the land has not been acquired by ABP for the purposes of their undertaking, then there is no need to apply for a certificate under s127, as the land is not covered by that section.

A certificate should be granted

If, on the other hand, you are satisfied that the land has been acquired by ABP for the purposes of their undertaking, then we contend that its nature and situation mean that it can be purchased and not replaced without serious detriment to the carrying on of the undertaking and that a certificate should be issued to that effect under s127.

50 Broadway, London
SW1H 0BL United Kingdom
DX 2317 Victoria
[redacted]

As mentioned above, the land is not currently used for the carrying on of the undertaking, nor is it contiguous with any land that they use in relation to their undertaking. It would therefore be difficult to demonstrate that it would cause any detriment – never mind serious detriment – to the carrying on of the undertaking if it were acquired from ABP. It will not cause financial detriment to ABP either, as they will be compensated for the market value of the land according to the compensation code.

The only evidence Able has found of ABP's intentions for this land is contained in a Consultation Draft Masterplan for the period 2010-2030 in relation to the Port of Immingham that was produced by ABP and published in 2010. The Masterplan has never been finalised and, to all intents and purposes, has been withdrawn. In that document, the triangle of land was proposed for a 'western deepwater jetty' and described as follows:

Western Deepwater Jetty

7.40 There is potential for a further deep-water river jetty capable of accepting Panamax-sized vessels west of Humber International Terminal and the Oil Pipeline Agency-operated South Killingholme Jetty. The development site fronts an existing 12-acre area of strategic development land owned by ABP.

7.41 This opportunity to construct a new facility will be driven by future market demand and progressed when remaining port capacity is full or when a specific demand arises in association with a new industrial user or inward investor.

7.42 It is envisaged that the development will be required between 2020 and 2030. Any development will require a Harbour Revision Order and additional consents as required, for which the appropriate planning process would be completed.

It is clear from the above that although little weight should be attached to it since it is taken from a draft plan that has never been finalised, at best ABP has a long-term aspiration to develop this land for port-related purposes and would need an application for consent under the Harbours Act 1964 before this could be realised.

You will naturally wish to seek the views of ABP on these points and suggest you contact Peter Jones at the address shown on the attached letter. We would wish to have an opportunity to comment on their response before you made a final decision.

Yours sincerely

Angus Walker
Partner
For and on behalf of Bircham Dyson Bell LLP

[redacted]

PLANNING ACT 2008 (PA 2008) AND THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

APPLICATION FOR THE PROPOSED ABLE MARINE ENERGY PARK ON THE SOUTH BANK OF THE RIVER HUMBER AT IMMINGHAM, NORTH LINCOLNSHIRE

PLANNING INSPECTORATE REFERENCE NUMBER: TR030001

Objector Reference: 10015525

Written Representation of Simon Tucker BSc (Hons) MCIHT
On matters of Road Transport, Access and Traffic Impact
on behalf of ABP

david tucker associates
transport planning consultants

PLANNING ACT 2008 (PA 2008) AND THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

APPLICATION FOR THE PROPOSED ABLE MARINE ENERGY PARK ON THE SOUTH BANK OF THE RIVER HUMBER AT IMMINGHAM, NORTH LINCOLNSHIRE

PLANNING INSPECTORATE REFERENCE NUMBER: TR030001

Objector Reference: 10015525

Written Representation of Simon Tucker BSc (Hons) MCIHT
On matters of Road Transport, Access and Traffic Impact
on behalf of ABP

28th June 2012
SJT/13204-05_Written Rep Highways.docx

Prepared by:

David Tucker Associates
Forester House
Doctors Lane
Henley in Arden
Warwickshire.
B95 5AW

[redacted]

Prepared For:

Associated British Ports

Table of Contents

Appendices

1.0 SUMMARY OF WRITTEN REPRESENTATION

1.1 This representation has been prepared on behalf of Associated British Ports (ABP) to provide a review of road based traffic and transportation issues arising from the proposals.

1.2 In highway terms, of principal concern to ABP is the impact the proposals would have on the integrity of the main road access to the Port Estate. The existing facility at Immingham is one of national significance and it is essential that any adjacent development proposal does not prejudice the ongoing operation of the docks.

1.3 Concerns particularly relate to the provision of appropriate capacity and safety improvements at the Humber Road / Rosper Road and Humber Road / Manby Road junctions. The location of these junctions is shown at **Appendix A**.

1.4 The application is in direct conflict with the requirements of the National Policy Statement for Ports and Guidance on Transport Assessment in that a WebTAG compliant Transport Assessment has not been prepared.

1.5 Even if the TA were considered compliant with the WebTAG guidance, it does not provide an adequate and auditable assessment of the development given the multiple significant numerical errors and inconsistencies. These errors include:

- The fact that the traffic modelling makes no allowance for the level of HGVs that exists, and would exist, on the network. The failure to allow for the impact of HGV traffic represents a basic error in the assessment.

- The fact that the modelling of the Rosper Road / Humber Road junction assumes a two lane approach from Humber Road West, whereas the submitted scheme shows only one lane.

1.6 Furthermore, DfT requirements state that any changes to the Trunk Road network proposed by applicants should be subject to detailed technical and safety review before being approved. Once approved, the HA should require a Grampian style condition to secure their provision. In this case the two junctions of significant concern to ABP are

Trunk Road junctions and, without explanation, the HA standard procedures have not been followed.

1.7 In assessing the need for and appropriateness of highway improvement schemes, the applicant should take full account of committed and other developments which might "overlap" with proposal. In this case the applicant has failed to assess future growth within the Port of Immingham which will occur in accordance with the Draft Port Masterplan [1]and without the need for further future planning applications.

1.8 These deficiencies in the work undertaken by the applicant are such that it would not be lawful to approve the DCO based on the assessment submitted.

1.9 I have undertaken a detailed review of the Transport Assessment submitted with the application and the ES. My representations are split into two distinct sections as follows:

The Scheme Assessed by the Applicant

1.10 This first section considers the scheme that has been assessed by the applicant.

1.11 There are a number of errors and omissions in the submitted information and it is evident that the applicant has severely under-estimated the mitigation works required at both Rosper Road and Manby Road junctions. Their proposed works are shown at **Appendix B**.

1.12 When the assessment flows are corrected, and the models run properly, the conclusions of the JMP assessments that the development (within minor improvements) would have no material impact at either junction are manifestly unsound.

1.13 Further, it is also clear that significant changes would be required to the proposed mitigation schemes to overcome the capacity constraints. In the context of the Rosper Road / Humber Road junction, the junction would need to be widened to provide at least two through lanes on the main Humber Road. These would be required to

[1] The Draft Port Masterplan has been subject to consultation and a final version of the Document is expected to be adopted shortly.

ensure that sufficient green time capacity could be given to the junction as a whole to counter the additional flows leaving and entering Rosper Road, particularly in the PM Peak.

1.14 An indicative layout of the requirement has been provided by DTA (**Appendix J**). This is not intended to provide a detail design of the scheme but to show a general view of the likely scale of improvements required.

1.15 In the context of the Humber Road / Manby Road junction there is some scope for further widening of approach arms. However, it is most likely that the improvement would take the form of signalisation of the junction.

1.16 This approach would be consistent with the Highways Agency's own detailed assessment of the junction and their identification of improvements as part of the wider A160 improvement scheme. In the absence of such a scheme (or a significantly improved developer led proposal) it is clear that, for the purposes of Paragraph 31 of NPPF, the impacts that the development would have on these junctions would be severe.

General Cargo Port

1.17 In the absence of control as to the type of use to which the port could be put, the second stage of the representation considers the implications of wider general cargo use on the site. A range of potential uses have been considered and subjected to preliminary traffic assessment.

1.18 The conclusions of this assessment are that the proposal has the potential to generate significantly higher traffic movements than have been tested to date. Given that the off-site improvements discussed in the first section of my evidence are not adequate to satisfactorily accommodate the applicant's forecast demand for a Marine Energy Park, it follows that further more intensive use of the site would warrant even larger intervention in terms of transport mitigation. This would be essential to maintain the integrity of the road access to the Port of Immingham and in practice is likely to include, as a minimum, the need to bring forward the wider A160 Port Access improvements proposed by the Highways Agency.

1.19 Overall, it is concluded that the proposed development would have a manifestly unacceptable impact on main transport access to the Port of Immingham. It would also have a severe impact on the wider transport network to the extent that any consent would be contrary to Government Policy on Transport issues.

2.0 QUALIFICATIONS AND EXPERIENCE

2.1 My name is Simon John Tucker. I am a Director of DTA, Transportation Planning Consultants. The consultancy specialises in expert advice on transport related problems throughout a broad range of projects for both the public and private sector. In particular, DTA's expertise lies in evolving transportation strategies, identifying solutions and negotiating agreements.

2.2 I am a Member of the Chartered Institute of Highways and Transportation (CIHT), a graduate member of the Institution of Civil Engineers (ICE). I hold an Honours Degree in Civil Engineering from the University of Manchester.

2.3 I have 14 years experience in the field of Transport Planning. I have prepared transport and traffic reviews, Transport Assessments and Environmental Impact Assessments for a wide range of projects for both the public and private sector. I have appeared as an expert witness at numerous Section 78 and Local Plan Inquiries and Hearings.

2.4 I have significant experience in dealing with port and related development, including producing Transport Assessments and associated elements of Environmental Assessments. Experience includes advising on a container port expansion in the Port of Southampton, Transport Assessment work for various port related projects at Southampton, a new deep sea container terminal at Bristol and strategic transportation advice in relation to London Gateway Port in Thurrock.

3.0 TRANSPORT POLICY BACKGROUND

3.1 National Planning Policy Framework

3.1.1 In March 2012, the Department of Communities and Local Government published the National Planning Policy Framework (NPPF). The NPPF confirms that the Government will continue to encourage sustainable development and in relation to the transport issues it notes that:

> "Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives. Smarter use of technologies can reduce the need to travel. The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas."
>
> Para 29

3.1.2 It confirms that:

> "All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:
> - the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
> - safe and suitable access to the site can be achieved for all people; and
> - improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.
>
> Para 31

3.2 National Policy Statement for Ports (NSPfP)

3.2.1 Mr Rowell deals with whether or not the application should be considered as a nationally significant infrastructure project (NSIP) to which the National Policy Statement for Ports (NSPfP) would directly apply. However, given that the applicant claims that the project does comprise a NSIP I have considered the NSPfP in analysing the proposals.

3.2.2 The Department for Transport issued the NPSfP in 2011 and most recently updated the document in January 2012. This document sets out the process that the applicant should go through to assess the road based impacts of any new port development.

3.2.3 In particular, Para 5.4.4 notes that:

> If a project is likely to have significant transport implications, the applicant's ES (see section 4.7) should include a transport assessment, using the WebTAG methodology stipulated in Department for Transport guidance, WelTAG for developments in Wales, or any successor to such methodology. Applicants should consult the Highways Agency and/or the relevant highway authority, as appropriate, on the assessment and mitigation. The assessment should distinguish between the construction, operation and decommissioning project stages as appropriate.

3.2.4 Furthermore, Para 5.4.8 notes that:

> Transport assessment should include private traffic accessing and leaving the port, where significant, even where not generated by the development under application.

3.3 Circular 02/2007: Planning and the Strategic Road Network

3.3.1 This circular was issued by the Department for Transport on 1st March 2007 and sets out the key requirements for Transport Assessment of major developments and how the Highways Agency (HA) will respond.

3.3.2 Para 35 of 02/2007 states that in terms of the operation of a junction:

> 35. This must be compared with the overall forecast demand (existing demand, plus traffic likely to be generated by existing commitments to developments, the additional traffic generated by the development and modelled background growth), normally for a period of ten years after the date of registration of a planning application for the development, supported by an acceptable Transport Assessment (TA) carried out in accordance with the *Guidance on Transport Assessment* or on a basis otherwise agreed with the Agency. This period is referred to in this circular as the 'Review Period'.

3.3.3 In the case that overall forecast demand (as defined above) exceeds operational capacity of the junction, paragraph 37 advises that:

> 37. Where the provision of extra capacity is needed to provide for overall forecast demand throughout the Review Period (outside of the Agency's forward programme of

works), capacity improvements may be agreed, subject to environmental and deliverability considerations. These improvements will normally be provided, at the expense of the developer, via the provisions of a section 278 agreement, to ensure that local conditions on the strategic road network will be no worse throughout the Review Period with the development than if it had not taken place.

3.3.4 In terms of identifying off-site improvements (as have been proposed in this case), the guidance notes at Para 43 that:

> "43. Regardless of the status of the road, developers will be required to ensure that their proposals comply in all respects with design standards and other requirements. Where there would be physical changes to the network, schemes must be submitted to road safety and non-motorised user audit procedures. The Design Manual for Roads and Bridges sets out details of the Secretary of State's requirements for access design and audit. If necessary, further advice is available from the Agency. The Secretary of State may direct that planning permission not be granted for any planning application which fails to meet these requirements or which, for any other reason, raises significant safety concerns."

3.3.5 Once improvement schemes have been identified and agreed, paragraphs 46 – 48 confirm the process for securing these improvements via the planning application.

> 46. Where the assessed traffic flows exceed the capacity of the strategic road(s) concerned at any time within the Review Period, or where safety would be compromised or statutory environmental standards breached, the Secretary of State may direct that a condition be attached to any planning permission granted. Where it is not possible to identify reasonably practicable highway works or demand management techniques capable of safely and efficiently accommodating the assessed future traffic flows and providing an acceptable standard of service to strategic road users, the Secretary of State may issue a direction not to grant planning permission. Where a direction is issued that planning permission not be granted, the Agency will negotiate with the developer to ascertain what could be deliverable.
> 47. The effect of the condition will be to specify the demand management or improvement measures required, either to manage or to accommodate this traffic, ensuring the safety of all road users, including pedestrians and cyclists and safeguarding the environment. It is the responsibility of the promoter of development to identify and submit the measures required to the satisfaction of the LPA and the Agency. When taking decisions, the Secretary of State will take account of the latest Guidance on Transport Assessment.
> 48. The normal means for developers to redeem the condition will be through schemes negotiated with developers and secured through the use of planning obligations or highways agreements.

3.3.6 The requirement for assessment and control is reiterated in the HA's own document "The Highways Agency and the Planning Application Process A Protocol for Dealing

with Planning Applications" which requires detailed safety audits and assessment of any improvement schemes proposed by applicants.

3.4 Guidance on Transport Assessment (GTA)

3.4.1 GTA was published alongside Circular 02/2007 in March 2007 and sets out the requirements for producing Transport Assessment. As with the NPS this document requires a Webtag assessment to be undertaken (Para 4.31) which states that:

> A TA should adopt the principles of NATA by assessing the potential impacts of a development proposal within the framework of the five NATA objectives. The following paragraphs summarise the issues that should be considered. For most TAs the full methodology recommended in NATA will not be appropriate. The Highways Agency's Project Appraisal Report System (see http://www.dft.gov.uk) may provide some useful guidance on methods more appropriate in these cases. TAs involving major new transport infrastructure should, however, employ the methods set out in NATA.

3.4.2 In this case, both the National Policy statement and GTA require the provision of a New Approach To Appraisal (NATA) assessment. The purpose of such as assessment (**see Para 1.1.4 - Appendix C**) is to assess, as a fundamental starting point the need to identify objectives and then assess all the possible alternatives to meet these against the key criteria of Environment, Safety, Economy, Accessibility and Integration.

3.4.3 NATA requires an applicant firstly to assess the need for a scheme, then to identify potential options to meet that need, and then finally to confirm whether it would meet the WebTAG objectives. None of these stages have been undertaken by this applicant.

3.4.4 In terms of assessing more localised impacts on the Strategic Road Network paragraph 4.48 – 4.50 confirms that:

> 4.48 For the SRN, the future assessment year should normally be ten years after the date of registration of a planning application for the development, in line with the forward horizon of the RTS. Should the development take place over a longer period than the horizon of the wider planning framework, a longer period of assessment will need to be agreed with the HA. The development proposal should be supported by an acceptable TA, carried out in accordance with the GTA, or on a basis otherwise agreed with the Agency. This timescale broadly reflects the Department for Transport's current funding regimes, particularly for major improvement schemes such as the Targeted Programme of Improvements (TPI). The length of this assessment period, at the discretion of the Secretary of State for Transport, can be amended for individual cases, where there is a wider political and economic imperative or, for example, where proposals will take a long time to develop fully. For further details please refer to DfT Circular 02/2007, Planning and the Strategic Road Network.

4.49 The appropriate horizon assessment year should be agreed with the relevant authorities during pre-application consultations.

4.50 The assessment years should consider person trips from all committed developments that would impact significantly on the transport network, particularly where they substantially overlap, such as at the same junctions and/or on roads as the proposed development. The committed developments will typically include development sites that have extant planning permission as well as development plan allocations in an adopted or approved plan. Developments that have been completed but not fully occupied should be included in these assessments. The inclusion or exclusion of committed developments in the assessments should be agreed with the relevant authorities at the pre-application stage.

3.5 Conclusion on Transport Policy Matters

3.5.1 The application is in direct conflict with the requirements of the NPSfP and GTA in that a WebTAG compliant Transport Assessment has not been prepared. Even if the TA were considered compliant with the WebTAG Guidance it does not provide an adequate and auditable assessment of the development given multiple significant numerical errors and inconsistencies. These are discussed below.

3.5.2 In assessing the need for and appropriateness of highway improvement schemes, the applicant should take full account of committed and other developments which might "overlap" with proposal. In this case the applicant has failed to assess future growth within the Port of Immingham which will occur in accordance with the Draft Port Masterplan [2]and without the need for further future planning applications.

3.5.3 Furthermore, DfT requirements (C02.2007) state that any changes to the Trunk Road network proposed by applicants should be subject to detailed technical and safety review before being approved. If approved, the HA should require a Grampian style condition to secure their provision. In this case the two junctions of significant concern to ABP are Trunk Road junctions and, without explanation, the HA have not required the normal procedure to be followed in that the appropriate audits have not been required.

[2] The Draft Port Masterplan has been subject to consultation and a final version of the Document is expected to be adopted shortly.

3.5.4 The lack of assessment is of critical concern to ABP since the applicant has been unable to demonstrate that it can actually provide safe and adequate mitigation, at a point which forms the main access route to the Port of Immingham.

3.5.5 It must therefore be concluded that the proposals put forward fail to meet basic transport policy requirements in terms of both assessment and appropriateness.

4.0 STAGE 1 REVIEW – THE SUBMITTED TRANSPORT ASSESSMENT

4.1 Introduction

4.1.1 This section of the representation considers the proposed development as assessed by the applicants in their Transport Assessment.

4.1.2 It firstly sets out the serious concerns regarding the validity and accuracy of the assessment. It then provides an alternative assessment, which particularly focuses on the two junctions of concern to ABP and identifies that further improvement works would need to be provided as a result of the development.

4.2 Impact on Port of Immingham Operations

4.2.1 Following a review of the Transport Assessment, a significant number of errors and inconsistencies have been identified. A list of queries on this issue is attached at **Appendix D**. These have been issued to Able for review and any comments or response received may be the subject of further representations.

4.2.2 The key concern arising from the assessment is whether or not adequate mitigation measures have been provided at the Humber Road / Rosper Road and Humber Road / Manby Road junctions both in terms of safety and capacity.

4.2.3 To inform this discussion, ABP has commissioned its own survey work. The results of these are attached at **Appendix E**. These surveys were undertaken in November 2011 and reflect a typical week in overall operations at the docks.

4.3 Need for Wider Highway Improvements – A160

4.3.1 The above junction locations form part of the strategic Trunk Road network and therefore fall under the jurisdiction of the Highways Agency. The Highways Agency has previously identified the need for significant improvements to the A160 and Humber Road approach to the Port of Immingham.

4.3.2 The submitted Transport Assessment makes brief reference to the HA improvement scheme but assumes that it will not be in place for the purposes of impact assessment. The conclusions reached by the Transport Assessment that the development will have

no wider impact, subject to some modest highway improvement works, completely contradicts the HA's own assessment of the local highway network as set out below.

4.3.3 The A160 route was the subject of a detailed scheme assessment report in November 2009. That report prepared by the Highways Agency identified that the key issue to be addressed was significant congestion on the A160 mainly due to high levels of HGVs. The report confirms that this congestion is inhibiting economic growth. On this basis the stated objectives of the scheme were to :

- Provide improved access to the Port of Immingham;
- Relieve congestion on the A160;
- Improve safety.

4.3.4 Section 4 of the report summarised the consequences of not providing the scheme thus:

> 4.1 The A160 Improvements are seen as the biggest catalyst for development of the Port of Immingham and the South Humber Bank. As stated earlier, development in and around the Port is of strategic national importance bearing in mind the lack of further development potential at the major southern ports.
> 4.2. Failure to carry out this improvement has the potential to cause development stagnation in the area.
> 4.3. Significant congestion already occurs on the single carriageway stretches of the route which carry in excess of 40% HGVs. Already planned development on the South Humber Bank will make this significantly worse which will further reduce the incentive for development.
> 4.4. The South Humber Bank Transport Strategy Report (Report Ref W50358/T58/001), completed in November 2008 sets out the overall transport strategy for the South Humber Bank. Policy 2 states that: 'it is clear from the assessments conducted in this report, that there is a critical need for the A160 improvements which the Highways Agency (HA) are progressing, to be implemented as soon as possible to assist in facilitating growth in the Region. Indeed this is a fundamental element of the transport strategy for the area and is critical if the area is to develop as hoped.

4.3.5 The A160 upgrade scheme reached the "preferred option" stage in 2010, and the HA were ready to commence detailed design / tender. The preferred option proposed the improvement of Manby Road roundabout to a signal controlled roundabout, with a new link directly to Rosper Road, hence removing the existing Rosper Road / Humber Road junction.

4.3.6 However as a result of significant cuts in public spending, the DfT announced in October 2010, that DfT funding for the scheme had been put on hold. The current position as reported on the HA web-site is that:

> "On 8th May 2012, the Roads Minister Mike Penning, announced that funding would be provided to develop the A160/A180 Improvements Immingham Scheme, to ensure a "pipeline" of future Highways Agency major infrastructure improvements will be maintained, contributing to future economic growth, and supporting Government's National Infrastructure Plan. By developing the scheme now, it will be in a good position to be considered for delivery in the early years of the next spending review period (post 2015).
>
> It is important to note that by advancing this scheme through its development phase, this does not guarantee its construction; this decision will be taken at the next spending review."

4.3.7 On this basis, it should be assumed that the A160 scheme may not come forward. Until such time as the scheme is implemented, growth in the area will be necessarily constrained. Given the fundamental intention of the A160 scheme is to protect the nationally strategic Port of Immingham, it is clear that any further impact arising from new development proposals requires proper assessment and full mitigation.

4.4 Traffic Flow Issues

4.4.1 The TA contains a number of figures at the end of the document setting out traffic flows on the wider network. For the purposes of this assessment and to focus on the two junctions of specific concern, the flows have been reproduced at **Appendix F**.

Type of Traffic

4.4.2 The main output from the traffic flow assessments is the operational assessment of two junctions, a signal controlled junction at Rosper Road / Humber Road and a roundabout at Manby Road. The former has been tested with the computer program LINSIG and the latter using the TRL program ARCADY 6. Both of these represent the best tool for such assessment. However in both cases, it is essential that appropriate traffic flow inputs are provided to ensure accurate results.

4.4.3 In particular, it is standard practice (and required in the user manuals of all junction modelling software) that traffic flows are factored to make allowance for the difference

characteristics of HGVS and cars in particular through any junction. This is because larger vehicles take up more road space and are generally slower to accelerate than cars. In this case, despite the fact that a large proportion of the traffic does and would comprise HGVs, this factor has not been input into the modelling. The failure to allow for the impact of HGV traffic represents a basic error in the assessment.

4.4.4 For any LINSIG assessment all flows should be input in Passenger Car Units (PCUs). At present the TA does not do this and therefore under-estimates base flows by around 30%. The ARCADY model allows for total vehicles be to be used and the proportion of HGVs to be manually input. However the TA retains the modelling tools default setting of 10% which is significantly lower than the 36% observed in the applicants own surveys.

4.4.5 For consistency of review and assessment, it is appropriate to convert all the traffic flow forecasts to a common base of PCUs. The TRL document RR67 forms the basis of all current DfT guidance on signal control assessment and recommends the use of the following conversion factors.

Table 1 - Adopted PCU Factors

PCU factors	
Car	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
PSV	2.0

Base Flows

4.4.6 Table 4.2 of the TA and Figures 4.1 and 4.2 set out the base traffic flows on the Humber in the vicinity of the site. **Table 2** below compares JMP base flows (taken from Figure 4.1 and 4.2) with those recorded for ABP on the Humber Road between the Rosper Road junction and the Port of Immingham Access gatehouse.

Table 2 – Comparison of flows on Humber Road

	JMP Assessed			DTA ATC flows		
	E/B	W/B	Total	E/B	W/B	Total
08:00 – 09:00	335	156	491	438	315	753
17:00 – 18:00	202	468	670	317	649	966

4.4.7 It can be seen therefore that the base flows presented by JMP are on average 54% lower than the ABP observed figures. The JMP flows are based on surveys undertaken in June 2010, whereas the DTA surveys were undertaken in November 2011.

4.4.8 In order to provide a robust assessment of impacts it is clear that the larger November 2011 surveys should be used as the basis of any assessment.

Committed Development Flows

4.4.9 Paragraph 4.17 of the TA sets out the committed developments included in the traffic assessment. The report provides no explanation of how these flows have been derived and therefore it is impossible to confirm these figures.

4.4.10 Furthermore, there are major arithmetic errors between the addition of committed development flows (Figures 4.1 & 4.2) and the final assessment flows (Figures 6.9 and 6.10). The traffic assessments provided in Appendix R are based on yet a further different set of traffic flow numbers. This raises serious doubt over credibility of the assessment and the weight that can be given to any conclusions in it.

Growth at the Port of Immingham

4.4.11 Of major concern to ABP is the lack of any assessment whatsoever of growth at the Port of Immingham. This approach is inconsistent with the requirements of GTA and clearly does not reflect a very public existing and predicted future growth in the port – only part of which will arise as a result of existing consents secured by operators within the Port. I understand that ABP has not been asked by the applicant, nor its consultants, to provide any information as to existing and future growth.

4.4.12 The future year assessment should have also made reference to the Draft Port Masterplan 2010 – 2030 which forecasts throughput raising by 25,007,000 tonnes

(from 2008 to 2030), and any other increases in activity on the ABP estate within their existing development rights.

4.4.13 An extract of Table 5.2 'Forecast demand analysis for the Port of Immingham to 2030 (ABP)' taken from the Draft Port Masterplan 2010 – 2030 is shown below in **Table 3**.

Table 3 – Port of Immingham Growth Forecasts

Cargo	Units	2008 (actual) 000's	2020 (forecast) 000's	2030 (forecast) 000's
Coal	Tonnes	15,231	17,000	20,000
Iron Ore	Tonnes	5,761	6,000	6,000
Biomass	Tonnes	114	5,000	7,500
Agribulks	Tonnes	1,485	2,500	3,000
Liquid bulks	Tonnes	22,925	24,000	25,500
Unitised	Tonnes	7,719	11,660	15,811
Other Bulks	Tonnes	1,869	2,000	2,300
Total	Tonnes	55,104	68,160	80,111
Ro Ro	Units	367	556	713
Lo Lo	Units	97	146	250
Trade Vehicles	Units	193	300	450

4.4.14 Not all of this growth will result in a direct increase in road based movements due to the fact that a substantial proportion of the bulk materials in particular will be moved by rail or pipeline. **Table 4** below shows the growth in road traffic.

Table 4 – Overall Road Based Movements

Cargo	Units	Share to road	2008	2020	2030
Coal	Tonnes	10%	1523	1700	2000
Iron Ore	Tonnes	0	0	0	0
Biomass	Tonnes	10%	11	500	750
Agribulks	Tonnes	100%	1485	2500	3000
Liquid bulks	Tonnes	50%	11463	12000	12750
Unitised	Tonnes	70%	5403	8162	11068
Other Bulks	Tonnes	90%	1682	1800	2070
Total	Tonnes		21567	26662	31638
Ro Ro	Units	100%	367	556	713
Lo Lo	Units	70%	68	102	175
Trade Vehicles	Units	80%	154	240	360

4.4.15 The following broad assumptions have been applied to the above to derive a forecast change in HGV flows.

Table 5 – HGV Loading Assumptions

Cargo	Units per HGV		Notes
Bulk	20	tonnes	Assume load one way only
Trade vehicles	13	cars	Assume load one way only
Ro-Ro	1	hgvs	Assume load both ways
Lo-Lo	1.03		Assume load both ways with 3% empty tractor

4.4.16 **Table 6** confirms the resulting change in road base flows:

Table 6 – Overall Road Based Movements

Cargo	2008	2020	2030
Bulk	1,078,370	1,333,100	1,581,885
Ro Ro	12,867	20,000	30,000
Lo Lo	183,500	278,000	356,500
Trade Vehicles	34,969	52,633	90,125
Total	1,309,705	1,683,733	2,058,510

4.4.17 On this basis growth from 2008 to 2020 represents a 30% uplift, with growth from 2008 to 2030 representing a 59% uplift. It is therefore necessary to take account of this growth at the Port of Immingham Traffic in undertaking the assessment.

4.5 Revised Traffic Flow Assessment

4.5.1 Given the above errors and omissions, DTA have undertaken their own assessment of appropriate traffic flows to be used in the assessment of the scheme. At this stage, the traffic generation and distribution of the Proposed Able Marine Energy Park have been taken at face value.

4.5.2 For the reasons set out above, and discussed in more detail below, this represents a significant leap of faith. However, for the purposes of this assessment it is assumed that the decision maker is content that the assumptions on which the TA has been

produced (including inter alia the use of the facility, staff numbers, shift patterns and delivery of goods) can be adequately controlled by planning condition or obligation.

4.5.3 All of the following numbers are subject to minor rounding errors which originate from difficulties in interpreting the data presented in the TA.

Base Flows

4.5.4 The base flows for the junctions have been re-based to allow for the PCU factors set out above. **Appendix G** provides the calculations and **Tables 7** and **8** below summarises the comparison of flows adopted.

Table 7 – Revised Base Flows – Humber Road / Rosper Road

AM Peak					Pm Peak				
JMP	A	B	C	Total	JMP	A	B	C	Total
A	0	82	46	128	A	0	205	33	238
B	214	0	288	502	B	76	0	169	245
C	32	124	0	156	C	156	304	0	460
Total	246	206	334	786	Total	232	509	202	943
PCUs	A	B	C	Total	PCUs	A	B	C	Total
A	0	125	64	189	A	0	255	50	305
B	273	0	422	695	B	127	0	291	418
C	51	240	0	291	C	177	441	0	619
Total	324	365	486	1175	Total	304	697	340	1341

Note: A = Rosper Road, B = Humber Road West, C = Humber Road East. This uses the base survey terminology

Table 8 – Revised Base Flows – Humber Road / Manby Road

AM Peak							PM Peak						
JMP	A	B	C	D	E	Tot	JMP	A	B	C	D	E	Total
A	13	7	266	203	2	491	A	7	1	157	278	3	446
B	5	0	0	0	0	5	B	1	0	0	0	0	1
C	142	0	2	74	0	218	C	263	0	0	286	0	549
D	171	0	214	13	4	402	D	236	0	101	2	0	339
E	4	0	0	4	0	8	E	2	0	2	10	0	14
Tot	335	7	482	294	6	1124	Tot	509	1	260	576	3	1349
PCU	A	B	C	D	E	Total	PCU	A	B	C	D	E	Tot
A	20	9	417	236	3	685	A	10	2	282	305	7	605
B	7	0	0	0	0	7	B	1	0	0	0	0	1
C	275	0	3	100	0	377	C	427	0	0	338	0	765
D	215	0	247	18	6	486	D	272	0	129	3	0	404
E	4	0	0	6	0	10	E	3	0	4	10	0	17
Tot	521	9	666	360	9	1565	Tot	713	2	414	655	7	1792

Note: A = A160 Humber Road, B = Ind units, C = Humber Road, D = A1173 Manby Road, E = Depot. Using JMP Arcady numbering rather than base survey for consistency.

4.5.5 It can be seen from the above that even without further adjustment the submitted modelling under-estimates existing demand by around 45% at the Rosper Road junction and 35% at the Manby Road Junction.

Allowance for Port of Immingham Growth and ABP November 2011 Survey

4.5.6 As identified above, the base surveys represented in the TA are from May 2010. In order to allow for the difference in flows between the May 2010 surveys and the November 2011 surveys from the Port of Immingham, the base flows have been amended to reflect the latter. These have been factored for consistency to PCUs, using the observed HGV proportions from the JMP survey.

4.5.7 These are all assumed to be East / West movements at the Rosper Road junction. The additional flows have been split to Manby Road and Humber Road at the roundabout in accordance with observed turning proportions. The calculations for this are provided at **Appendix G** and the results are summarised below.

Table 9 – Additional Flows to allow for ABP Surveys – Rosper Road / Humber Road

AM Peak					Pm Peak				
PCU	A	B	C	Total	PCU	A	B	C	Total
A			20	20				28	28
B			132	132				165	165
C	52	245		297		73	181		254
Total	52	245	151	448		73	181	194	448

Note: A = Rosper Road, B = Humber Road West, C = Humber Road East. This uses the base survey terminology

Table 10 – Additional Flows to allow for ABP Surveys– Manby Road / Humber Road

AM Peak							PM Peak						
PCU	A	B	C	D	E	Tot	PCU	A	B	C	D	E	Total
A			82			82				112			112
B						0							0
C	178			65		243		101			80		181
D			49			49				51			51
E						0							0
Tot	178	0	131	65	0	374		101	0	164	80	0	345

Note: A = A160 Humber Road, B = Ind units, C = Humber Road, D = A1173 Manby Road, E = Depot. Using JMP Arcady numbering rather than base survey for consistency.

4.5.8 The total base flows from the Port of Immingham using Humber Road East in PCUs is therefore as set out below. At this stage no allowance has been made for the increase in flows exiting the Port of Immingham via Queens Road and using the Manby Road junction.

4.5.9 This is significant because, the Port has two points of access to the road network and whilst Humber Road is the main access a secondary access is available via Queens Road to the east. This could have the effect of further increasing flows at the junction.

Table 11 – Total Base Port of Immingham Traffic – Rosper Road / Humber Road

AM Peak					Pm Peak				
PCU	A	B	C	Total	PCU	A	B	C	Total
A			84	84	A			78	78
B			554	554	B			456	456
C	103	485		588	C	250	623		873
Total	103	485	638	1226	Total	250	623	534	1406

Note: A = Rosper Road, B = Humber Road West, C = Humber Road East. This uses the base survey terminology

Table 12 – Total Base Port of Immingham Traffic – Manby Road / Humber Road

AM Peak							PM Peak						
PCU	A	B	C	D	E	Tot	PCU	A	B	C	D	E	Total
A			347			347	A			310			310
B						0	B						0
C	353			128		482	C	347			275		623
D			205			205	D			142			142
E						0	E						0
Tot	353	0	552	128	0	1034	Tot	347	0	452	275	0	1074

Note: A = A160 Humber Road, B = Ind units, C = Humber Road, D = A1173 Manby Road, E = Depot. Using JMP Arcady numbering rather than base survey for consistency.

4.5.10 In addition an allowance has been made for future port growth as described above, which represents a 30% uplift to 2020 and a 59% uplift to 2030 from those observed November 2011 flows to and from the Port of Immingham.

4.5.11 GTA normally requires an assessment of traffic impacts for a future year which is 10 years after the application date. The following assessments are based on the 2020 forecast flows. This is robust because based on the GTA guidance the future assessment year would, strictly, be 2022.

4.5.12 The resulting additional flows for which allowance should be made are as follows. The Port has two points of access to the road network, Humber Road is the main access and a secondary access is available via Queens Drive to the east. At this stage no allowance has been made for the increase in flows exiting the Port of Immingham via Queens Road and using the Manby Road junction. This could have the effect of further increasing flows at the junction.

4.5.13 The resulting traffic flows are as follows for 2020:

Table 13 – Allowance for Port of Immingham 2020 Growth – Rosper Road / Humber Road

AM Peak					Pm Peak				
PCU	A	B	C	Total	PCU	A	B	C	Total
A			25	25	A			23	23
B			164	164	B			135	135
C	30	143		174	C	74	184		258
Total	30	143	188	362	Total	74	184	158	415

Note: A = Rosper Road, B = Humber Road West, C = Humber Road East. This uses the base survey terminology

Table 14 – Allowance for Port of Immingham 2020 Growth – Manby Road / Humber Road

AM Peak							PM Peak						
PCU	A	B	C	D	E	Tot	PCU	A	B	C	D	E	Total
A			102			102	A			91			91
B						0	B						0
C	104			38		142	C	103			81		184
D			61			61	D			42			42
E						0	E						0
Tot	104	0	163	38	0	305	Tot	103	0	133	81	0	317

Note: A = A160 Humber Road, B = Ind units, C = Humber Road, D = A1173 Manby Road, E = Depot. Using JMP Arcady numbering rather than base survey for consistency.

4.5.14 2030 flows as shown below.

Table 15 – Allowance for Port of Immingham 2030 Growth – Rosper Road / Humber Road

AM Peak					Pm Peak				
PCU	A	B	C	Total	PCU	A	B	C	Total
A			50	50	A			46	46
B			328	328	B			270	270
C	61	287		348	C	148	369		517
Total	61	287	378	726	Total	148	369	316	833

Note: A = Rosper Road, B = Humber Road West, C = Humber Road East. This uses the base survey terminology

Table 16 – Allowance for Port of Immingham 2030 Growth – Manby Road / Humber Road

AM Peak							PM Peak						
PCU	A	B	C	D	E	Tot	PCU	A	B	C	D	E	Total
A			205			205	A			184			184
B						0	B						0
C	209			76		285	C	206			163		369
D			121			121	D			84			84
E						0	E						0
Tot	209	0	327	76	0	612	Tot	206	0	268	163	0	637

Note: A = A160 Humber Road, B = Ind units, C = Humber Road, D = A1173 Manby Road, E = Depot. Using JMP Arcady numbering rather than base survey for consistency.

Other Committed Developments

4.5.15 Flows for other committed developments have been applied as per the JMP assessment, although it has been assumed that the additional flows attributed towards the Port of Immingham on Humber Road are an error. This is because the only committed site on the list which is accessed from this point is the proposed Heron Renewable Energy Plant, which is unlikely to generate the circa 1,000 vehicles attributed to it by JMP. Otherwise the numbers shown in Figures 4.3 and 4.4 of the TA have been adopted. In this case it is not possible to determine whether the flows are presented as vehicles or PCUs. If it is the latter then flows would need to be increased accordingly.

Able Marine Energy Park (MEP)

4.5.16 Flows for the MEP have been applied as per Figures 6.7 and 6.8 of the TA. If the assessment is taken at face value all of these movements are employee movements and therefore vehicle flows are the same as PCU flows (because 1 car = 1 PCU by definition).

Overall Junction Assessment flows

4.5.17 Based on the above, **Tables 17** and **18** below summarise the overall flows for testing of the junction operations.

Table 17 – Overall Junction Assessment Flows – Rosper Road / Humber Road

AM Peak					Pm Peak				
PCU	A	B	C	Total	PCU	A	B	C	Total
A	0	285	109	393	A	0	1316	101	1417
B	1003	0	718	1721	B	376	0	591	967
C	133	628	0	762	C	324	807	0	1131
Total	1136	913	826	2875	Total	700	2123	691	3514

Note: A = Rosper Road, B = Humber Road West, C = Humber Road East. This uses the base survey terminology

Table 18 – Overall Junction Assessment Flows – Manby Road / Humber Road

AM Peak							PM Peak						
PCU	A	B	C	D	E	Tot	PCU	A	B	C	D	E	Total
A	20	9	960	419	3	1411	A	10	2	903	732	7	1654
B	7	0	0	0	0	7	B	1	0	0	0	0	1
C	674	0	3	284	0	960	C	1233	0	0	979	0	2211
D	364	0	728	18	6	1116	D	804	0	830	3	0	1637
E	4	0	0	6	0	10	E	3	0	4	10	0	17
Tot	1070	9	1690	726	9	3504	Tot	2051	2	1738	1723	7	5521

Note: A = A160 Humber Road, B = Ind units, C = Humber Road, D = A1173 Manby Road, E = Depot. Using JMP Arcady numbering rather than base survey for consistency.

4.5.18 Overall, with committed development and growth at the Port of Immingham included in the base flows, the proportional impact of the proposed development in terms of overall junction flows would be as follows:

Table 19 – Proportional increase in flow as a result of the development

	AM Peak	PM Peak
Rosper Road / Humber Road	30%	22%
Manby Road / Humber Road	23%	13%

4.5.19 This level of increase would represent a significant change in flows on the network, which has not been subject to full assessment through the WebTAG process as required by the NPS. Without such an assessment it is not possible to assess the wider implications of the development. However, in light of ABP's concerns, I have undertaken a revised junction operation assessment, so far as is possible given the inaccurate data provided.

4.6 Re-assessment of Rosper Road / Humber Road Junction

Traffic Capacity

4.6.1 The operation of the Rosper Road / Humber Road junction (based on the improvements as proposed), has been tested using the LINSIG program, which is consistent with the JMP assessment.

4.6.2 The JMP assessment as presented in the Transport Assessment shows the junction to be operating within capacity. However, the modelling is fundamentally flawed for the reasons set out previously and because it assumes a two lane approach from Humber Road West, whereas the submitted scheme shows only one lane.

4.6.3 The operational assessment has therefore been re-run and the results of this assessment are attached at **Appendix H**. The assessment shows that the corrected junction model will not run within capacity.

4.6.4 If the flows are corrected to reflect those calculated above, the junction is significantly over capacity. In addition, the scheme proposes a merge from two lanes to one towards the railway bridge and this arrangement is also shown within the model to be over capacity.

4.6.5 In order to overcome these issues, the scheme would need to be improved to provide at least three lanes at the stop lines with two through lanes in the each direction on the Humber Road.

4.6.6 These changes would also need to deal with the capacity issues at the merge. It is likely that widening through the railway bridge would also be required.

Safety / Design Implications

4.6.7 As discussed above, the scheme has not been subject to either a Road Safety Audit or a Non-motorised user audit and both are normally required by HA policy prior to grant of consent (see C 02/2007 para 43). No reason has been given to explain the decision of the Highways Agency not to require such assessment at this stage.

4.6.8 Humber Road forms the main cycle access to the port. The significant change from priority control to signals, coupled with the narrow lanes proposed by the applicant, are cause for serious concern which should be subject to audit.

4.6.9 In this case there are several points of concern that a review of safety would highlight. The following points are based on an initial review having regard to the requirements of TD50/04, Volume 6, Section 2 of the Design Manual for Roads and Bridges.

1) The scheme shows the independent signalling (right turn arrow) of right turners from Humber Road to Rosper Road. I agree that this is required by para 2.51 of TD 50/04 – Design Manual for Roads and Bridges, given recorded road speeds and level of HGVs. However, the modelling submitted and discussed above does not allow for this. My own reassessment has corrected this error.

2) The lane widths on the junction appear to be around 3m. Although this is consistent with the minimum requirements of TD50/04 (Para 2.22) it is considered inadequate given the high level of HGV movements. An HGV is generally 3.0m wide (2.5m body + 0.5m for mirrors) and given that the junction is on a slight bend an allowance for some tracking would be appropriate. On this basis, a wider width of 3.65m should be provided.

3) Further, the inclusion of central island within the junction would prevent abnormal loads from accessing the port, a significant constraint of the scheme.

4) In a similar vein, there is inadequate width of road to allow two vehicles to safely track from both the Rosper Road lanes into Humber Road west and then merge into one lane under the railway bridge. This would increase the risk of side swipe accidents.

5) Furthermore, the merge lane proposed is substandard when considered against Para 2.31 of TD 50/04, which requires 100m length. The submitted proposal shows around 50 – 60m and in the circumstances, the standard length of 100m is required given the high level of turning and merging traffic. However, it is not clear whether this is achievable given the proximity of the Humber Road Railway Bridge since increasing the length to 100m could impact on the bridge structure.

4.7 Re-assessment of Manby Road / Humber Road Junction

Traffic Capacity

4.7.1 The operation of the Manby Road / Humber Road junction (based on the improvements as proposed), have been tested using the ARCADY program, which is consistent with the JMP assessment.

4.7.2 The junction has been reassessed using the revised flows derived above in Section 4.5. The results of this assessment are attached at **Appendix I** and are summarised below in terms of overall junction operation.

Table 20 – Summary of Arcady Assessments – AM Peak

	DTA Revised Base		Base + Able	
	RFC	Queue	RFC	Queue
Humber Road (W)	0.63	2	0.80	4
Humber Road (E)	0.56	2	0.54	1
Manby Road	0.51	1	0.58	1

Table 21 – Summary of Arcady Assessments – PM Peak

	DTA Revised Base		Base + Able	
	RFC	Queue	RFC	Queue
Humber Road (W)	1.00	30	0.97	18
Humber Road (E)	1.14	50+	1.38	50+
Manby Road	0.90	8	0.90	8

4.7.3 Normally, a junction operating at an RFC (ratio of flow to capacity) of 0.85 is considered to be within capacity. Performance may start to degrade where a junction operates at an RFC in excess of 0.85 in consecutive time periods. It is evidence from the above that in the AM peak, without the Able development the junction is operating within capacity. With the additional Able flows, the junction would be operating close to capacity.

4.7.4 In the PM peak, the junction would be operating significantly in excess of capacity and the Able development flows would contribute to substantial worsening of this, to the detriment to the operation of the Port of Immingham.

4.8 Overall Implications of Development

4.8.1 It is evident from the above that when the assessment flows are corrected, and the models run properly, the conclusions of the JMP assessments that the development will have no material impact at either junction are simply not justified.

4.8.2 It is also clear that significant and fundamental changes would be required to the proposed mitigation schemes to overcome the capacity constraints. In the context of the Rosper Road / Humber Road junction, the junction would need to be widened to provide at least two through lanes on the main Humber Road. These would be required to ensure that sufficient green time capacity could be given to the junction as a whole to counter the additional flows leaving and entering Rosper Road, particularly in the PM Peak.

4.8.3 An indicative layout of the requirement is shown at **Appendix J**. This is not intended to provide a detail design of the scheme but to show a general view of the likely scale of improvements required.

4.8.4 In the context of the Humber Road / Manby Road junction there is some scope for further widening of approach arms. However, it is most likely that the improvement would take the form of signalisation of the junction.

4.8.5 This approach would be consistent with the Highways Agency's own detailed assessment of the junction and their identification of improvements as part of the wider A160 improvement scheme. In that regard it is likely that the wider A160 scheme would be suitable to mitigate the impact of the development.

4.8.6 In the absence of such a scheme (or a significantly improved developer led proposal) it is clear that the impacts the development would have on these junctions must be considered severe and unacceptable.

5.0 STAGE 2 REVIEW – IMPACT OF A GENERAL CARGO PORT

5.1 Introduction

5.1.1 The application has been assessed by the applicant on the basis of a very narrow assumption as to the uses to which the port would be put.

5.1.2 Many of the assumptions adopted in the assessment are either unsubstantiated or conflict with other elements of the assessment. Examples include employee numbers, requirements for car parking and assumptions as to the use of rail.

5.1.3 Furthermore, the draft DCO contemplates a general cargo port use, (as detailed in the written representations submitted on behalf of ABP by Adams Hendry), which in terms of road traffic impact has simply not been assessed. In the light of the observations made above such an unrestricted use, would have a serious detrimental impact, not just on the Port of Immingham but on south bank commercial users as a whole – as well as the general public.

5.1.4 The Environmental Statement acknowledges this potential extension in proposed use in saying, at Para 4.10.1, that there will be "...an over-riding requirement to maintain the quay rather than decommission it". It notes that "In the event that demand for port space by the off-shore energy sector reduces in the future, the quay will find other uses related to the import and export of goods".

5.1.5 However, the Transport Assessment and associated ES chapter give no assessment of the likely impacts of such a use. This is an important consideration and unless the port could be limited to the use assessed in the ES, any approval would not be lawful.

5.1.6 Further analysis is required before it could reasonably be concluded the proposals are acceptable.

5.2 Potential Alternative Uses

5.2.1 Based on their significant experience in operating such facilities, ABP have assessed the likely uses to which the facility could be put as a general cargo port. **Table 20** below summarises these together with an indication of the proportional split to road for HGV movements.

Table 22 – Potential Alternative Uses

Cargo type	Units	Amount	Rail	Road	Total to road
Petroleum products	Tonnes	1,000,000	50%	50%	500,000
Bulk coal	Tonnes	3,000,000	90%	10%	300,000
Bulk biomass	Tonnes	2,000,000	90%	10%	200,000
Agribulks	Tonnes	500,000	0%	100%	500,000
Other bulks	Tonnes	500,000	10%	90%	450,000
Breakbulk / general	Tonnes	500,000	10%	90%	450,000
Unit load: Ro-Ro	No. trailers	200,000	0	100%	200,000
Unit load: Lo-Lo	No. boxes	350,000	30%	70%	245,000
Cars	No. cars	400,000	20%	80%	320,000

5.2.2 ABP estimate that this level of cargo would require around 115Ha of terrestrial land take. With reference to the site masterplan this broadly equates to the following areas:

Table 23 – Area required for general Cargo

MP use	Area (Ha)
Quay Storage	45
Overspill 1	9.3
Overspill 2	9.1
Overspill 3	5
Plot N2	21.1
Plot F1	17.4
Plot N3	19.3
Total	126.2

5.2.3 This would leave the remaining plots available for other uses. Again based on the masterplan this equates to a total of 122,950 sqm of buildings, which have been assessed for car parking purposes in the Transport Assessment as B1 / B2 uses (i.e

office / industrial). This has been calculated using the assumed building footprints for the remaining plots as set out in Appendix J of the Transport Assessment.

5.3 Preliminary Traffic Impact of uses

5.3.1 Based on the above, I have assessed the potential traffic generation of the site for these alternative uses.

Port Uses

5.3.2 The HGV traffic generation of the alternative port uses has been assessed based on the assumed mode split to road. This derives annual HGV flows generated based on forecast payloads. Based on an assumed 50 week year, daily flows have then been forecast as 19% of weekly flows (which is the observed peak day / weekly proportion from the existing Port of Immingham). Peak hour flows have then be calculated based again on the observed weekday to hourly proportion from the Port of Immingham surveys undertaken by DTA.

Table 24 – Forecast HGV Movements – General Cargo Port

	Total to Road	Payload / Factor	Road movements	Note
Bulks	2,400,000	25	192,000	Load one way
Cars	320,000	12	53,333	Load one way
Ro-Ro	200,000	1	200,000	Load two way
Lo-Lo	245,000	1.03	252,350	Load two way
Total Annual			697,683	
Total Weekly	50		13,954	
Total Daily HGV	19.0%		2,651	
Hourly	5.7%		152	

5.3.3 It is also necessary to make allowance for employment service traffic. The surveys from the Port of Immingham suggest that HGV movement equates to around 40% of

traffic, which would put total peak hour flows at around 380 movements (or circa 600 PCUs).

Retained B1 / B2 Buildings

5.3.4 As set out above, in addition to the cargo uses, the site would retain around 123,000 sqm of buildings for alternative uses. Appendix L of the Transport Assessment helpfully provides JMP's assessment of the likely traffic generation of such uses. This provides a TRICS assessment of "Industrial Units" and Industrial estates". Contrary to good practice (and rather surprisingly) the former includes surveys from a Sunday. This will have the effect of reducing forecast weekday vehicle demand generation.

5.3.5 On this basis the "Industrial Estates" category has been adopted. **Table 23** below summarises the forecast traffic generation from the retained buildings.

Table 25 – Traffic Generation

	Vehicles per 100 sqm			Total Vehicles		
	In	Out	Total	In	Out	Total
0800-0900	0.392	0.183	0.575	482	225	707
1700-1800	0.116	0.304	0.420	143	374	516
0700-1900	2.917	3.042	5.959	3586	3740	7327

5.3.6 Assuming 10% HGV for these uses would result in around 800 PCUs in the Am peak and 600 PCUs in the Pm Peak.

5.4 Transport Implications Arising

5.4.1 Based on the above assessments, the combined traffic generation of the alternative uses could therefore be the region of 1,400 PCUs in the Am peak and 1,200 PCUs in the PM Peak.

5.4.2 This compares with the current JMP assessment around 700 movements in each hour. Given the conclusions of Section 4 above (which is based on the lower JMP forecasts) it is clear that the scale of transport infrastructure mitigation proposed would not be able to adequately accommodate the proposed development.

5.4.3 Minor localised improvements to junctions as currently proposed would not be sufficient to mitigate the impact arising and would result in a severe impact on the main access to the Port of Immingham.

5.4.4 In terms of maintaining the integrity of access to the Port of Immingham, at the very least, the section of works proposed by the A160 scheme which include the removal of the Rosper Road / Humber Road junction and the provision of a new link direct to Rosper Road from the Manby Road junction are likely to be required.

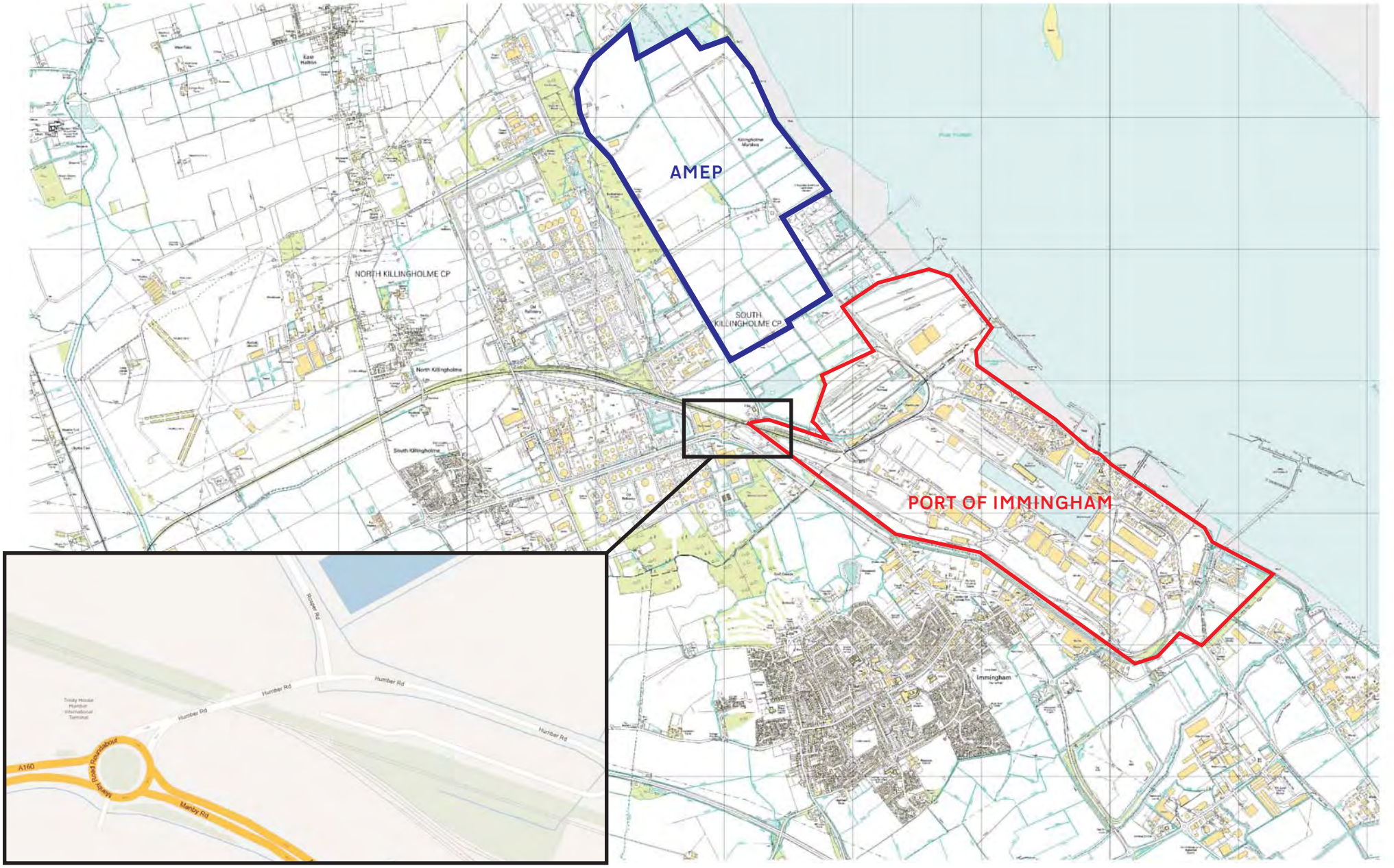
5.4.5 Such a scheme would require a new road crossing of the existing railway line and it has not been demonstrated how such a link could be physically constructed without restricting the use of the only rail line into the port. The importance of this route is highlighted in Mr Geldard's Written Representation and it is precisely issues such as this which would form a fundamental part of a proper WebTAG based assessment of the proposals.

5.4.6 Quite simply, in the absence of significant improvements of a scale consistent with the HA improvement schemes, the impact of the proposals would be severe and therefore the development as whole contrary to the transport tests set out in Para 31 of the NPPF.

GLOSSARY

ABP	Associated British Ports
CIHT	Chartered Institute of Highways and Transportation
DCO	Development Consent Order
DfT	Department for Transport
DTA	David Tucker Associates
EA	Environment Assessment
ES	Environmental Statement
GTA	Guidance on Transport Assessment (DfT/March 2007)
HA	Highways Agency
ICE	Institution of Civil Engineers
JMP	Applicants Highway Consultants
Lo-Lo	Lift On Lift Off (ie containerised loads)
MEP	Able Marine Energy Park
NATA	New Approach To Appraisal
NPPF	National Planning Policy Framework (DCLG/March 2012)
PCUs	Passenger Car Units
RFC	Ratio to Flow Capacity
Ro-Ro	Roll On Roll Off
TA	Transport Assessment
TRL	Transport Research Laboratory

Appendix A



David Tucker Associates
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Notes:

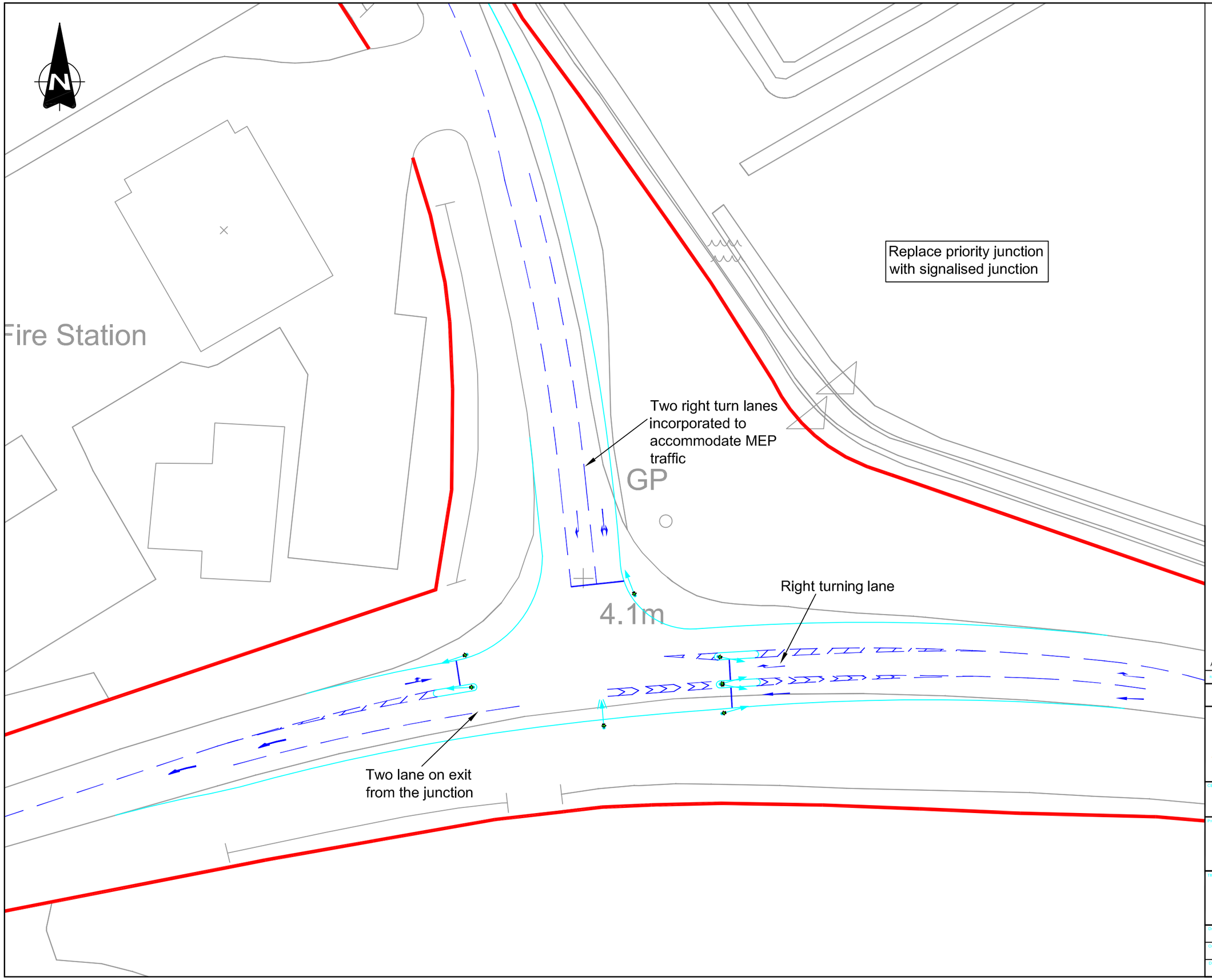
Figure 1
Drawing Title
Job Title
Client

Drawing No : 13204-12
Site Location Plan
Able UK
ABP

Scale : NTS

NORTH

Appendix B



Key

- Road markings
- Proposed kerb line
- Approximate highway boundary

Rev.	Date	Revision details	Drawn	Checked	Approved
A	11/07/11	Delete left turn filter	RAB	DM	

JMP

Client: Able UK

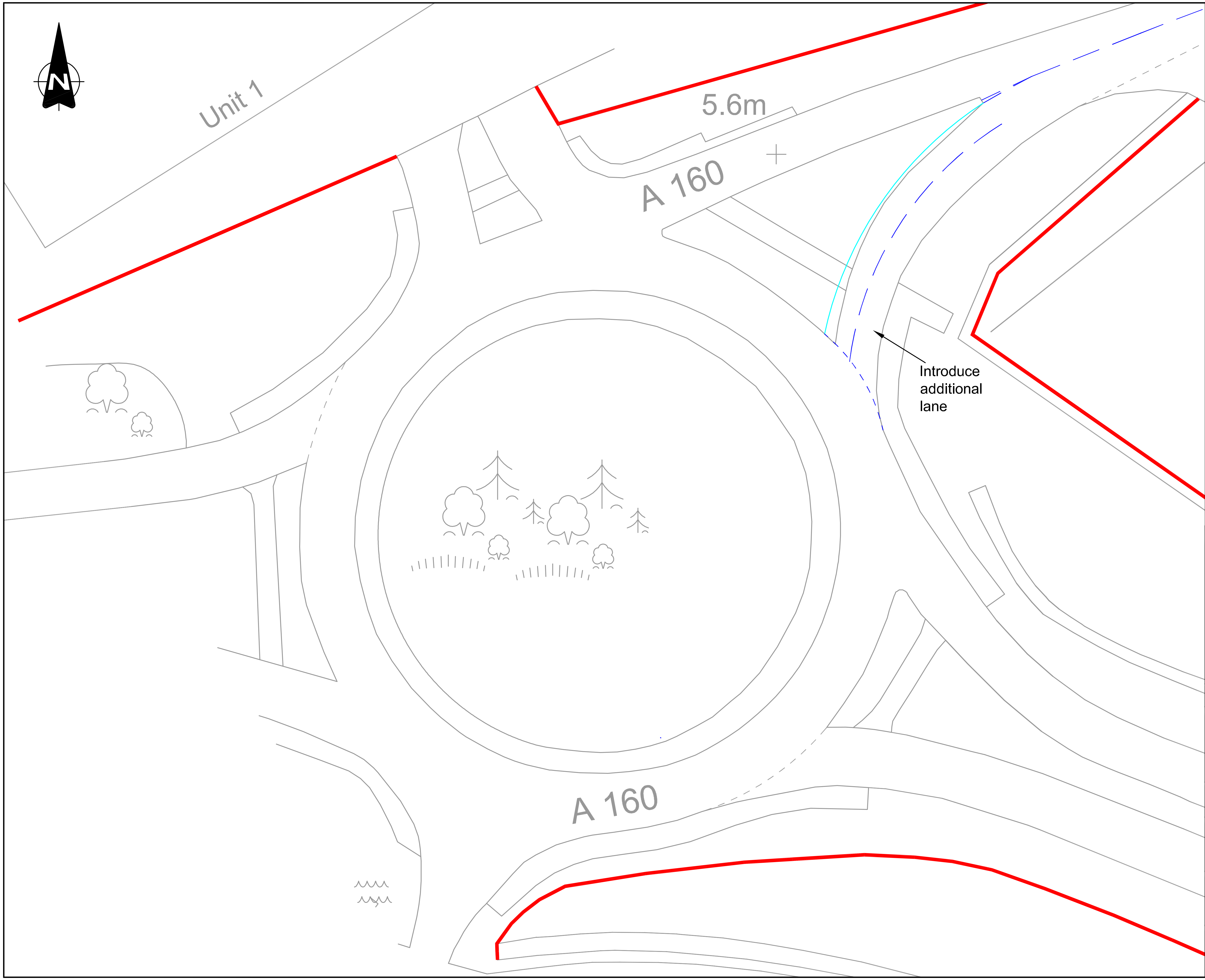
Project: Marine Energy Park

Title: Junction C
Proposal for Humber Road / Rosper Road

Drawn	Checked	Approved
RAB	DM	

Original org. size	Date	Scale
A3	Mar 2011	1:500

Drawing Status	Drawing Number	Rev.
DRAFT	NEA1114/01	A



Key

- Road markings
- Proposed kerb line
- Approximate highway boundary

Rev.	Date	Revision details	Drawn	Checked	Approved
A	11/07/11	Amend mitigation proposal	RAB	DM	

Client: Able UK

Project: Marine Energy Park

Title: Junction E
Proposal for A160 / A1173 / Humber Road

Drawn	Checked	Approved
RAB	DM	
Original drg. size	**Date**	**Scale**
A3	Apr 2011	1:500

Drawing Status	Drawing Number	Rev.
DRAFT	NEA1114/02	A

Appendix C

1. An Overview of Transport Analysis

1.1 The Green Book

The Green Book, Appraisal and Evaluation in Central Government, provides guidance on appraisal and evaluation in Government - see Transport Appraisal and the New Green Book (TAG Unit 2.7). All central departments and executive agencies use this guide, the latest version of which was released on 17 January 2003.

1.1.2 Appraisal is the process of assessing the worth of a course of action - which includes projects, programmes or policies. Evaluation is a similar to appraisal, although uses historic data and takes place after the event.

1.1.3 The Green Book places appraisal in the context of policy development, discussing the whole process. This includes establishing the rationale, setting objectives and appraisal of the costs and benefits. The process also includes monitoring and evaluation, the results of which are fed back in to the process.

The Green Book aims to make the appraisal process throughout government more consistent and transparent, ensuring that no course of action is adopted without first having the answer to these questions:

- Are there better ways to achieve the objectives?
- Does it provide value for money?

1.2 A Background to Transport Appraisal

1.2.1 In the transport context appraisal is always likely to be complex, with interactions at many levels with other policy areas. The Government's White paper A New Deal for Transport: Better for Everyone (DETR, 1998) sets in place the policy context for dealing with transport and highlights the complexity of transport problems and the interaction with other policy areas:
'Our quality of life depends on transport. Most of us travel every day, even if only locally. And we need an efficient transport system to support a strong and prosperous economy. But in turn, the way we travel is damaging our towns and cities and harming our countryside. As demand for transport grows, we are even changing the very climate of our planet.'

1.2.2 Transport appraisal is carried out to provide input to efficient policy development and resource allocation across government. To be effective, transport appraisal must deal consistently with competing proposals, be even-handed across modes and take account of a wide range of effects. This guidance represents the department's attempt to ensure that transport appraisals are carried out effectively. It has been written to be broadly consistent with the Green Book, but is guidance designed specifically for transport schemes. As such it is a more appropriate reference than the Green Book for anyone wishing to appraise a transport scheme in England. Should you identify any apparent contradictions between TAG and the Green Book you should contact DfT to discuss.

1.2.3 The White paper framed the move away from 'predict and provide' solutions to transport problems and put at the core an integrated transport policy. Appraisal of problems is key to the efficient delivery of this policy. The decisions made as part of the delivery need to

be based on a full range of options and a comprehensive analysis of the impacts using a consistent approach. To this end, the White paper introduced the New Approach To Appraisal (NATA), to appraise and inform the prioritisation of transport investment proposals. The New Approach to Appraisal is outlined in The Overall Approach: The Steps in the Process (TAG Unit 2.1) and The Appraisal Process (TAG Unit 2.5). Further detail is provided in Appraisal (TAG Unit 3.2).

1.3 The New Approach To Appraisal

1.3.1 NATA has evolved since its original launch in 1998, most recently to take account of the latest Green Book recommendations. It is now the basis for:

- appraisal of multi-modal studies;
- appraisal of Highways Agency road schemes and Local Transport Plans major road and public transport schemes;
- the Strategic Rail Authority's Appraisal Criteria;
- the project appraisal framework for seaports; and
- the appraisal process employed during the development of the Government's airports strategy

1.3.2 NATA is broadly in line with the Department's Sustainable Development policy statement and the Department's guidance Better Policy Making: Integrated Policy Appraisal in DTLR (IPA).

1.3.3 The Department's Sustainable Development policy statement sets out the Department's approach to the achievement of the Government's overall sustainable development objectives. It has three criteria at its core: economic, social and environmental. The Policy requires decision-makers to take a balanced approach to ensure that all three are given equal consideration. It states that, in assessing transport projects, an integrated project appraisal methodology will be used, and refers the reader to the Transport Analysis Guidance website.

1.3.4 The IPA is a good practice tool of use to anyone embarking on a policy project. It allows the user to review the widest possible range of impacts - economic, environmental, social and distributional - and thus ensure a robust approach to policy development.

1.3.5 Strategic environmental assessment (SEA) of certain plans and programmes, including Local Transport Plans and Regional Transport Strategies, is required under European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment. SEA is broadly consistent with NATA and should be carried out as part of the NATA process for such plans and programmes (see Strategic Environmental Assessment for Transport Plans and Programmes TAG Unit 2.11).

1.4 Appraisal and the Study Process

1.4.1 As recommended in the Green Book, transport appraisal must be carried out as part of an overall process. The form and basis of the appraisal strongly affects the way in which all other stages of the process are carried out. NATA includes the transport study process outlined in Figure 1 below.

1.4.2 The level to which each of the steps in this process is implemented will be dependent upon the type and size of the problems being addressed. It is expected that appraisals will be comprehensive but proportionate.

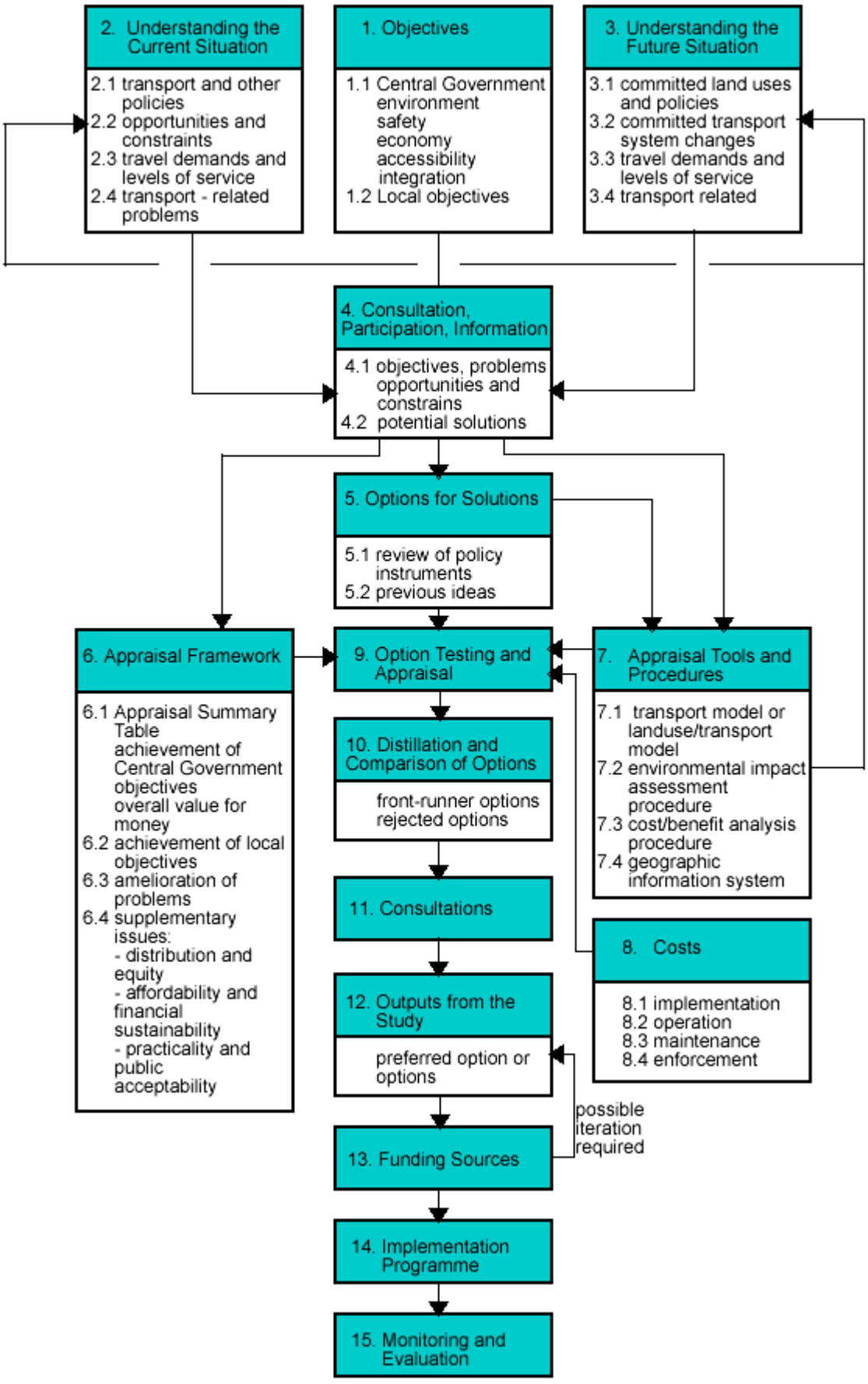
1.4.3 In all cases, however, the process of identifying solutions should be broadly similar and:

- be easily comprehensible, to those commissioning, steering and undertaking the work; and where possible to a wider public;
- avoid leading to a particular outcome simply by virtue of the method or process adopted;
- enable a wide range of solutions and the synergy between combinations of components to be investigated in a cost-effective manner;
- enable a preferred solution to be developed which addresses the objectives and problems at which it is aimed; and
- provide a means by which the acceptability of the solution to the public can be tested and taken into account.

1.4.4 Typically, a study should include:

- agreement on a set of objectives which the solution should seek to satisfy;
- analysis of present and future problems on, or relating to, the transport system;
- exploration of potential solutions for solving the problems and meeting the objectives;
- appraisal of options, seeking combinations which perform better as a whole than the sum of the individual components; and
- selection and phasing of the preferred solution, taking account of the views of the public and transport providers.

Figure 1 - Study Approach


2. Understanding the Current Situation
2.1 transport and other policies
2.2 opportunities and constraints
2.3 travel demands and levels of service
2.4 transport - related problems
1. Objectives
1.1 Central Government environment safety economy accessibility integration
1.2 Local objectives
3. Understanding the Future Situation
3.1 committed land uses and policies
3.2 committed transport system changes
3.3 travel demands and levels of service
3.4 transport related
4. Consultation, Participation, Information
4.1 objectives, problems opportunities and constrains
4.2 potential solutions
5. Options for Solutions
5.1 review of policy instruments
5.2 previous ideas
6. Appraisal Framework
6.1 Appraisal Summary Table
achievement of Central Government objectives
overall value for money
6.2 achievement of local objectives
6.3 amelioration of problems
6.4 supplementary issues:
- distribution and equity
- affordability and financial sustainability
- practicality and public acceptability
9. Option Testing and Appraisal
7. Appraisal Tools and Procedures
7.1 transport model or landuse/transport model
7.2 environmental impact assessment procedure
7.3 cost/benefit analysis procedure
7.4 geographic information system
10. Distillation and Comparison of Options
front-runner options
rejected options
11. Consultations
8. Costs
8.1 implementation
8.2 operation
8.3 maintenance
8.4 enforcement
12. Outputs from the Study
preferred option or options
possible iteration required
13. Funding Sources
14. Implementation Programme
15. Monitoring and Evaluation

1.5 The Government's Five Objectives for Transport

1.5.1 Throughout the NATA process the Government's five objectives for transport as outlined in the White paper are central:

- Environmental impact involves reducing the direct and indirect impacts of transport facilities on the environment of both users and non-users. There are 10 sub-objectives including noise, atmospheric pollution of differing kinds, impacts on countryside, wildlife, ancient monuments and historic buildings. See The Environment Objective (TAG Unit 3.3);
- Safety is concerned with reducing the loss of life, injuries and damage to property resulting from transport incidents and crime. The 2 sub-objectives are to reduce accidents and improve security. See The Safety Objective (TAG Unit 3.4);
- Economy is concerned with improving the economic efficiency of transport. The 5 sub-objectives are to improve economic efficiency for consumers and for business users and providers of transport, to improve reliability and the wider economic impacts, and to get good value for money in relation to impacts on public accounts. See The Economy Objective (TAG Unit 3.5);
- Accessibility is concerned with the ability with which people can reach different locations and facilities by different modes. See The Accessibility Objective (TAG Unit 3.6); and
- Integration aims to ensure that all decisions are taken in the context of the Government's integrated transport policy. See The Integration Objective (TAG Unit 3.7)

1.5.2 These are the basis for the appraisal process in NATA.

1.6 Appraisal of Options

1.6.1 The appraisal framework in NATA is made up of four distinct parts:

- Appraisal Summary Table (achievement of Government objectives)
- Achievement of regional and local objectives
- Effectiveness of problem solving
- Supporting analyses

1.6.2 These four strands when considered together provide the decision-maker with the information needed to reach a considered judgement on the worth of a project.

1.6.3 To enable a consistent judgement to be made of the relative merits of options a single summary sheet of each of the four analyses is produced for each strategy or plan option. Single sheet information is also provided to decision-makers on each of the following:

- An annotated map describing the strategy or plan option
- A list of the alternatives considered and their reasons for rejection (if this information cannot be fitted onto the previous sheet)

1.6.4 In addition there will also be worksheets for each sub-objective on the AST.

1.7 The Appraisal Summary Table

1.7.1 An important element of the New Approach to Appraisal is the inclusion of an Appraisal Summary Table (AST), See Transport Appraisal and the New Green Book (TAG Unit 2.7). This is a one page tabular summary of the main economic, environmental and social impacts of a transport solution.

1.7.2 An Appraisal Summary Table is produced for each option and sets out simply and concisely the key consequences of different options for tackling a particular problem using the five objectives. Some of these objectives have been divided into a number of sub-objectives as described earlier, reflecting the wide variety of impacts arising from transport projects.

1.7.3 The AST and its more detailed supporting documents provide the information needed to make a judgement about the overall value for money of the option or options in achieving the Government's objectives. Providing the information in this way enables a consistent view to be taken about the value of projects.

1.7.4 The AST does not automatically provide a mechanistic way of estimating value for money, but summarises the effects in each area so that decision-takers have a clearer and more transparent basis on which to make a judgement. The inclusion of any sub-objective in the AST, with the associated qualitative and quantitative analyses, cannot be used to imply weightings between objectives in forming decisions.

1.8 Regional and Local Objectives

1.8.1 As part of the study process it is anticipated that specific local objectives will be set, these are expected to 'nest' within the Governments five objectives for transport. This is discussed further in Objectives and Problems (TAG Unit 2.2).

1.8.2 By their nature these objectives will be specific to each study; there is no requirement for them to be the same in all studies. It is therefore not practical to be prescriptive about their formulation or measurement. However it is recommended that a key set of indicators are developed against which to measure the performance of solutions.

1.8.3 In many instances, it will be sensible and cost-effective to use the same indicators for measuring performance against local and regional objectives as are used to measure impacts in the Appraisal Summary Table. Differences may arise in that different or supplementary indicators may be used for some impacts.

1.8.4 An assessment of the degree to which the local and regional objectives of the project will be achieved is likely to be of particular interest to the regional and local authorities, and the local people.

1.8.5 Clearly, overlap between this appraisal strand and the previous one is to be expected.

1.9 Effectiveness of Problem Solving

1.9.1 At an early stage in the study process, the current and future transport related problems will have been identified, analysed and displayed using text, tables and plots as appropriate.

1.9.2 An assessment of the extent to which the problems identified would be solved by the option or options proposed needs to be made considering both absolute and relative performance against key indicators.

1.9.3 It is possible that the second and third of these appraisal strands may amount to much the same thing, although this will clearly depend on the nature of the local and regional objectives adopted and the form of the local problem analyses.

1.9.4 This analysis is also likely to be of particular interest to the regional and local authorities, and the local people, and additionally the local transport providers.

1.10 Supporting Analyses

1.10.1Supporting analyses cover three additional groups of issues that do not easily fit within the Appraisal Summary Table. These are further discussed Supporting Analysis (TAG Unit 3.8).

1.10.2 These issues are:

- distribution and equity which aims to show the distribution (spatially, across modes, etc.) of the impacts of the solution, thus enabling an assessment to be made about the fairness of impacts on those affected;
- affordability and financial sustainability which aims to outline the financial performance of the solution, identifying public and private sector input; and
- practicality and public acceptability which follows a checklist that includes such measures as feasibility, area of interest, complexity, time scale, phasing, and political nature of solution.

1.10.3Supporting analyses are likely to be of interest to both Central Government and the regional and local authorities, as well as the local people. The local transport providers will be particularly interested in the impacts on the financial sustainability of their operations.

2. Further Information

The following documents provide information that follows on directly from the key topics covered in this Unit.

For information on:	See:	TAG Unit Number:
Appraising options against the environment objective	The Environmental Objective	TAG Unit 3.3
Appraising options against the safety objective	The Safety Objective	TAG Unit 3.4
Appraising options against the economy objective	The Economy Objective	TAG Unit 3.5
Appraising options against the accessibility objective	The Accessibility Objective	TAG Unit 3.6

Appraising options against the integration objective	The Integration Objective	TAG Unit 3.7
The Green Book and the Appraisal Summary Table	Transport Appraisal and the new Green Book	TAG Unit 2.7
	The Overall Approach: The Steps	TAG Unit 2.1
The New Approach to Appraisal	The Appraisal Process	TAG Unit 2.5
	Appraisal	TAG Unit 3.2
Regional and Local Objectives	Objectives and Problems	TAG Unit 2.2
Supporting analysis	Supporting Analysis	TAG Unit 3.8

3. References

DETR (July 1998) A New Deal for Transport: Better for Everyone

DETR (July 1998) A New Deal for Trunk Roads in England

HM Treasury (2003) revised edition of its Green Book, Appraisal and Evaluation in Central Government

DTLR (2002) Better Policy Making: Integrated Policy Appraisal in DTLR

4. Document Provenance

This Document was produced in August 2003 to provide an introduction to the restructuring of the GOMMMS and associated guidance into a family of TAG Units.

Technical queries and comments on this TAG Unit should be referred to:

Integrated Transport Economics and Appraisal (ITEA) Division
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Zone 3/08 Great Minster House
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London
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Updated: April 2009

Appendix D

1.0 Introduction

1.1 Para 1.8 notes that the quay will be capable of handling more than 5 million tonnes of bulk cargo annual and references to the Biomass plant of more than 50MW power. The Biomass has been dropped from the proposals but still referred to in the TA. However the TA does not include any assessment.

Q: Can the current position be confirmed?

2.0 Accident Analysis

2.1 No assessment or breakdown of accidents involving HGVs and vulnerable road users has been undertaken. This is essential to understand the impact of the development particularly given the Highways Agency's (HA) review of the A160/A180 which confirms highway safety to be an existing problem.

2.2 Base Traffic Flows

2.2.1 JMP indicate at Para 4.11 that '...it was requested that the traffic flows for the 7am to 8am and 4pm to 5pm were included for completeness, even though MEP is not predicting to put any trips onto the network during this period.'

2.2.2 Table 4.2 within the TA provides a summary of the flows on the Humber Road between Rosper Road and the A160. DTA commissioned their own surveys which can be made available and the comparison of flows is given below in **Table 1**.

Table 1 – Comparison of flows on Humber Road

	JMP flows taken from Table 4.2			DTA ATC flows		
	East	West	Two-Way	East	West	Two-way
08:00 – 09:00	504	217	721	438	315	753
17:00 – 18:00	246	302	559	317	649	966

2.3 The flows taken from Table 4.2 of the JMP TA are considerably lower than our own surveys.

We require a further junction test based on these highway base flows.

3.0 Committed Development

3.1 Para 4.3.1 states that "Due to the number of committed developments included in the assessment, it was agreed with NLC and the HA that no background traffic growth should be applied to the base traffic flows as the committed developments are essentially acting as the traffic growth in the area. Therefore, no future year assessment has been undertaken."

3.2 This approach is incorrect and does not reflect growth in the port which could happen as part of existing consents on the site. The future year assessment should have also made reference to the Immingham Port Masterplan 2010 – 2030 which forecasts throughput raising by 25,007,000 tonnes from 2008 to 2030), and any other increases in activity on the ABP estate within their existing development rights.

3.3 Based on the masterplan, the total road based flows between 2008 and 2030 are forecast to increase by 59%. To 2020, the increase is 24%.

3.4 These additional movements amount to a significant increase in road based movements and have not been considered by the JMP TA.

3.5 In terms of the committed development flows, Figure 4.3 (Total Committed Development Flows 8 – 9am) shows a zero value on Humber Road. This is clearly an error because the other values appear to include all committed and base flows. Figure 4.4 (Total Committed Development Flows 5 – 6pm) appears to actually show committed plus base. In addition, it is impossible to reconcile these against the assessment of traffic generation.

We require further clarification on the derivation and calculations for the traffic flows test and a further junction test based on the correct figures and to allow for uplift in Immingham Growth. This cross references with Insp Q48C.

4.0 Car Parking

4.1 Para 5.9 indicates that there will be a total of 160,298 sqm of factory/workshop space and 11,000 sqm offices. Car parking requirement has been based on normal council

standards for B1/B2. The total number of spaces is calculated at 2,741 and this contradicts their own assessment at Appendix J (which includes the site usage breakdown) of needing 2,385 spaces.

Clarification is sought on the proposed car parking provision.

5.0 Trip Generation & Distribution

5.1 Para 6.5 specifically refers to using the number of staff from the construction peak of October / November 2012. Clearly this is not possible to achieve given planning timescales.

Clarification is sought on this and in particular the impact on growth at Immingham – see above.

5.2 The traffic generation assumptions are based on the number of staff. With reference to para 6.11 this is assumed to be 4,272 (this is also given in Appendix J). This conflicts with the Socio Economic Chapter which suggests 5,309 based on English Partnership (EP) Forecasts (albeit out of date 2001 version) and 4,100 based on a more site specific assessment (not reviewed in detail).

5.3 Appendix J has a mathematical error and the employee numbers should quote more like 5,300 (i.e as per the EP assessment).

Clarification is sought on the employee numbers and the assessment revised as necessary.

5.4 Table 6.2 does not reflect numbers in Appendix J. Para 6.13 seems to assume that all will drive (or car share) and therefore applies 88.2% car driver. This is then reduced in para 6.15 to 78.3% to allow for travel plan measures (principally the shuttle bus). The shuttle bus is forecast to accommodate around 11.3% of staff as detailed in Table 6.19. There is no technical justification for the proposed trip reduction and modal share for the shuttle bus operation. The calculations for this service are outlined in Appendix N and are based on arbitrary capacities of buses rather than actual demand.

5.5 The total number of employee vehicle trips in the operational phase (after the reductions due to shuttle bus service) is given as 3,285 at para 6.15. This is broken down as follows:

- Total working the 3 shift system is 2,651
- Total working the 2 shift system is 193
- Total working the day shift system 441

5.6 This is not consistent with the trips detailed at para 15.3.29 within the Traffic and Transport chapter.

Clarification is sought

5.7 JMP have spread the shift changes over a 1 hour period (Para 6.16).

The basis for this assumption should be provided

6.0 HGV Traffic Generation

6.1 Table 6.6 sets out HGV delivery assumptions with no justification of how the mode share to road, rail and sea has been derived.

Given that delivery by rail of large wind farm related is unlikely, a revised assessment should be provided together with justification for the mode share adopted. This cross references with Insp Q48b.

6.2 At para 6.26 JMP indicate that based on the total 93,500 tonnes of road based movements and using 304 haulage days, the site would generate 1 HGV delivery per hour. However JMP stated that *'…due to the number of assumptions made within this calculation the number of HGV deliveries is rounded up to two per hour.'* This would result in 2 HGV deliveries (4 two – way movements). At para 6.29 JMP ran a sensitivity test to derive the number of HGVs if all movements were road based (312,800 tonnes). This resulted in a total of 3 HGV deliveries per hour but was again rounded up to 4 HGV deliveries (8 two – way movements).

6.3 The rounded figures given at para 6.26 and 6.29 are not consistent with the deliveries given in Table 6.13. JMP have used 1 HGV delivery per hour (2 two – way HGV

movements) and not the rounded figure of 2 HGV deliveries (4 two – way movements). The daily rate is also incorrect.

6.4 It is also unclear as to whether the sensitivity test of assessing the total number of deliveries (312,800 tonnes) being made by road based transport has gone forward within the TA and into the junction modelling. It is not outlined in Table 6.13 'Deliveries'. The number of deliveries outlined in table 6.13 total 36 two – way HGV movements, however this would increase to 72 and 144 two – way HGV movements if the rounded figures were used detailed in para 6.26 and 6.29.

Clarification is sought

7.0 Traffic Impact Assessment

7.1 JMP have modelled the junction of Rosper Road and Humber Road based on the committed scheme attached in Appendix F. Para 7.11 and Table 7.3 confirm that the committed scheme at Rosper Road / Humber Road will be over capacity with the MEP and proposes improvements. The JMP proposed junction arrangements are attached at Appendix Q (NEA1114/01) of the TA. The results of the modelling for this junction layout are included at Table 7.21 and the junction is shown to be operating within capacity.

7.2 However, the traffic flow summary Figure 6.10 is inconsistent with the flows input into the traffic modelling and it is not possible from the information provided to reconcile the assessment in the TA (i.e. how the junction model flows have been determined).

This should be clarified along with further future year testing as set out above

7.3 Furthermore, this section of road is Trunk Road and the HA normally require Road Safety Audits to be provided for schemes at the planning stage. None have been provided for any of the schemes. The arrangement currently proposed shows two right turn lanes from Rosper Road. This arrangement is unlikely to pass a proper safety audit and this element needs to be reviewed in safety terms as well as capacity.

A safety audit and tracking assessment should be provided.

8.0 Annex 15.2 Travel Plan

8.1 The traffic generation outlined in Table 5.2 of the Travel Plan (TP) indicates a total of 3,840 arrivals and 3,886 departures. These numbers are inconsistent across the other documents that have been reviewed.

8.2 No further justification is provided for the proposed model shifts detailed in Table 5.3.

8.3 No details are provided into the operation of the Shuttle bus service. Para 6.2.17 states that *'Details of the operation of the Shuttle bus must be outlined in the subsidiary travel plan, to be submitted no less than 3 months prior to occupation. These must include; Proposed route, journey time, frequency of service; cost to employee and provision for late shifts.'* The shuttle bus service is intrinsically linked to the vehicle generation of the site and the operation of the junctions. Given concerns over the level of trips proposed by JMP, the details on the operation of the shuttle bus should be provided within the TA at this stage.

Clarification is sought

SJT/JB 13204-04_Queries for JMP.docx
1st June 2012

Appendix E

2	NB			SB			Two way		
	Total	HGV	%	Total	HGV	%	Total	HGV	%
08:00 - 09:00	180	35	19.4%	126	74	58.9%	305	109	35.6%
17:00 - 18:00	166	59	35.3%	169	53	31.2%	335	111	33.2%
00:00 - 24:00	2441	660	27.1%	1851	912	49.3%	4292	1573	36.6%

3	NB			SB			Two way		
	Total	HGV	%	Total	HGV	%	Total	HGV	%
08:00 - 09:00	198	35	17.6%	146	43	29.5%	344	78	22.6%
17:00 - 18:00	136	39	28.7%	234	40	17.2%	370	79	21.5%
00:00 - 24:00	2446	552	22.6%	2239	604	27.0%	4684	1156	24.7%

4	Inbound			Outbound			Two way		
	Total	HGV	%	Total	HGV	%	Total	HGV	%
08:00 - 09:00	438	76	17.4%	315	72	22.9%	753	148	19.7%
17:00 - 18:00	317	65	20.6%	649	61	9.4%	966	126	13.0%
00:00 - 24:00	5114	1380	27.0%	6189	1143	18.5%	11302	2523	22.3%

1	NB			SB			Two way		
	Total	HGV	%	Total	HGV	%	Total	HGV	%
08:00 - 09:00	212	16	7.8%	243	18	7.5%	455	35	7.6%
17:00 - 18:00	236	12	5.2%	430	13	3.1%	666	26	3.9%
00:00 - 24:00	2844	223	7.8%	3032	229	7.6%	5876	452	7.7%

5	Inbound			Outbound			Two way		
	Total	HGV	%	Total	HGV	%	Total	HGV	%
08:00 - 09:00	261	37	14.2%	91	29	31.4%	352	66	18.6%
17:00 - 18:00	53	12	22.1%	257	16	6.4%	311	28	9.1%
00:00 - 24:00	1903	396	20.8%	1935	387	20.0%	3837	783	20.4%

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Notes:

Figure 1
Drawing Title
Job Title
Client

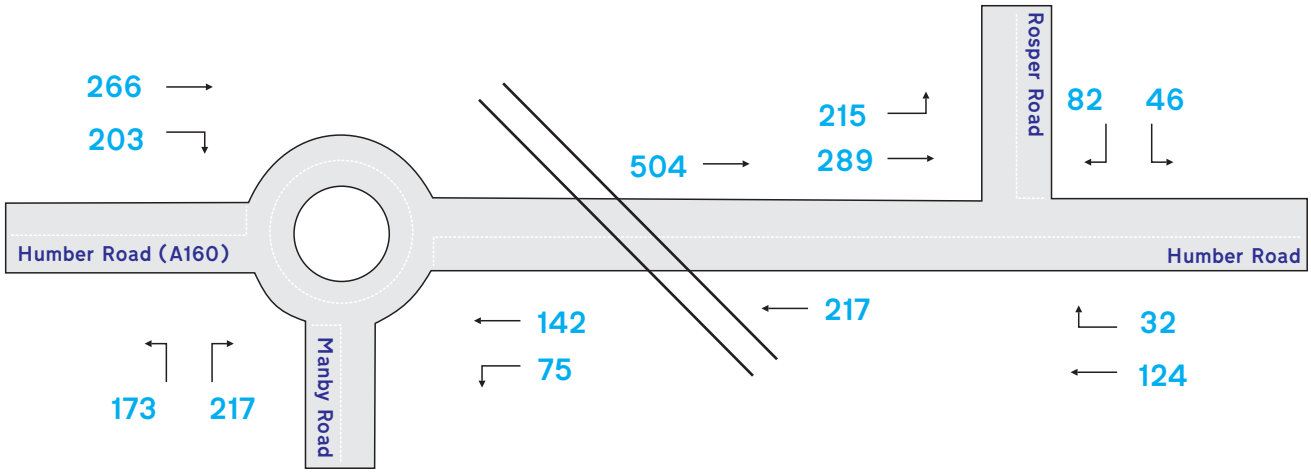
Drawing No : 13204-01
Summary of ATC Flows (AWT 11/11/11-17/11/11)
Able UK
ABP

Scale : NTS

NORTH

Appendix F

AM PEAK (0800-0900)
Able Figure 4.1 - Base Flows All Vehicles



PM PEAK (1700-1800)
Able Figure 4.2 - Base Flows All Vehicles

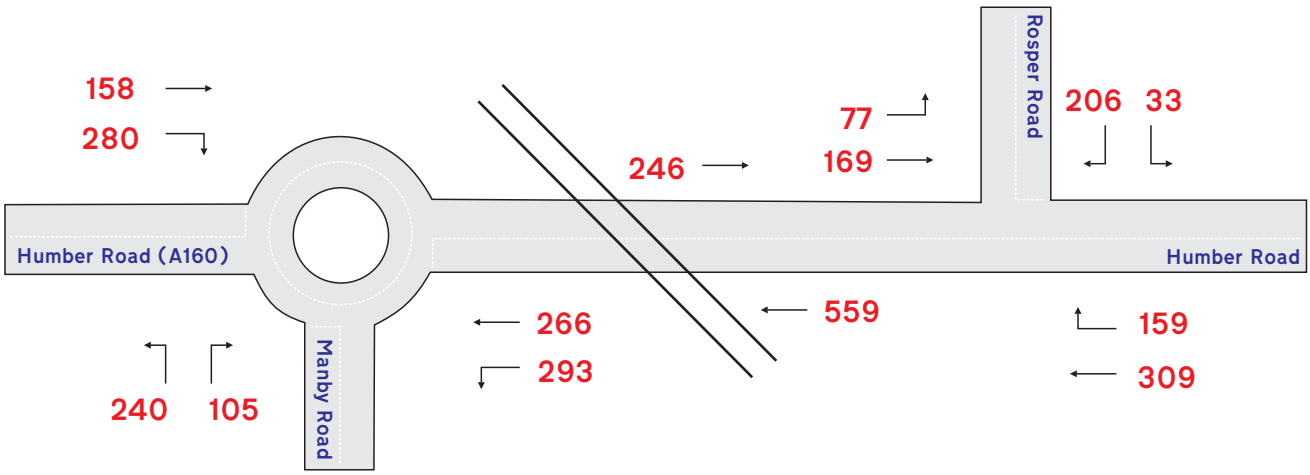


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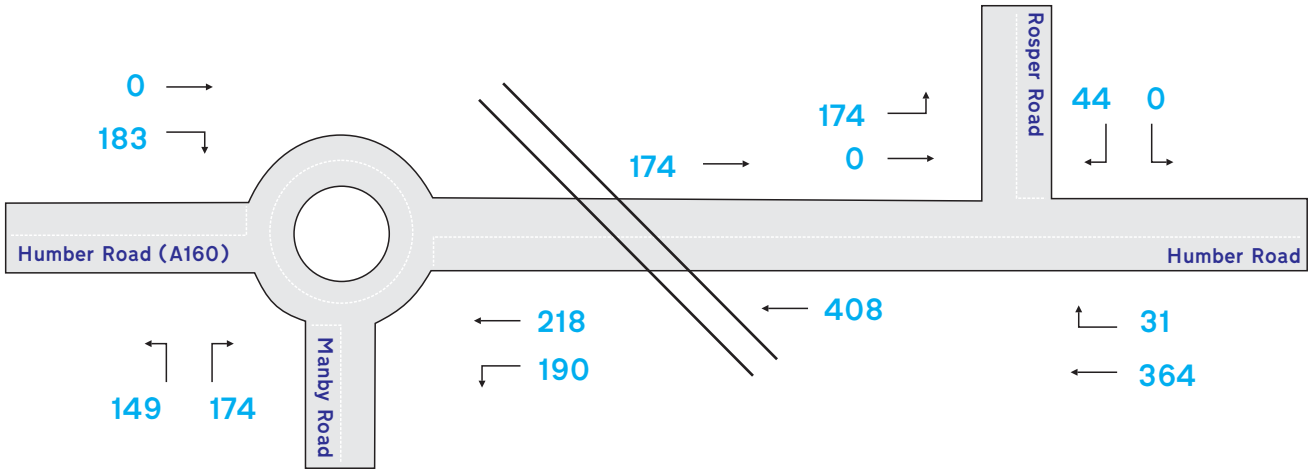
Figure 1	Drawing No : 13204-03
Drawing Title	Existing Able Traffic Flows
Job Title	Able UK
Client	ABP

Scale : NTS

NORTH

AM PEAK (0800-0900)
Able Figure 4.3 - Total Committed Development flows



PM PEAK (1700-1800)
Able Figure 4.4 - Total Committed Development Flows

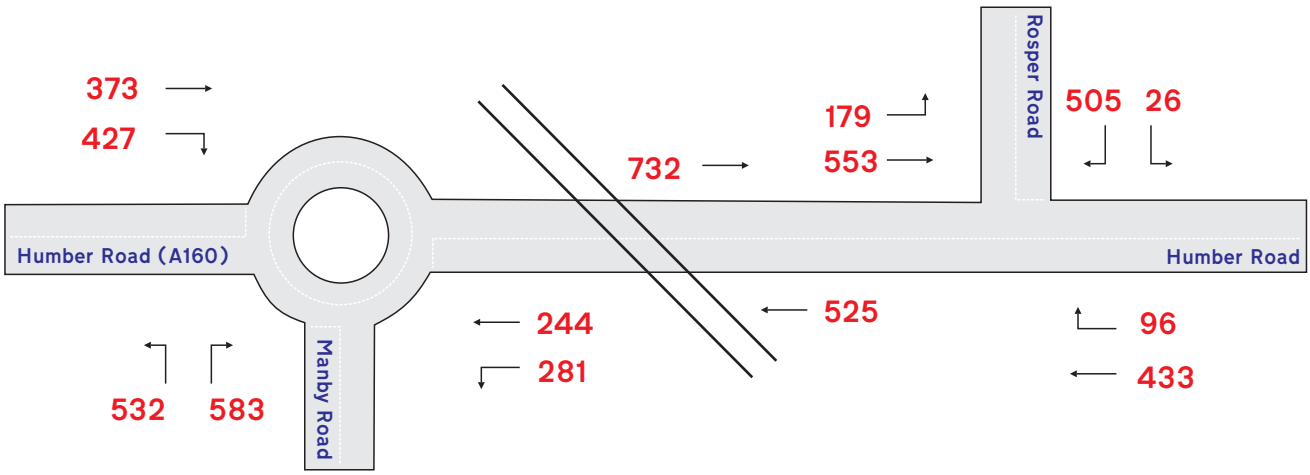


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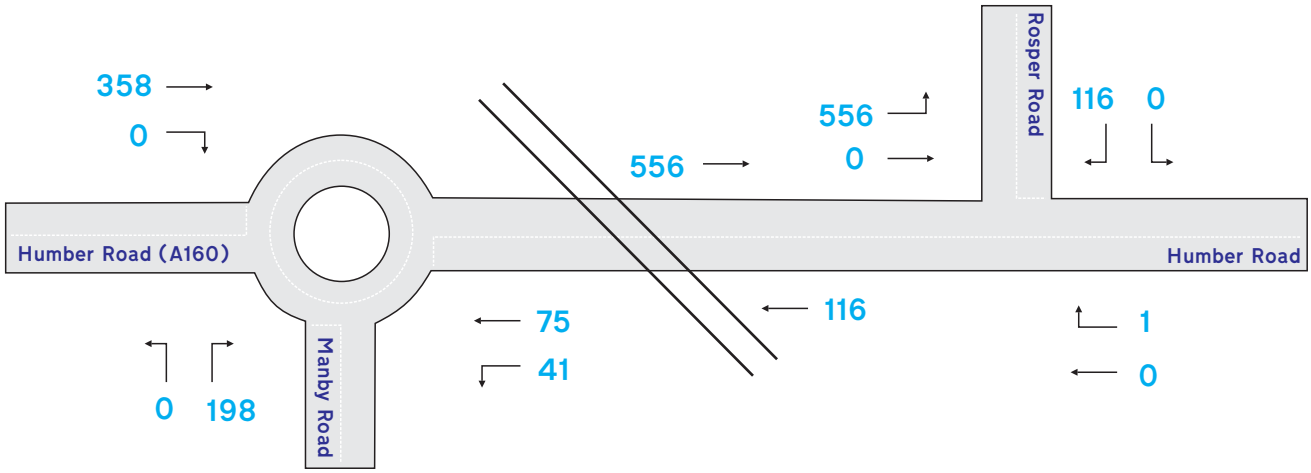
Figure 1	Drawing No : 13204-04
Drawing Title	Existing Able Traffic Flows
Job Title	Able UK
Client	ABP

Scale : NTS

NORTH

AM PEAK (0800-0900)
Able Figure 6.1 - Development Flows



PM PEAK (1700-1800)
Able Figure 6.2 - Development Flows

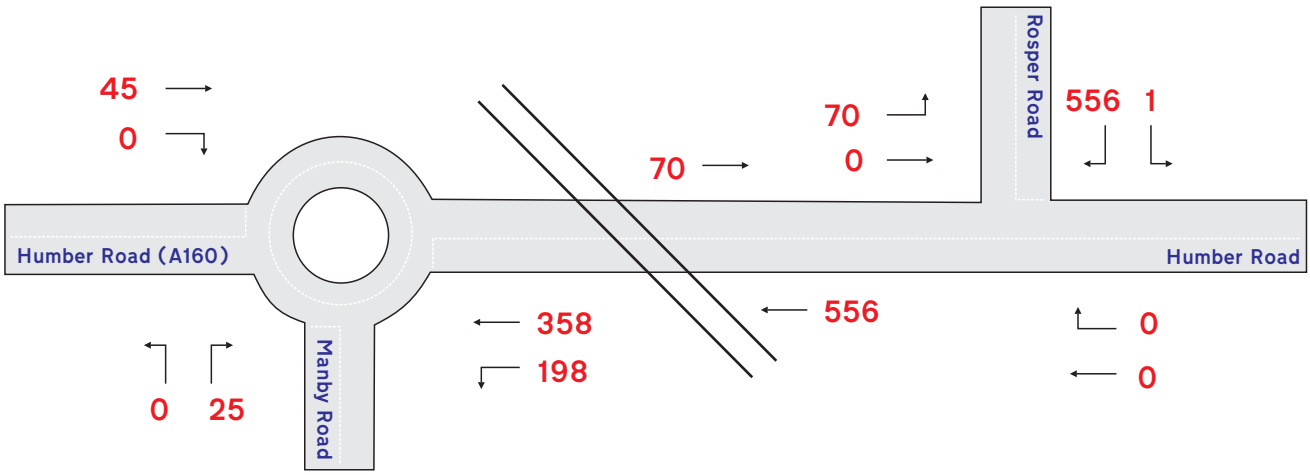


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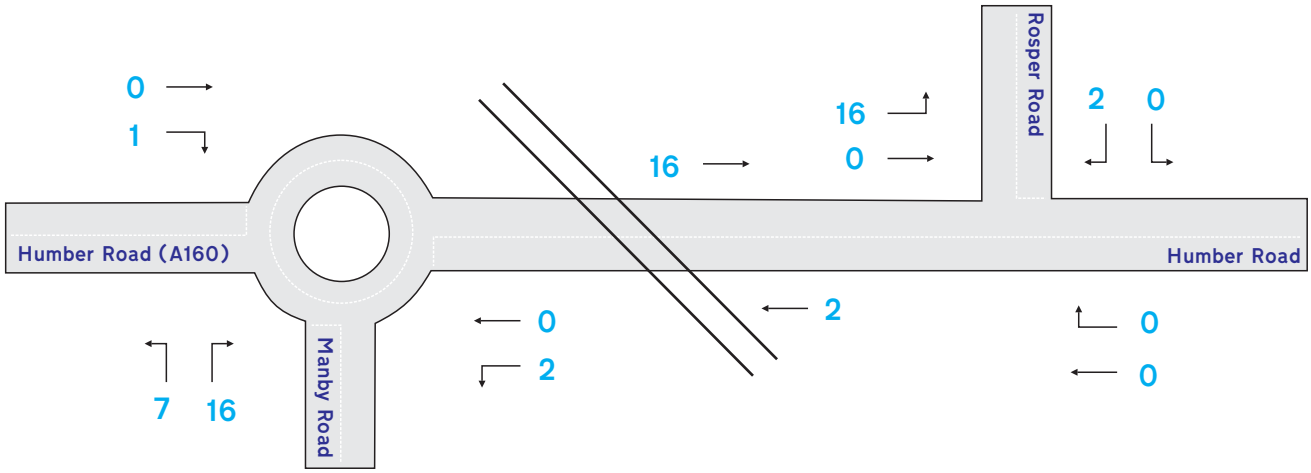
Figure 1	Drawing No : 13204-05	Scale : NTS
Drawing Title	Existing Able Traffic Flows	
Job Title	Able UK	
Client	ABP	

NORTH

AM PEAK (0800-0900)
Able Figure 6.3 - Flows To Nett Off



PM PEAK (1700-1800)
Able Figure 6.4 - Flows To Nett Off

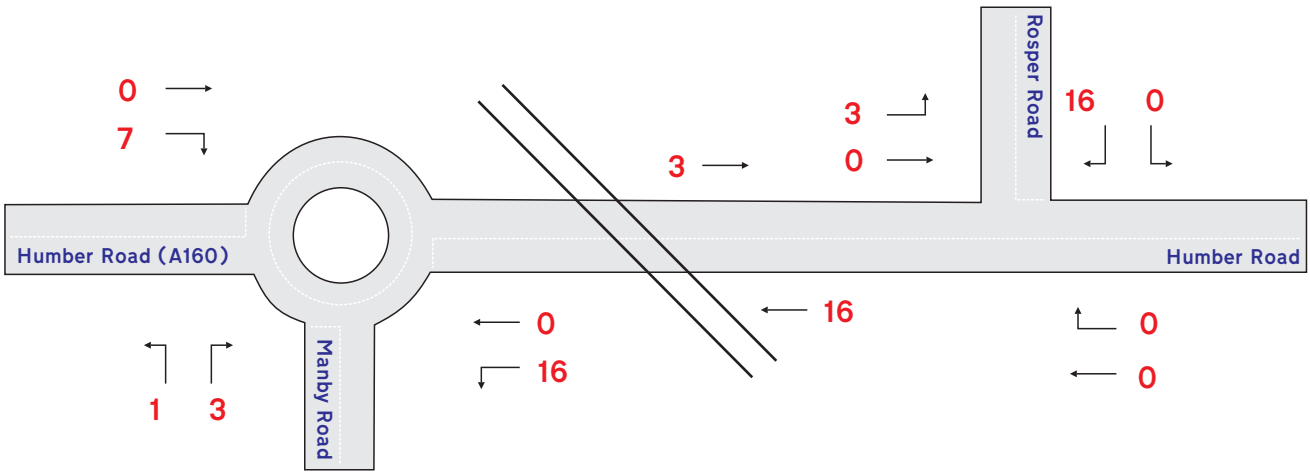


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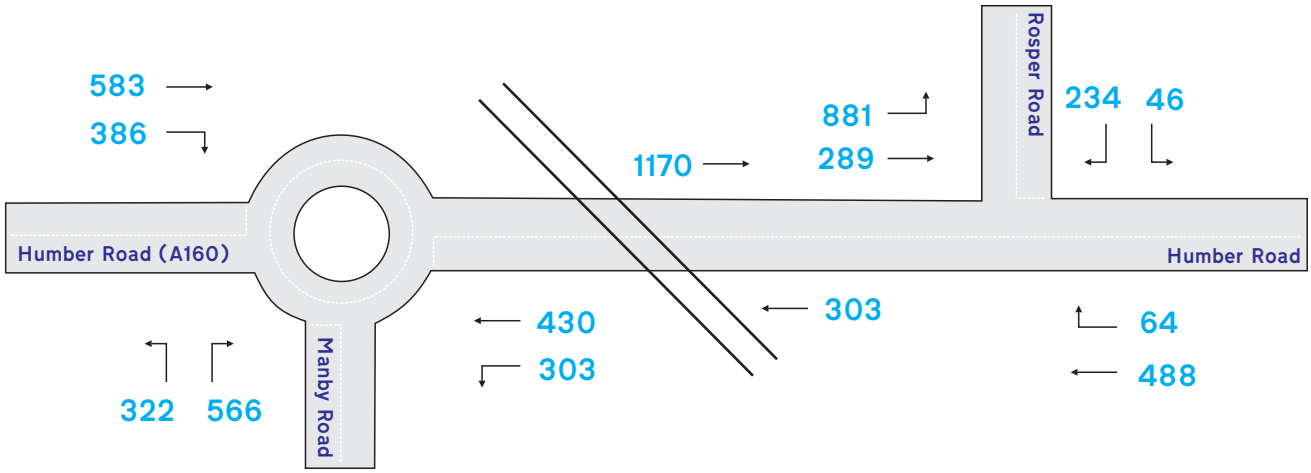
Figure 1	Drawing No : 13204-06
Drawing Title	Existing Able Traffic Flows
Job Title	Able UK
Client	ABP

Scale : NTS

NORTH

AM PEAK (0800-0900)
Able Figure 6.5 -
Base, Committed Development & Marine Energy Parks Flows After Netting Off



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Able Figure 6.6 -
Base, Committed Development & Marine Energy Parks Flows After Netting Off

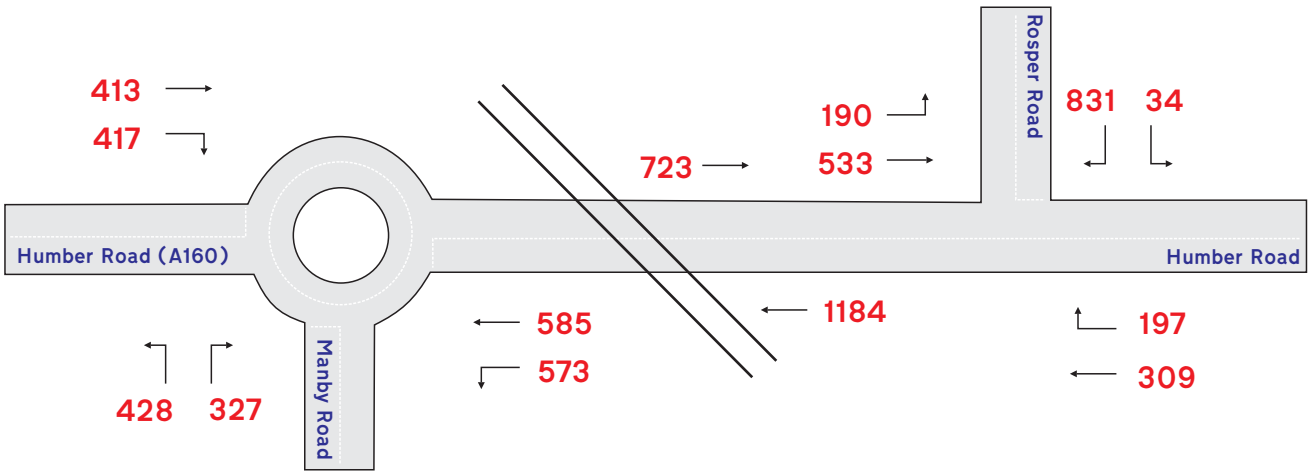

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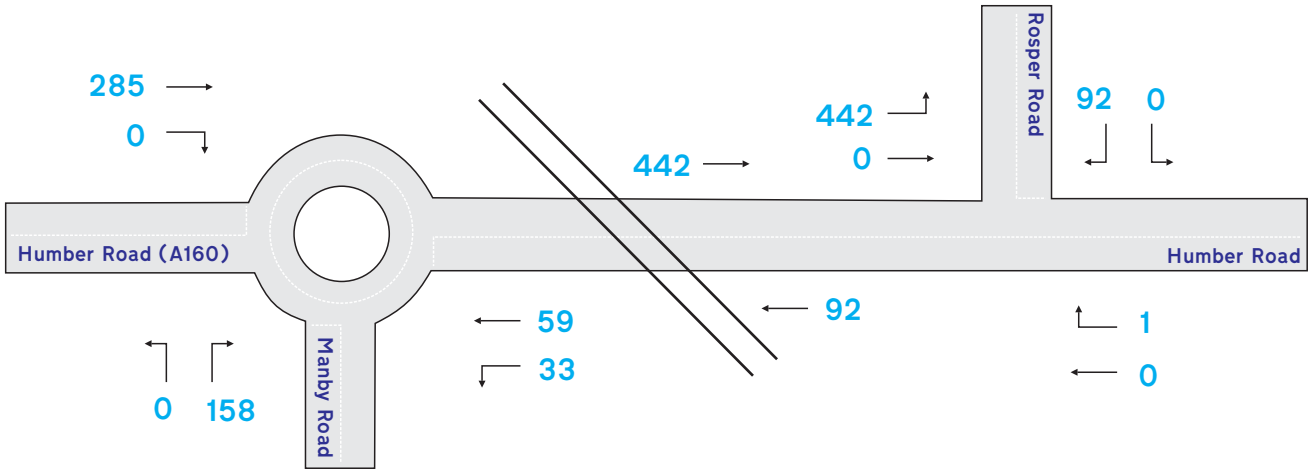
Figure 1	Drawing No : 13204-07
Drawing Title	Existing Able Traffic Flows
Job Title	Able UK
Client	ABP

Scale : NTS

NORTH

AM PEAK (0800-0900)
Able Figure 6.7 -
Development Flows 8-9am Before Netting Off, After Travel Plan Measures



PM PEAK (1700-1800)
Able Figure 6.8 -
Development Flows 5-6pm Before Netting Off, After Travel Plan Measures

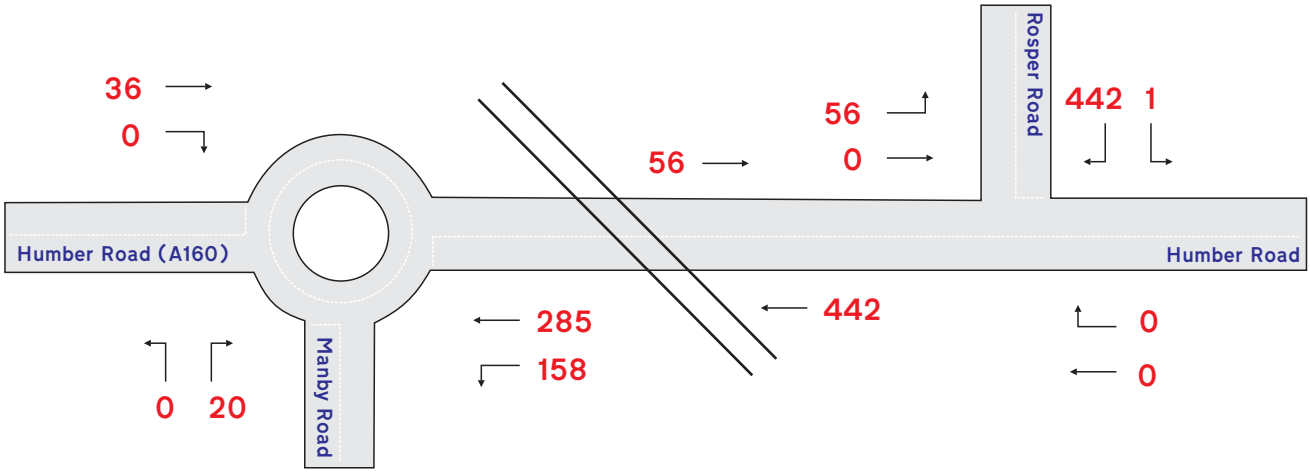


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Figure 1	Drawing No : 13204-08
Drawing Title	Existing Able Traffic Flows
Job Title	Able UK
Client	ABP

Scale : NTS

NORTH

Appendix G

Review of Rosper Road / Humber Road Junction

JMP Traffic Survey - 27/05/10

Am Peak

Car	A	B	C	Total
A	0	29	25	54
B	129	0	138	267
C	8	15	0	23
Total	137	44	163	344

LGV	A	B	C	Total
A	0	14	6	20
B	23	0	30	53
C	2	11	0	13
Total	25	25	36	86

OGV1	A	B	C	Total
A	0	10	2	12
B	27	0	27	54
C	12	14	0	26
Total	39	24	29	92

OGV2	A	B	C	Total
A	0	29	13	42
B	35	0	93	128
C	10	84	0	94
Total	45	113	106	264

Total Vehicles	A	B	C	Total
A	0	82	46	128
B	214	0	288	502
C	32	124	0	156
Total	246	206	334	786

PCUs	A	B	C	Total
A	0	125	64	189
B	273	0	422	695
C	51	240	0	291
Total	324	365	486	1175

Pm Peak

Car	A	B	C	Total
A		146	18	164
B	28		63	91
C	127	174		301
Total	155	320	81	556

LGV	A	B	C	Total
A		10	1	11
B	5		7	12
C	9	12		21
Total	14	22	8	44

OGV1	A	B	C	Total
A		17	2	19
B	6		9	15
C	6	20		26
Total	12	37	11	60

OGV2	A	B	C	Total
A		32	12	44
B	37		90	127
C	14	98		112
Total	51	130	102	283

Total Vehicles	A	B	C	Total
A	0	205	33	238
B	76	0	169	245
C	156	304	0	460
Total	232	509	202	943

PCUs	A	B	C	Total
A	0	255	50	305
B	127	0	291	418
C	177	441	0	619
Total	304	697	340	1341

Further allowance for Port of Immingham, Background Growth and Development Traffic

Allowance for ABP Surveys

Vehicles	A	B	C	Total	**Vehicles**	A	B	C	Total
A			14	14	A			19	19
B			90	90	B			96	96
C	33	126		159	C	64	125		189
Total	33	126	104	263	Total	64	125	115	304

PCUs	A	B	C	Total	**PCUs**	A	B	C	Total
A			20	20	A			28	28
B			132	132	B			165	165
C	52	245		297	C	73	181		254
Total	52	245	151	448	Total	73	181	194	448

Total Base POI Traffic

PCUs	A	B	C	Total	**PCUs**	A	B	C	Total
A			84	84	A			78	78
B			554	554	B			456	456
C	103	485		588	C	250	623		873
Total	103	485	638	1226	Total	250	623	534	1406

Allowance for Port Growth 30% 2020

PCUs	A	B	C	Total	**PCUs**	A	B	C	Total
A			25	25	A			23	23
B			164	164	B			135	135
C	30	143		174	C	74	184		258
Total	30	143	188	362	Total	74	184	158	415

Other Growth

PCUs	A	B	C	Total	**PCUs**	A	B	C	Total
A		44		44	A		505		505
B	174			174	B	179			179
C				0	C				0
Total	174	44	0	218	Total	179	505	0	684

Development Flows

PCUs	A	B	C	Total	**PCUs**	A	B	C	Total
A		116		116	A		556		556
B	556			556	B	70			70
C				0	C				0
Total	556	116	0	672	Total	70	556	0	626

Total Junction Flows

PCUs	A	B	C	Total	**PCUs**	A	B	C	Total
A	0	285	109	393	A	0	1316	101	1417
B	1003	0	718	1721	B	376	0	591	967
C	133	628	0	762	C	324	807	0	1131
Total	1136	913	826	2875	Total	700	2123	691	3514

Junction Flows no dev

PCUs	A	B	C	Total	**PCUs**	A	B	C	Total
A	0	169	109	277	A	0	760	101	861
B	447	0	718	1165	B	306	0	591	897
C	133	628	0	762	C	324	807	0	1131
Total	580	797	826	2203	Total	630	1567	691	2888

Review of Manby Road / Humber Road Junction

JMP Traffic Survey - 26/05/10

Am Peak

Car	A	B	C	D	E	Total
A	4	2	107	133	0	246
B	1	0	0	0	0	1
C	25	0	0	25	0	50
D	76	0	148	4	1	229
E	3	0	0	1	0	4
Total	109	2	255	163	1	530

LGV	A	B	C	D	E	Total
A	3	1	33	30	1	68
B	1	0	0	0	0	1
C	12	0	1	23	0	36
D	45	0	28	2	1	76
E	1	0	0	1		2
Total	62	1	62	56	2	183

OGV1	A	B	C	D	E	Total
A	1	4	16	24	0	45
B	2	0	0	0	0	2
C	5	0	1	10	0	16
D	26	0	21	5	1	53
E	0	0	0	1		1
Total	34	4	38	40	1	117

OGV2	A	B	C	D	E	Total
A	5	0	110	16	1	132
B	1	0	0	0	0	1
C	100	0	0	16	0	116
D	24	0	17	2	1	44
E	0	0	0	1		1
Total	130	0	127	35	2	294

Total	A	B	C	D	E	Total
A	13	7	266	203	2	491
B	5	0	0	0	0	5
C	142	0	2	74	0	218
D	171	0	214	13	4	402
E	4	0	0	4	0	8
Total	335	7	482	294	6	1124

HGV prop	A	B	C	D	E	Total
A	0.384615	0	0.413534	0.078818	0.5	1.376967
B	0.2	0	0	0	0	0.2
C	0.704225	0	0	0.216216	0	0.920442
D	0.140351	0	0.079439	0.153846	0.25	0.623636
E	0	0	0	0.25	0	0.25
Total	1.429192	0	0.492973	0.69888	0.75	

PCUs	A	B	C	D	E	Total
A	20	9	417	236	3	685
B	7	0	0	0	0	7
C	275	0	3	100	0	377
D	215	0	247	18	6	486
E	4	0	0	6	0	10
Total	521	9	666	360	9	1565

Pm Peak

Car	A	B	C	D	E	Total
A	5	0	45	222	0	272
B	0	0	0	0	0	0
C	103	0	0	214	0	317
D	170	0	70	1	0	241
E	1	0	0	9	0	10
Total	279	0	115	446	0	840

LGV	A	B	C	D	E	Total
A	0	0	10	28	0	38
B	1	0	0	0	0	1
C	18	0	0	19	0	37
D	30	0	7	0	0	37
E	0	0	0	1	0	1
Total	49	0	17	48	0	114

OGV1	A	B	C	D	E	Total
A	0	0	10	12	0	22
B	0	0	0	0	0	0
C	26	0	0	21	0	47
D	13	0	4	1	0	18
E	0	0	1	0	0	1
Total	39	0	15	34	0	88

OGV2	A	B	C	D	E	Total
A	2	1	92	16	3	114
B	0	0	0	0	0	0
C	116	0	0	32	0	148
D	23	0	20	0	0	43
E	1	0	1	0	0	2
Total	142	1	113	48	3	307

Total	A	B	C	D	E	Total
A	7	1	157	278	3	446
B	1	0	0	0	0	1
C	263	0	0	286	0	549
D	236	0	101	2	0	339
E	2	0	2	10	0	14
Total	509	1	260	576	3	1349

HGV prop	A	B	C	D	E	Total
A	0.285714	1	0.585987	0.057554	1	2.929256
B	0					0
C	0.441065			0.111888		0.552953
D	0.097458		0.19802	0		0.295477
E	0.5		0.5	0		1
Total	1.324237	1	1.284007	0.169442	1	

PCUs	A	B	C	D	E	Total
A	10	2	282	305	7	605
B	1	0	0	0	0	1
C	427	0	0	338	0	765
D	272	0	129	3	0	404
E	3	0	4	10	0	17
Total	713	2	414	655	7	1792

Further allowance for Port of Immingham, Background Growth and Development Traffic

Additional Allowance for ABP Surveys

PCUs	A	B	C	D	E	Total
A			82			82
B						0
C	178			65		243
D			49			49
E						0
Total	178	0	131	65	0	374

PCUs	A	B	C	D	E	Total
A			112			112
B						0
C	101			80		181
D			51			51
E						0
Total	101	0	164	80	0	345

Total Base POI Traffic

PCUs	A	B	C	D	E	Total
A			347			347
B						0
C	353			128		482
D			205			205
E						0
Total	353	0	552	128	0	1034

PCUs	A	B	C	D	E	Total
A			310			310
B						0
C	347			275		623
D			142			142
E						0
Total	347	0	452	275	0	1074

Allowance for Port Growth 2020

PCUs	A	B	C	D	E	Total
A			102			102
B						0
C	104			38		142
D			61			61
E						0
Total	104	0	163	38	0	305

PCUs	A	B	C	D	E	Total
A			91			91
B						0
C	103			81		184
D			42			42
E						0
Total	103	0	133	81	0	317

Committed Development

PCUs	A	B	C	D	E	Total
A			0	183		183
B						0
C	42			40		82
D	149		174			323
E						0
Total	191	0	174	223	0	588

PCUs	A	B	C	D	E	Total
A			373	427		800
B						0
C	244			281		525
D	532		583			1115
E						0
Total	776	0	956	708	0	2440

Development Flows

PCUs	A	B	C	D	E	Total
A			358			358
B						0
C	75			41		116
D			198			198
E						0
Total	75	0	556	41	0	672

PCUs	A	B	C	D	E	Total
A			45			45
B						0
C	358			198		556
D			25			25
E						0
Total	358	0	70	198	0	626

Total Junction Flows

PCUs	A	B	C	D	E	Total
A	20	9	960	419	3	1411
B	7	0	0	0	0	7
C	674	0	3	284	0	960
D	364	0	728	18	6	1116
E	4	0	0	6	0	10
Total	1070	9	1690	726	9	3504

PCUs	A	B	C	D	E	Total
A	10	2	903	732	7	1654
B	1	0	0	0	0	1
C	1233	0	0	979	0	2211
D	804	0	830	3	0	1637
E	3	0	4	10	0	17
Total	2051	2	1738	1723	7	5521

0.191771

Junction Flows no dev

PCUs	A	B	C	D	E	Total
A	20	9	602	419	3	1053
B	7	0	0	0	0	7
C	599	0	3	243	0	844
D	364	0	530	18	6	918
E	4	0	0	6	0	10
Total	995	9	1134	685	9	2832

PCUs	A	B	C	D	E	Total
A	10	2	858	732	7	1609
B	1	0	0	0	0	1
C	875	0	0	781	0	1655
D	804	0	805	3	0	1612
E	3	0	4	10	0	17
Total	1693	2	1668	1525	7	4895

Appendix H

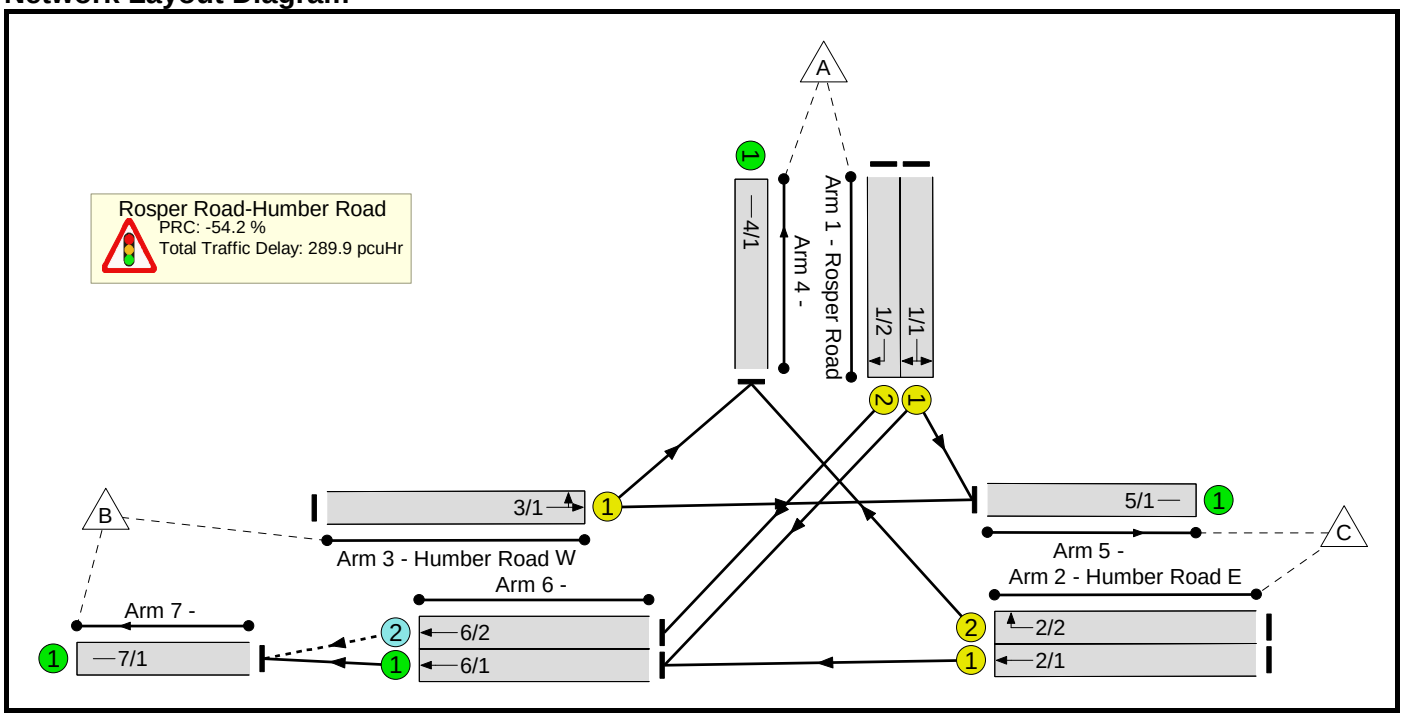
Basic Results Summary

User and Project Details

Project:	**Immingham**
Title:	**Rosper Road/Humber Road**
Location:	
File name:	Rosper Rd-Humber Rd.lsg3x
Author:	Jacqueline Samuel
Company:	David Tucker Associates
Address:	
Notes:	

Scenario 1: 'Scenario 1' (FG6: 'DTA Overall Junction Flows AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Rosper Road/Humber Road	-	-	-		-	-	-	-	-	-	**138.8%**	**197**	**0**	**0**	**289.9**	-	-
Rosper Road-Humber Road	-	-	-		-	-	-	-	-	-	**138.8%**	**197**	**0**	**0**	**289.9**	-	-
1/1	Rosper Road Left Right	U	A		1	9	-	197	1839	204	96.4%	-	-	-	7.6	138.9	10.3
1/2	Rosper Road Right	U	A		1	9	-	197	1871	208	94.8%	-	-	-	7.0	127.6	9.7
2/1	Humber Road E Ahead	U	B		1	71	-	628	1905	1524	41.2%	-	-	-	0.8	4.7	4.9
2/2	Humber Road E Right	U	D		1	7	-	133	1766	157	84.7%	-	-	-	3.8	103.3	5.6
3/1	Humber Road W Left Ahead	U	C		1	59	-	1721	1860	1240	138.8%	-	-	-	269.6	564.1	298.4
6/1	Ahead	U	-		-	-	-	716	2115	2115	33.9%	-	-	-	0.3	1.3	0.3
6/2	Ahead	O	-		-	-	-	197	1800	557	35.3%	197	0	0	0.8	15.0	5.2

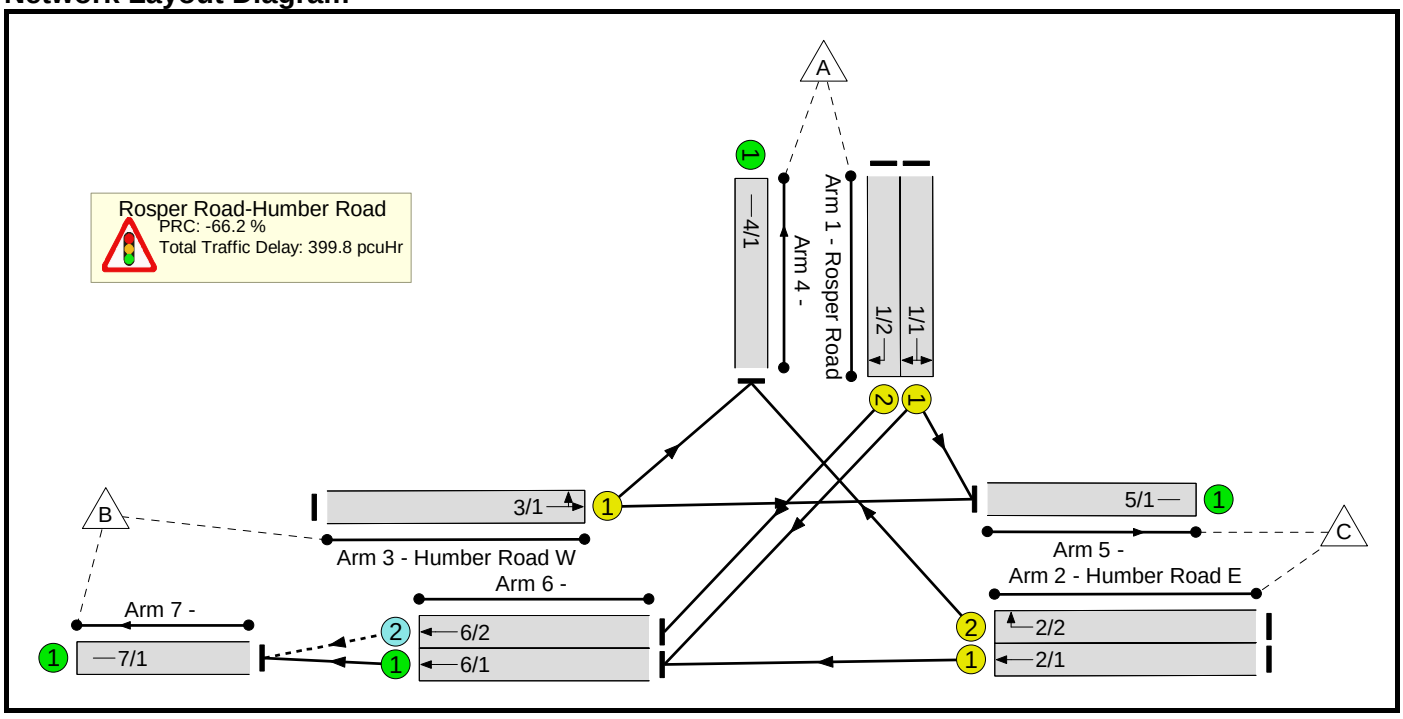
C1 PRC for Signalled Lanes (%): -54.2 Total Delay for Signalled Lanes (pcuHr): 288.86 Cycle Time (s): 90

PRC Over All Lanes (%): -54.2 Total Delay Over All Lanes(pcuHr): 289.94

Basic Results Summary

Scenario 2: 'New Scenario' (FG7: 'DTA Overall Junction Flows PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Rosper Road/Humber Road	-	-	-		-	-	-	-	-	-	**149.6%**	**443**	**0**	**0**	**399.8**	-	-
Rosper Road-Humber Road	-	-	-		-	-	-	-	-	-	**149.6%**	**443**	**0**	**0**	**399.8**	-	-
1/1	Rosper Road Left Right	U	A		1	23	-	746	1870	499	149.6%	-	-	-	145.0	699.8	155.6
1/2	Rosper Road Right	U	A		1	23	-	671	1871	499	134.5%	-	-	-	103.1	553.4	112.8
2/1	Humber Road E Ahead	U	B		1	57	-	807	1905	1228	65.7%	-	-	-	3.2	14.1	13.3
2/2	Humber Road E Right	U	D		1	11	-	324	1766	235	137.6%	-	-	-	52.5	583.6	56.3
3/1	Humber Road W Left Ahead	U	C		1	41	-	967	1897	885	109.2%	-	-	-	56.0	208.5	72.3
6/1	Ahead	U	-		-	-	-	1452	2115	2115	58.5%	-	-	-	0.7	2.0	0.7
6/2	Ahead	O	-		-	-	-	671	1800	443	112.7%	443	0	0	39.2	282.7	65.1

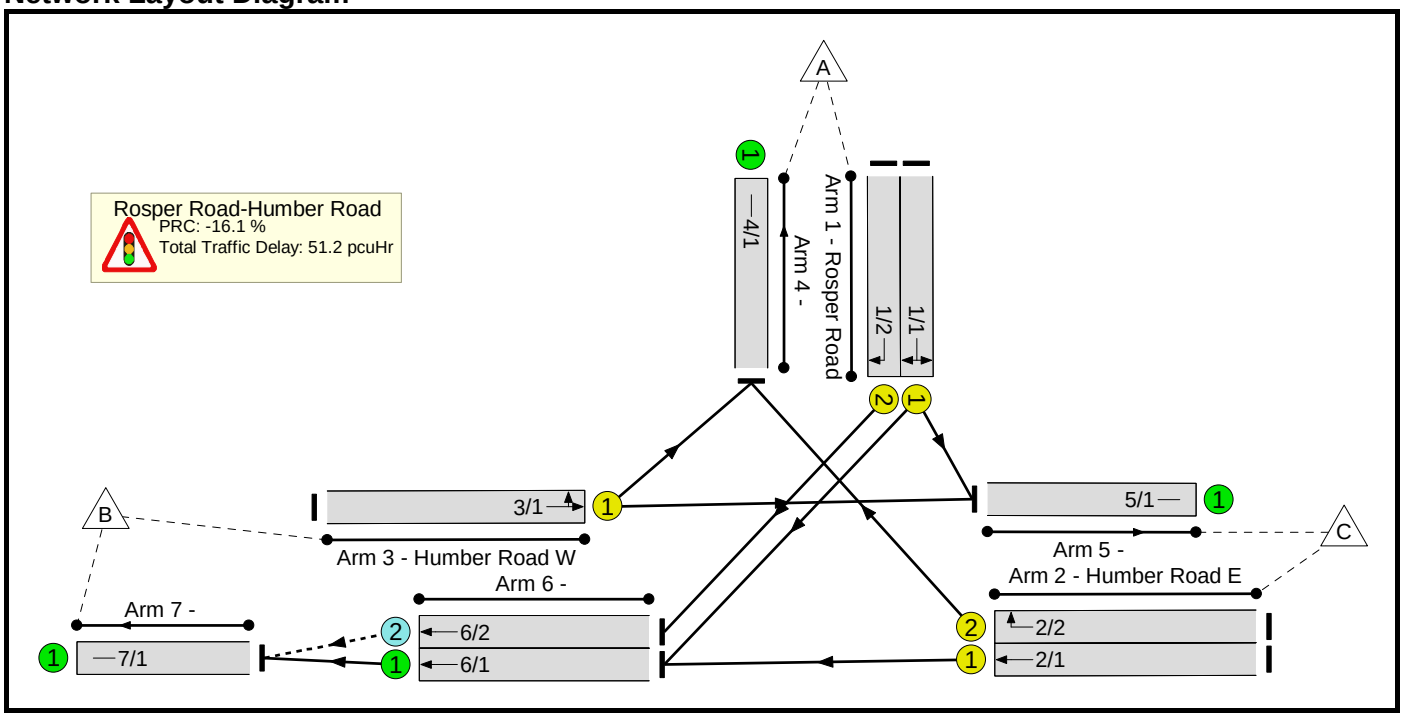
C1 PRC for Signalled Lanes (%): -66.2 Total Delay for Signalled Lanes (pcuHr): 359.87 Cycle Time (s): 90

PRC Over All Lanes (%): -66.2 Total Delay Over All Lanes(pcuHr): 399.77

Basic Results Summary

Scenario 3: 'New Scenario' (FG1: 'DTA No Dev Scenario AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

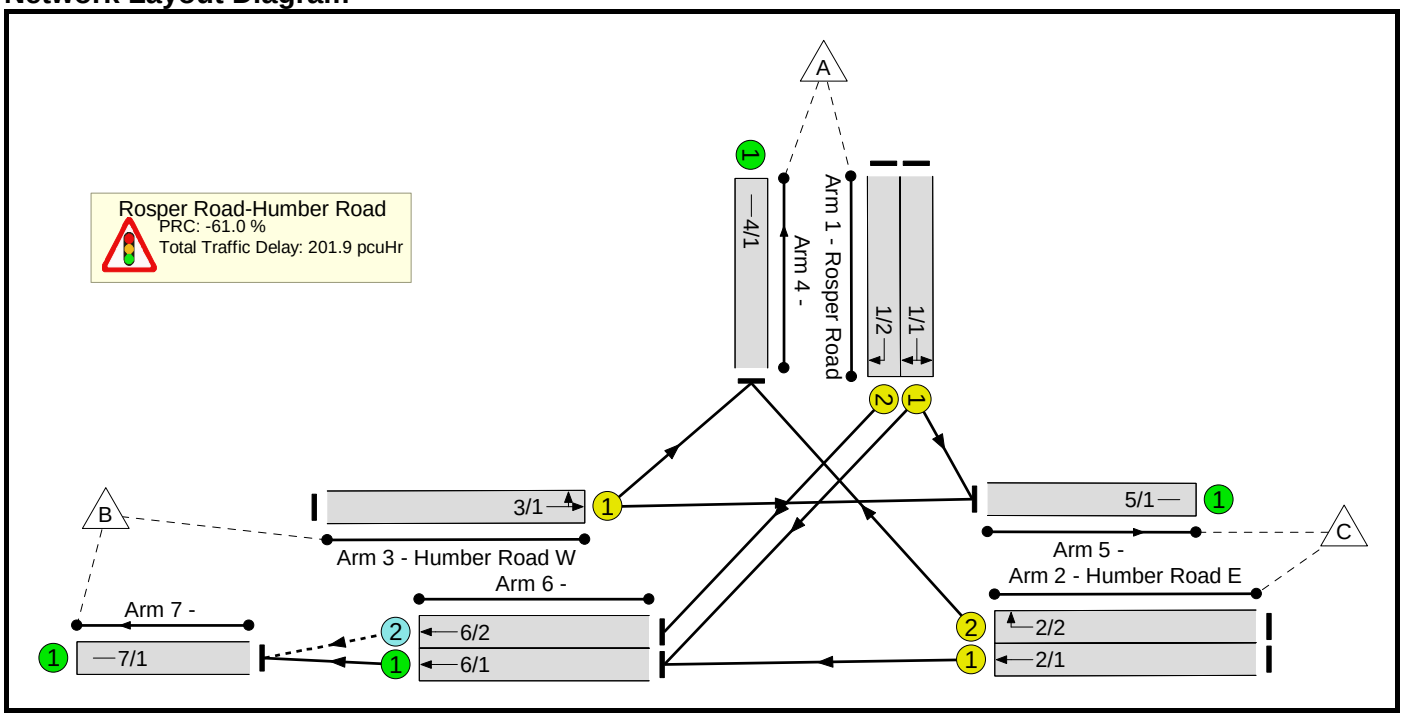
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Rosper Road/Humber Road	-	-	-		-	-	-	-	-	-	**104.5%**	**152**	**0**	**0**	**51.2**	-	-
Rosper Road-Humber Road	-	-	-		-	-	-	-	-	-	**104.5%**	**152**	**0**	**0**	**51.2**	-	-
1/1	Rosper Road Left Right	U	A		1	7	-	150	1814	161	93.0%	-	-	-	5.6	135.0	7.6
1/2	Rosper Road Right	U	A		1	7	-	152	1871	166	91.4%	-	-	-	5.3	124.7	7.3
2/1	Humber Road E Ahead	U	B		1	73	-	722	1905	1566	46.1%	-	-	-	0.9	4.4	5.4
2/2	Humber Road E Right	U	D		1	7	-	164	1766	157	104.5%	-	-	-	10.5	229.7	12.7
3/1	Humber Road W Left Ahead	U	C		1	61	-	1329	1907	1314	101.2%	-	-	-	28.2	76.4	56.1
6/1	Ahead	U	-		-	-	-	739	2115	2115	34.9%	-	-	-	0.3	1.3	0.3
6/2	Ahead	O	-		-	-	-	152	1800	552	27.5%	152	0	0	0.4	10.1	4.0

	C1	PRC for Signalled Lanes (%):	-16.1	Total Delay for Signalled Lanes (pcuHr):	50.46	Cycle Time (s):	90		
		PRC Over All Lanes (%):	-16.1	Total Delay Over All Lanes(pcuHr):	51.16				

Basic Results Summary

Scenario 4: 'New Scenario' (FG2: 'DTA No Dev Scenario PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

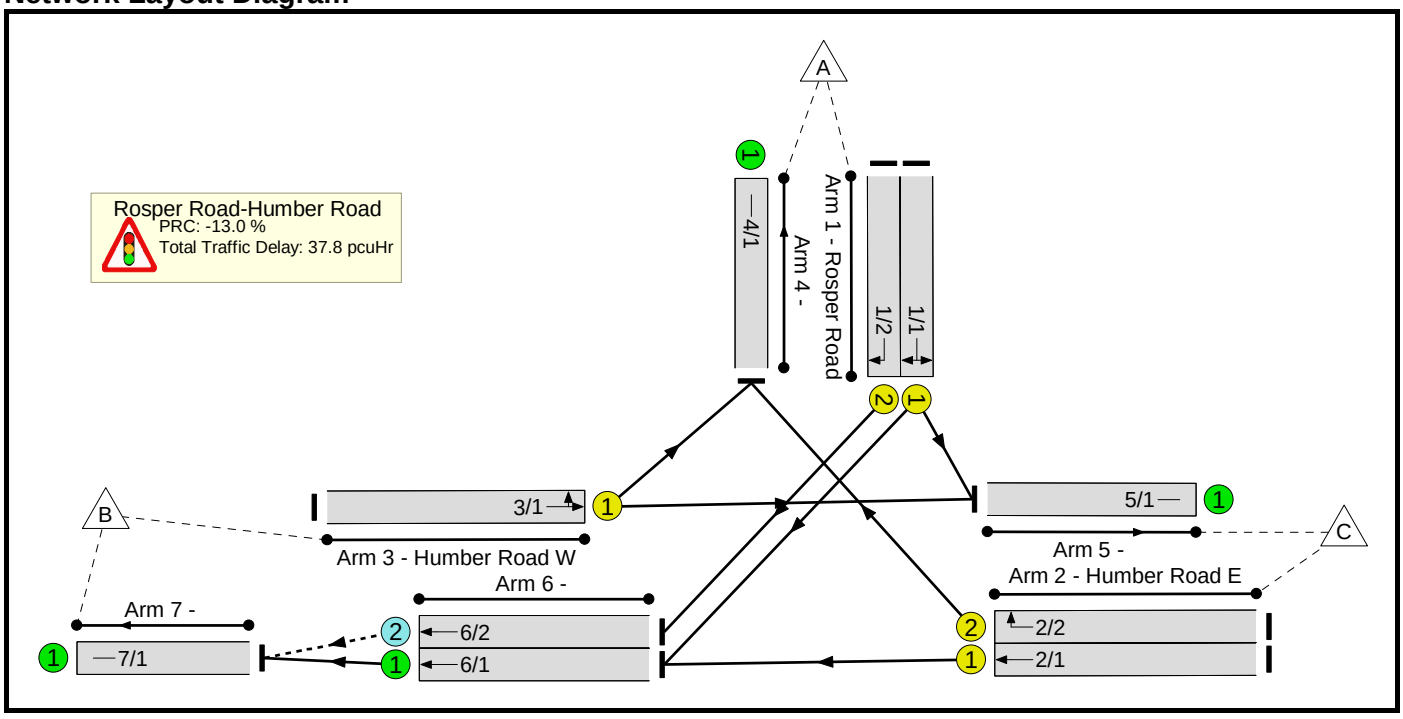
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Rosper Road/Humber Road	-	-	-		-	-	-	-	-	-	**144.9%**	**416**	**0**	**0**	**201.9**	-	-
Rosper Road-Humber Road	-	-	-		-	-	-	-	-	-	**144.9%**	**416**	**0**	**0**	**201.9**	-	-
1/1	Rosper Road Left Right	U	A		1	19	-	450	1860	413	108.9%	-	-	-	29.5	235.8	35.9
1/2	Rosper Road Right	U	A		1	19	-	434	1871	416	104.4%	-	-	-	21.1	175.0	27.3
2/1	Humber Road E Ahead	U	B		1	61	-	992	1905	1312	75.6%	-	-	-	4.0	14.7	17.5
2/2	Humber Road E Right	U	D		1	13	-	398	1766	275	144.9%	-	-	-	72.2	653.4	77.0
3/1	Humber Road W Left Ahead	U	C		1	43	-	1032	1915	936	110.2%	-	-	-	63.4	221.2	81.0
6/1	Ahead	U	-		-	-	-	1318	2115	2115	61.1%	-	-	-	0.8	2.2	0.8
6/2	Ahead	O	-		-	-	-	434	1800	431	96.5%	416	0	0	10.9	94.3	17.5

C1 PRC for Signalled Lanes (%): -61.0 PRC Over All Lanes (%): -61.0 Total Delay for Signalled Lanes (pcuHr): 190.24 Total Delay Over All Lanes(pcuHr): 201.92 Cycle Time (s): 90

Basic Results Summary

Scenario 5: 'New Scenario' (FG3: 'JMP Assessment AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

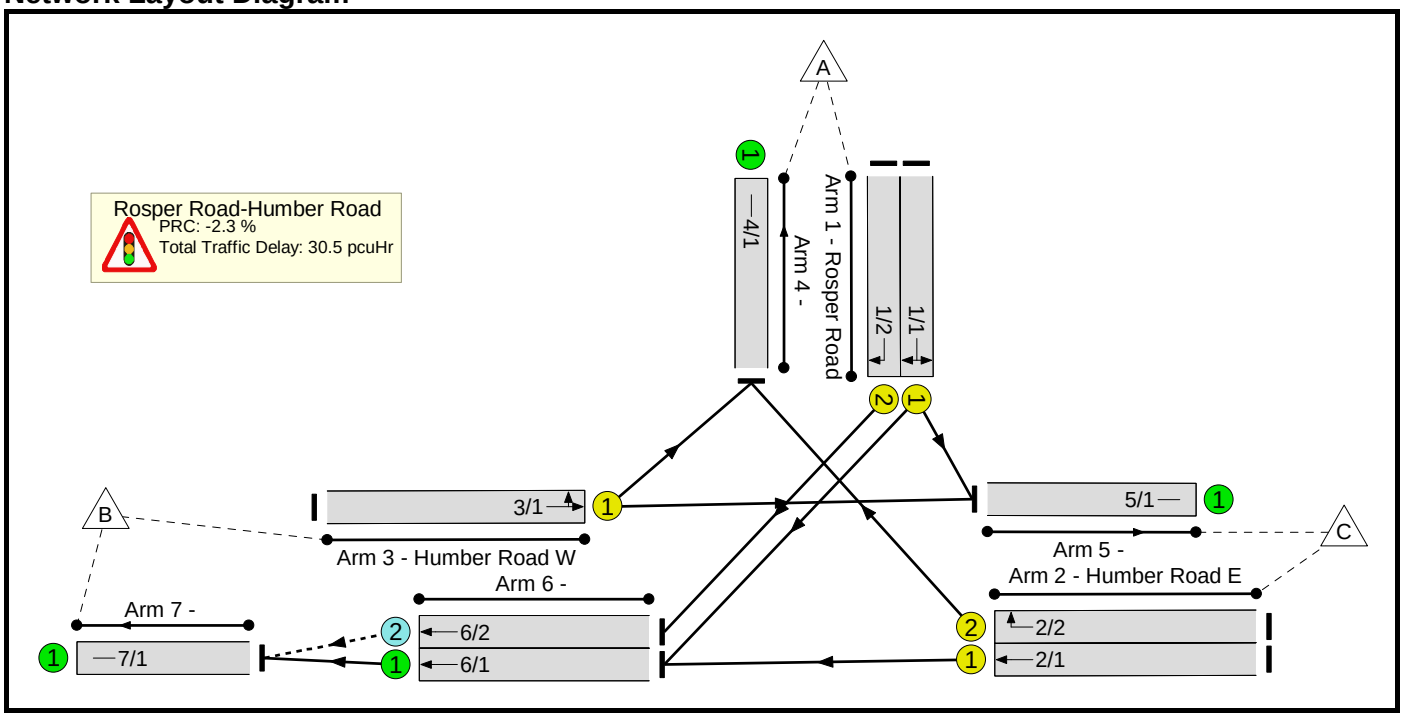
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Rosper Road/Humber Road	-	-	-		-	-	-	-	-	-	**101.7%**	**125**	**0**	**0**	**37.8**	-	-
Rosper Road-Humber Road	-	-	-		-	-	-	-	-	-	**101.7%**	**125**	**0**	**0**	**37.8**	-	-
1/1	Rosper Road Left Right	U	A		1	7	-	131	1848	164	79.7%	-	-	-	3.2	89.1	5.0
1/2	Rosper Road Right	U	A		1	7	-	125	1871	166	75.2%	-	-	-	2.8	80.8	4.4
2/1	Humber Road E Ahead	U	B		1	73	-	488	1905	1566	31.2%	-	-	-	0.5	3.6	3.1
2/2	Humber Road E Right	U	D		1	7	-	64	1766	157	40.8%	-	-	-	1.0	58.0	1.9
3/1	Humber Road W Left Ahead	U	C		1	61	-	1279	1826	1258	101.7%	-	-	-	29.7	83.7	56.4
6/1	Ahead	U	-		-	-	-	563	2115	2115	26.6%	-	-	-	0.2	1.2	0.2
6/2	Ahead	O	-		-	-	-	125	1800	591	21.1%	125	0	0	0.3	9.0	3.3

C1 PRC for Signalled Lanes (%): -13.0 PRC Over All Lanes (%): -13.0 Total Delay for Signalled Lanes (pcuHr): 37.29 Total Delay Over All Lanes(pcuHr): 37.78 Cycle Time (s): 90

Basic Results Summary

Scenario 6: 'New Scenario' (FG4: 'JMP Assessment PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Rosper Road/Humber Road	-	-	-		-	-	-	-	-	-	**92.1%**	**380**	**0**	**0**	**30.5**	-	-
Rosper Road-Humber Road	-	-	-		-	-	-	-	-	-	**92.1%**	**380**	**0**	**0**	**30.5**	-	-
1/1	Rosper Road Left Right	U	A		1	29	-	548	1867	622	88.1%	-	-	-	7.7	50.5	16.2
1/2	Rosper Road Right	U	A		1	29	-	380	1871	624	60.9%	-	-	-	3.4	32.4	8.7
2/1	Humber Road E Ahead	U	B		1	51	-	309	1905	1101	28.1%	-	-	-	1.0	11.9	4.1
2/2	Humber Road E Right	U	D		1	11	-	197	1766	235	83.7%	-	-	-	4.4	79.9	7.0
3/1	Humber Road W Left Ahead	U	C		1	35	-	709	1925	770	92.1%	-	-	-	10.0	51.0	21.7
6/1	Ahead	U	-		-	-	-	757	2115	2115	35.8%	-	-	-	0.3	1.3	0.3
6/2	Ahead	O	-		-	-	-	380	1800	548	69.3%	380	0	0	3.7	35.1	10.6

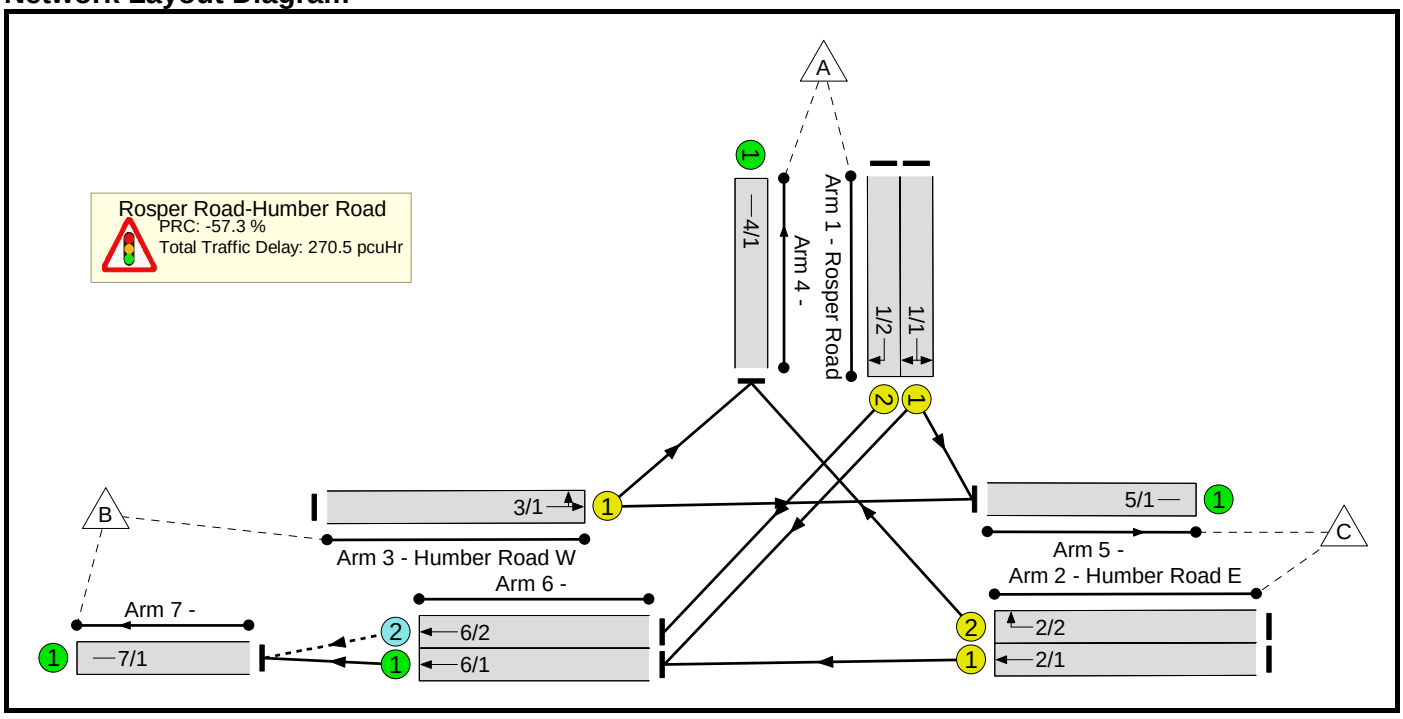
C1 PRC for Signalled Lanes (%): -2.3 Total Delay for Signalled Lanes (pcuHr): 26.55 Cycle Time (s): 90

PRC Over All Lanes (%): -2.3 Total Delay Over All Lanes(pcuHr): 30.53

Basic Results Summary

Scenario 7: 'New Scenario' (FG5: 'Base+Dev (No port growth)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Rosper Road/Humber Road	-	-	-		-	-	-	-	-	-	**141.6%**	**446**	**0**	**0**	**270.5**	-	-
Rosper Road-Humber Road	-	-	-		-	-	-	-	-	-	**141.6%**	**446**	**0**	**0**	**270.5**	-	-
1/1	Rosper Road Left Right	U	A		1	31	-	799	1873	666	120.0%	-	-	-	83.0	373.9	95.4
1/2	Rosper Road Right	U	A		1	31	-	595	1871	665	89.4%	-	-	-	8.3	50.5	17.9
2/1	Humber Road E Ahead	U	B		1	49	-	623	1905	1058	58.9%	-	-	-	3.0	17.3	10.9
2/2	Humber Road E Right	U	D		1	8	-	250	1766	177	141.6%	-	-	-	43.8	630.0	46.4
3/1	Humber Road W Left Ahead	U	C		1	36	-	832	1885	775	107.4%	-	-	-	43.1	186.6	56.8
6/1	Ahead	U	-		-	-	-	1344	2115	2115	57.9%	-	-	-	0.7	2.0	0.7
6/2	Ahead	O	-		-	-	-	595	1800	446	133.5%	446	0	0	88.6	535.8	118.6

C1 PRC for Signalled Lanes (%): -57.3 Total Delay for Signalled Lanes (pcuHr): 181.22 Cycle Time (s): 90

PRC Over All Lanes (%): -57.3 Total Delay Over All Lanes(pcuHr): 270.46

Appendix I

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

For sales and distribution information, program advice and maintenance, contact TRL:

[redacted]

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: (new file)
Path:
Report generation date: 22/06/2012 11:27:31

Summary of junction performance

	AM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - JMP Assessment Flows				
A160 Humber Rd	1.43	4.49	0.57	A	3.67
Industrial Units	0.00	2.21	0.00	A	
Humber Rd	0.71	3.27	0.39	A	
A1173 Manby Rd	0.86	3.05	0.44	A	
Depot	0.01	5.71	0.01	A	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D1 - JMP Assessment Flows, AM " model duration: 07:45 - 09:15
"D2 - JMP Assessment Flows, PM" model duration: 16:45 - 18:15
"D3 - JMP Assessment Flows Corrected HGV's, AM" model duration: 07:45 - 09:15
"D4 - JMP Assessment Flows Corrected HGV's, PM" model duration: 16:45 - 18:15
"D5 - DTA Revised Base, AM" model duration: 07:45 - 09:15
"D6 - DTA Revised Base, PM" model duration: 16:45 - 18:15
"D7 - DTA Revised Base + DEV, AM" model duration: 07:45 - 09:15
"D8 - DTA Revised Base + DEV, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.1.305 at 22/06/2012 11:27:25

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	08/06/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DTA\davidbarnby
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - JMP Assessment Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Humber Rd - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A160 Humber Rd	0.57	4.49	1.43	A	961.66	1442.49	87.84	3.65	0.98	87.84	3.65
Industrial Units	0.00	2.21	0.00	A	5.51	8.26	0.28	2.02	0.00	0.28	2.02
Humber Rd	0.39	3.27	0.71	A	650.59	975.89	47.57	2.92	0.53	47.57	2.92
A1173 Manby Rd	0.44	3.05	0.86	A	853.38	1280.08	57.07	2.67	0.63	57.07	2.67
Depot	0.01	5.71	0.01	A	7.34	11.01	0.93	5.09	0.01	0.93	5.09

Main Results for each time segment

Main results: (07:45-08:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	788.99	197.25	786.47	559.34	457.31	0.00	2159.01	1822.94	0.365	0.00	0.63	2.880	A
Industrial Units	4.52	1.13	4.51	5.25	1238.52	0.00	2174.70	1132.02	0.002	0.00	0.00	1.823	A
Humber Rd	533.77	133.44	532.25	944.35	298.68	0.00	2065.77	1245.22	0.258	0.00	0.38	2.580	A
A1173 Manby Rd	700.15	175.04	698.36	514.88	316.05	0.00	2411.81	1598.94	0.290	0.00	0.45	2.309	A
Depot	6.02	1.51	5.99	3.75	1010.65	0.00	889.81	0.00	0.007	0.00	0.01	4.480	A

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	942.13	235.53	941.12	669.25	547.09	0.00	2107.24	1822.94	0.447	0.63	0.88	3.392	A
Industrial Units	5.39	1.35	5.39	6.29	1481.92	0.00	2017.30	1132.02	0.003	0.00	0.00	1.968	A
Humber Rd	637.38	159.34	636.90	1129.90	357.41	0.00	2033.82	1245.22	0.313	0.38	0.50	2.835	A
A1173 Manby Rd	836.05	209.01	835.46	616.13	378.19	0.00	2374.61	1598.94	0.352	0.45	0.60	2.573	A
Depot	7.19	1.80	7.18	4.49	1209.16	0.00	810.76	0.00	0.009	0.01	0.01	4.927	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1153.87	288.47	1151.72	819.40	669.82	0.00	2036.48	1822.94	0.567	0.88	1.42	4.465	A
Industrial Units	6.61	1.65	6.60	7.69	1813.84	0.00	1802.66	1132.02	0.004	0.00	0.00	2.204	A
Humber Rd	780.62	195.16	779.80	1383.05	437.40	0.00	1990.30	1245.22	0.392	0.50	0.71	3.270	A
A1173 Manby Rd	1023.95	255.99	1022.88	754.16	463.04	0.00	2323.81	1598.93	0.441	0.60	0.86	3.041	A
Depot	8.81	2.20	8.79	5.50	1480.43	0.00	702.74	0.00	0.013	0.01	0.01	5.706	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1153.87	288.47	1153.84	820.25	670.51	0.00	2036.08	1822.94	0.567	1.42	1.43	4.488	A
Industrial Units	6.61	1.65	6.61	7.71	1816.64	0.00	1800.85	1132.02	0.004	0.00	0.00	2.206	A
Humber Rd	780.62	195.16	780.61	1385.06	438.19	0.00	1989.87	1245.22	0.392	0.71	0.71	3.273	A
A1173 Manby Rd	1023.95	255.99	1023.94	755.28	463.52	0.00	2323.52	1598.93	0.441	0.86	0.86	3.046	A
Depot	8.81	2.20	8.81	5.51	1481.96	0.00	702.13	0.00	0.013	0.01	0.01	5.711	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	942.13	235.53	944.27	670.59	548.17	0.00	2106.62	1822.94	0.447	1.43	0.90	3.414	A

Industrial Units	5.39	1.35	5.40	6.31	1486.13	0.00	2014.58	1132.02	0.003	0.00	0.00	1.972	A
Humber Rd	637.38	159.34	638.19	1132.93	358.60	0.00	2033.17	1245.22	0.313	0.71	0.50	2.842	A
A1173 Manby Rd	836.05	209.01	837.11	617.83	378.95	0.00	2374.15	1598.94	0.352	0.86	0.60	2.577	A
Depot	7.19	1.80	7.21	4.50	1211.56	0.00	809.81	0.00	0.009	0.01	0.01	4.935	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	788.99	197.25	790.02	561.37	458.88	0.00	2158.11	1822.94	0.366	0.90	0.64	2.896	A
Industrial Units	4.52	1.13	4.52	5.28	1243.63	0.00	2171.40	1132.02	0.002	0.00	0.00	1.826	A
Humber Rd	533.77	133.44	534.25	948.12	300.03	0.00	2065.04	1245.22	0.258	0.50	0.38	2.587	A
A1173 Manby Rd	700.15	175.04	700.75	517.04	317.23	0.00	2411.10	1598.94	0.290	0.60	0.45	2.317	A
Depot	6.02	1.51	6.03	3.77	1014.21	0.00	888.39	0.00	0.007	0.01	0.01	4.489	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	9.26	0.62	2.880	A	A
Industrial Units	0.03	0.00	1.823	A	A
Humber Rd	5.63	0.38	2.580	A	A
A1173 Manby Rd	6.62	0.44	2.309	A	A
Depot	0.11	0.01	4.480	A	A

Queueing Delay results: (08:00-08:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	13.00	0.87	3.392	A	A
Industrial Units	0.04	0.00	1.968	A	A
Humber Rd	7.39	0.49	2.835	A	A
A1173 Manby Rd	8.81	0.59	2.573	A	A
Depot	0.14	0.01	4.927	A	A

Queueing Delay results: (08:15-08:30)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	20.70	1.38	4.465	A	A
Industrial Units	0.06	0.00	2.204	A	A
Humber Rd	10.40	0.69	3.270	A	A
A1173 Manby Rd	12.69	0.85	3.041	A	A
Depot	0.20	0.01	5.706	A	A

Queueing Delay results: (08:30-08:45)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	21.41	1.43	4.488	A	A
Industrial Units	0.06	0.00	2.206	A	A
Humber Rd	10.61	0.71	3.273	A	A

A1173 Manby Rd	12.95	0.86	3.046	A	A
Depot	0.21	0.01	5.711	A	A

Queueing Delay results: (08:45-09:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	13.75	0.92	3.414	A	A
Industrial Units	0.04	0.00	1.972	A	A
Humber Rd	7.69	0.51	2.842	A	A
A1173 Manby Rd	9.15	0.61	2.577	A	A
Depot	0.15	0.01	4.935	A	A

Queueing Delay results: (09:00-09:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	9.72	0.65	2.896	A	A
Industrial Units	0.03	0.00	1.826	A	A
Humber Rd	5.85	0.39	2.587	A	A
A1173 Manby Rd	6.86	0.46	2.317	A	A
Depot	0.11	0.01	4.489	A	A

(Default Analysis Set) - JMP Assessment Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Humber Rd - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A160 Humber Rd	0.41	3.04	0.77	A	757.03	1135.55	51.31	2.71	0.57	51.31	2.71
Industrial Units	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humber Rd	0.67	6.02	2.18	A	1094.72	1642.08	126.67	4.63	1.41	126.68	4.63
A1173 Manby Rd	0.38	2.87	0.66	A	689.13	1033.70	44.02	2.56	0.49	44.02	2.56
Depot	0.02	5.77	0.02	A	12.85	19.27	1.65	5.13	0.02	1.65	5.13

Main Results for each time segment

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	621.10	155.28	619.46	771.42	250.81	0.00	2278.08	1758.67	0.273	0.00	0.41	2.385	A
Industrial Units	0.00	0.00	0.00	0.75	869.51	0.00	2413.32	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	898.15	224.54	894.75	546.66	322.85	0.00	2052.62	1136.48	0.438	0.00	0.85	3.410	A
A1173 Manby Rd	565.39	141.35	563.99	766.85	450.75	0.00	2331.17	1804.43	0.243	0.00	0.35	2.238	A
Depot	10.54	2.63	10.49	3.00	1011.74	0.00	889.38	147.49	0.012	0.00	0.01	4.505	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	741.66	185.41	741.15	923.12	300.06	0.00	2249.68	1758.67	0.330	0.41	0.54	2.625	A
Industrial Units	0.00	0.00	0.00	0.90	1040.30	0.00	2302.88	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	1072.48	268.12	1070.94	654.01	386.29	0.00	2018.11	1136.48	0.531	0.85	1.24	4.174	A
A1173 Manby Rd	675.13	168.78	674.69	917.72	539.51	0.00	2278.04	1804.43	0.296	0.35	0.46	2.470	A
Depot	12.59	3.15	12.57	3.59	1210.61	0.00	810.19	147.49	0.016	0.01	0.02	4.964	A

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	908.34	227.09	907.45	1129.56	367.38	0.00	2210.86	1758.67	0.411	0.54	0.76	3.037	A
Industrial Units	0.00	0.00	0.00	1.10	1273.73	0.00	2151.93	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	1313.52	328.38	1309.84	800.77	472.96	0.00	1970.95	1136.48	0.666	1.24	2.16	5.956	A
A1173 Manby Rd	826.87	206.72	826.09	1122.93	659.86	0.00	2205.99	1804.43	0.375	0.46	0.66	2.868	A
Depot	15.41	3.85	15.39	4.40	1481.55	0.00	702.29	147.49	0.022	0.02	0.02	5.764	A

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	908.34	227.09	908.33	1131.80	367.74	0.00	2210.66	1758.67	0.411	0.76	0.77	3.040	A
Industrial Units	0.00	0.00	0.00	1.10	1274.97	0.00	2151.13	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	1313.52	328.38	1313.43	801.54	473.43	0.00	1970.70	1136.48	0.667	2.16	2.18	6.022	A
A1173 Manby Rd	826.87	206.72	826.86	1125.20	661.67	0.00	2204.91	1804.43	0.375	0.66	0.66	2.873	A
Depot	15.41	3.85	15.41	4.40	1484.13	0.00	701.27	147.49	0.022	0.02	0.02	5.773	A

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	741.66	185.41	742.54	926.43	300.61	0.00	2249.36	1758.67	0.330	0.77	0.54	2.631	A

Industrial Units	0.00	0.00	0.00	0.90	1042.26	0.00	2301.61	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	1072.48	268.12	1076.15	655.23	387.03	0.00	2017.70	1136.48	0.532	2.18	1.26	4.221	A
A1173 Manby Rd	675.13	168.78	675.90	921.05	542.13	0.00	2276.47	1804.43	0.297	0.66	0.47	2.476	A
Depot	12.59	3.15	12.61	3.60	1214.43	0.00	808.66	147.49	0.016	0.02	0.02	4.976	A

Main results: (18:00-18:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	621.10	155.28	621.62	774.99	251.66	0.00	2277.59	1758.67	0.273	0.54	0.41	2.393	A
Industrial Units	0.00	0.00	0.00	0.75	872.53	0.00	2411.37	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	898.15	224.54	899.75	548.52	324.00	0.00	2051.99	1136.48	0.438	1.26	0.86	3.440	A
A1173 Manby Rd	565.39	141.35	565.84	770.48	453.26	0.00	2329.67	1804.43	0.243	0.47	0.35	2.247	A
Depot	10.54	2.63	10.56	3.01	1016.09	0.00	887.65	147.49	0.012	0.02	0.01	4.514	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	6.06	0.40	2.385	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	12.42	0.83	3.410	A	A
A1173 Manby Rd	5.19	0.35	2.238	A	A
Depot	0.19	0.01	4.505	A	A

Queueing Delay results: (17:00-17:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	7.97	0.53	2.625	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	18.07	1.20	4.174	A	A
A1173 Manby Rd	6.84	0.46	2.470	A	A
Depot	0.25	0.02	4.964	A	A

Queueing Delay results: (17:15-17:30)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	11.25	0.75	3.037	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	30.94	2.06	5.956	A	A
A1173 Manby Rd	9.69	0.65	2.868	A	A
Depot	0.36	0.02	5.764	A	A

Queueing Delay results: (17:30-17:45)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	11.46	0.76	3.040	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	32.53	2.17	6.022	A	A

A1173 Manby Rd	9.86	0.66	2.873	A	A
Depot	0.37	0.02	5.773	A	A

Queueing Delay results: (17:45-18:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	8.28	0.55	2.631	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	19.50	1.30	4.221	A	A
A1173 Manby Rd	7.08	0.47	2.476	A	A
Depot	0.27	0.02	4.976	A	A

Queueing Delay results: (18:00-18:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	6.29	0.42	2.393	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	13.21	0.88	3.440	A	A
A1173 Manby Rd	5.37	0.36	2.247	A	A
Depot	0.20	0.01	4.514	A	A

(Default Analysis Set) - JMP Assessment Flows Corrected HGV's, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Humber Rd - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A160 Humber Rd	0.57	5.16	1.64	A	961.66	1442.49	100.95	4.20	1.12	100.96	4.20
Industrial Units	0.00	2.33	0.00	A	5.51	8.26	0.29	2.13	0.00	0.29	2.13
Humber Rd	0.39	4.35	0.94	A	650.59	975.89	63.04	3.88	0.70	63.05	3.88
A1173 Manby Rd	0.44	3.05	0.86	A	853.38	1280.08	57.06	2.67	0.63	57.06	2.67
Depot	0.01	5.77	0.01	A	7.34	11.01	0.94	5.14	0.01	0.94	5.14

Main Results for each time segment

Main results: (07:45-08:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	788.99	197.25	786.09	559.05	457.31	0.00	2159.01	1822.94	0.365	0.00	0.72	3.312	A
Industrial Units	4.52	1.13	4.51	5.25	1238.15	0.00	2174.94	1132.02	0.002	0.00	0.00	1.925	A
Humber Rd	533.77	133.44	531.75	944.12	298.54	0.00	2065.85	1245.22	0.258	0.00	0.51	3.422	A
A1173 Manby Rd	700.15	175.04	698.36	514.53	315.76	0.00	2411.98	1598.94	0.290	0.00	0.45	2.309	A
Depot	6.02	1.51	5.99	3.75	1010.36	0.00	889.93	0.00	0.007	0.00	0.01	4.524	A

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	942.13	235.53	940.97	669.16	547.09	0.00	2107.24	1822.94	0.447	0.72	1.02	3.903	A
Industrial Units	5.39	1.35	5.39	6.29	1481.77	0.00	2017.40	1132.02	0.003	0.00	0.00	2.077	A
Humber Rd	637.38	159.34	636.75	1129.81	357.36	0.00	2033.85	1245.22	0.313	0.51	0.66	3.760	A
A1173 Manby Rd	836.05	209.01	835.46	616.01	378.10	0.00	2374.66	1598.94	0.352	0.45	0.60	2.572	A
Depot	7.19	1.80	7.18	4.49	1209.07	0.00	810.80	0.00	0.009	0.01	0.01	4.977	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1153.87	288.47	1151.40	819.24	669.82	0.00	2036.48	1822.94	0.567	1.02	1.63	5.134	A
Industrial Units	6.61	1.65	6.60	7.69	1813.53	0.00	1802.86	1132.02	0.004	0.00	0.00	2.327	A
Humber Rd	780.62	195.16	779.53	1382.85	437.28	0.00	1990.37	1245.22	0.392	0.66	0.93	4.338	A
A1173 Manby Rd	1023.95	255.99	1022.88	753.93	462.88	0.00	2323.91	1598.94	0.441	0.60	0.86	3.040	A
Depot	8.81	2.20	8.79	5.50	1480.27	0.00	702.80	0.00	0.013	0.01	0.01	5.763	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1153.87	288.47	1153.83	820.25	670.51	0.00	2036.08	1822.94	0.567	1.63	1.64	5.165	A
Industrial Units	6.61	1.65	6.61	7.71	1816.63	0.00	1800.86	1132.02	0.004	0.00	0.00	2.329	A
Humber Rd	780.62	195.16	780.61	1385.05	438.19	0.00	1989.87	1245.22	0.392	0.93	0.94	4.346	A
A1173 Manby Rd	1023.95	255.99	1023.94	755.28	463.52	0.00	2323.53	1598.94	0.441	0.86	0.86	3.046	A
Depot	8.81	2.20	8.81	5.50	1481.95	0.00	702.13	0.00	0.013	0.01	0.01	5.768	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	942.13	235.53	944.58	670.74	548.17	0.00	2106.62	1822.94	0.447	1.64	1.03	3.929	A

Industrial Units	5.39	1.35	5.40	6.31	1486.44	0.00	2014.38	1132.02	0.003	0.00	0.00	2.082	A
Humber Rd	637.38	159.34	638.45	1133.13	358.71	0.00	2033.11	1245.22	0.314	0.94	0.67	3.771	A
A1173 Manby Rd	836.05	209.01	837.10	618.06	379.10	0.00	2374.06	1598.94	0.352	0.86	0.60	2.577	A
Depot	7.19	1.80	7.21	4.50	1211.71	0.00	809.75	0.00	0.009	0.01	0.01	4.985	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	788.99	197.25	790.18	561.46	458.88	0.00	2158.11	1822.94	0.366	1.03	0.73	3.333	A
Industrial Units	4.52	1.13	4.52	5.28	1243.78	0.00	2171.29	1132.02	0.002	0.00	0.00	1.929	A
Humber Rd	533.77	133.44	534.41	948.22	300.08	0.00	2065.00	1245.22	0.258	0.67	0.51	3.437	A
A1173 Manby Rd	700.15	175.04	700.75	517.17	317.33	0.00	2411.04	1598.94	0.290	0.60	0.45	2.317	A
Depot	6.02	1.51	6.03	3.77	1014.31	0.00	888.36	0.00	0.007	0.01	0.01	4.534	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	10.62	0.71	3.312	A	A
Industrial Units	0.04	0.00	1.925	A	A
Humber Rd	7.43	0.50	3.422	A	A
A1173 Manby Rd	6.61	0.44	2.309	A	A
Depot	0.11	0.01	4.524	A	A

Queueing Delay results: (08:00-08:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	14.92	0.99	3.903	A	A
Industrial Units	0.05	0.00	2.077	A	A
Humber Rd	9.77	0.65	3.760	A	A
A1173 Manby Rd	8.80	0.59	2.572	A	A
Depot	0.15	0.01	4.977	A	A

Queueing Delay results: (08:15-08:30)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	23.72	1.58	5.134	A	A
Industrial Units	0.06	0.00	2.327	A	A
Humber Rd	13.73	0.92	4.338	A	A
A1173 Manby Rd	12.68	0.85	3.040	A	A
Depot	0.21	0.01	5.763	A	A

Queueing Delay results: (08:30-08:45)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	24.61	1.64	5.165	A	A
Industrial Units	0.06	0.00	2.329	A	A
Humber Rd	14.06	0.94	4.346	A	A

A1173 Manby Rd	12.94	0.86	3.046	A	A
Depot	0.21	0.01	5.768	A	A

Queueing Delay results: (08:45-09:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	15.88	1.06	3.929	A	A
Industrial Units	0.05	0.00	2.082	A	A
Humber Rd	10.26	0.68	3.771	A	A
A1173 Manby Rd	9.15	0.61	2.577	A	A
Depot	0.15	0.01	4.985	A	A

Queueing Delay results: (09:00-09:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	11.21	0.75	3.333	A	A
Industrial Units	0.04	0.00	1.929	A	A
Humber Rd	7.80	0.52	3.437	A	A
A1173 Manby Rd	6.86	0.46	2.317	A	A
Depot	0.12	0.01	4.534	A	A

(Default Analysis Set) - JMP Assessment Flows Corrected HGV's, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Humber Rd - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A160 Humber Rd	0.41	3.50	0.88	A	757.03	1135.55	59.08	3.12	0.66	59.08	3.12
Industrial Units	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humber Rd	0.67	6.87	2.48	A	1094.72	1642.08	144.31	5.27	1.60	144.33	5.27
A1173 Manby Rd	0.38	2.97	0.68	A	689.13	1033.70	45.54	2.64	0.51	45.54	2.64
Depot	0.02	5.80	0.02	A	12.85	19.27	1.65	5.15	0.02	1.65	5.15

Main Results for each time segment

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	621.10	155.28	619.21	771.15	250.78	0.00	2278.09	1758.67	0.273	0.00	0.47	2.748	A
Industrial Units	0.00	0.00	0.00	0.75	869.24	0.00	2413.49	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	898.15	224.54	894.28	546.52	322.73	0.00	2052.69	1136.48	0.438	0.00	0.97	3.890	A
A1173 Manby Rd	565.39	141.35	563.94	766.49	450.51	0.00	2331.31	1804.43	0.243	0.00	0.36	2.315	A
Depot	10.54	2.63	10.49	3.00	1011.45	0.00	889.49	147.49	0.012	0.00	0.01	4.526	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	741.66	185.41	741.07	923.01	300.05	0.00	2249.69	1758.67	0.330	0.47	0.62	3.022	A
Industrial Units	0.00	0.00	0.00	0.90	1040.22	0.00	2302.93	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	1072.48	268.12	1070.73	653.97	386.25	0.00	2018.13	1136.48	0.531	0.97	1.41	4.763	A
A1173 Manby Rd	675.13	168.78	674.68	917.57	539.40	0.00	2278.10	1804.43	0.296	0.36	0.48	2.555	A
Depot	12.59	3.15	12.57	3.59	1210.49	0.00	810.23	147.49	0.016	0.01	0.02	4.987	A

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	908.34	227.09	907.31	1129.29	367.37	0.00	2210.87	1758.67	0.411	0.62	0.88	3.496	A
Industrial Units	0.00	0.00	0.00	1.10	1273.58	0.00	2152.03	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	1313.52	328.38	1309.33	800.69	472.89	0.00	1970.99	1136.48	0.666	1.41	2.45	6.788	A
A1173 Manby Rd	826.87	206.72	826.06	1122.61	659.61	0.00	2206.14	1804.43	0.375	0.48	0.68	2.967	A
Depot	15.41	3.85	15.39	4.40	1481.27	0.00	702.40	147.49	0.022	0.02	0.02	5.791	A

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	908.34	227.09	908.33	1131.79	367.74	0.00	2210.66	1758.67	0.411	0.88	0.88	3.502	A
Industrial Units	0.00	0.00	0.00	1.10	1274.97	0.00	2151.13	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	1313.52	328.38	1313.41	801.53	473.43	0.00	1970.70	1136.48	0.667	2.45	2.48	6.875	A
A1173 Manby Rd	826.87	206.72	826.86	1125.18	661.66	0.00	2204.92	1804.43	0.375	0.68	0.68	2.972	A
Depot	15.41	3.85	15.41	4.40	1484.11	0.00	701.27	147.49	0.022	0.02	0.02	5.800	A

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	741.66	185.41	742.68	926.70	300.63	0.00	2249.35	1758.67	0.330	0.88	0.63	3.029	A

Industrial Units	0.00	0.00	0.00	0.90	1042.40	0.00	2301.52	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	1072.48	268.12	1076.65	655.30	387.10	0.00	2017.66	1136.48	0.532	2.48	1.44	4.826	A
A1173 Manby Rd	675.13	168.78	675.93	921.37	542.38	0.00	2276.32	1804.43	0.297	0.68	0.48	2.560	A
Depot	12.59	3.15	12.61	3.60	1214.71	0.00	808.55	147.49	0.016	0.02	0.02	5.000	A

Main results: (18:00-18:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	621.10	155.28	621.70	775.11	251.67	0.00	2277.58	1758.67	0.273	0.63	0.48	2.756	A
Industrial Units	0.00	0.00	0.00	0.75	872.61	0.00	2411.32	1257.66	0.000	0.00	0.00	0.000	A
Humber Rd	898.15	224.54	899.98	548.57	324.04	0.00	2051.97	1136.48	0.438	1.44	0.98	3.931	A
A1173 Manby Rd	565.39	141.35	565.86	770.64	453.38	0.00	2329.60	1804.43	0.243	0.48	0.37	2.324	A
Depot	10.54	2.63	10.56	3.01	1016.22	0.00	887.60	147.49	0.012	0.02	0.01	4.536	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	6.97	0.46	2.748	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	14.13	0.94	3.890	A	A
A1173 Manby Rd	5.36	0.36	2.315	A	A
Depot	0.19	0.01	4.526	A	A

Queueing Delay results: (17:00-17:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	9.17	0.61	3.022	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	20.55	1.37	4.763	A	A
A1173 Manby Rd	7.07	0.47	2.555	A	A
Depot	0.26	0.02	4.987	A	A

Queueing Delay results: (17:15-17:30)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	12.92	0.86	3.496	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	35.09	2.34	6.788	A	A
A1173 Manby Rd	10.01	0.67	2.967	A	A
Depot	0.36	0.02	5.791	A	A

Queueing Delay results: (17:30-17:45)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	13.20	0.88	3.502	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	37.07	2.47	6.875	A	A

A1173 Manby Rd	10.20	0.68	2.972	A	A
Depot	0.37	0.02	5.800	A	A

Queueing Delay results: (17:45-18:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	9.56	0.64	3.029	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	22.36	1.49	4.826	A	A
A1173 Manby Rd	7.33	0.49	2.560	A	A
Depot	0.27	0.02	5.000	A	A

Queueing Delay results: (18:00-18:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	7.26	0.48	2.756	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	15.13	1.01	3.931	A	A
A1173 Manby Rd	5.56	0.37	2.324	A	A
Depot	0.20	0.01	4.536	A	A

(Default Analysis Set) - DTA Revised Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Humber Rd - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A160 Humber Rd	0.63	4.75	1.67	A	1060.77	1591.15	98.63	3.72	1.10	98.64	3.72
Industrial Units	0.00	2.10	0.00	A	6.42	9.64	0.31	1.91	0.00	0.31	1.91
Humber Rd	0.56	4.20	1.26	A	906.61	1359.91	78.54	3.47	0.87	78.55	3.47
A1173 Manby Rd	0.51	3.47	1.03	A	898.35	1347.52	64.99	2.89	0.72	64.99	2.89
Depot	0.02	6.75	0.02	A	9.18	13.76	1.30	5.67	0.01	1.30	5.67

Main Results for each time segment

Main results: (07:45-08:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	870.30	217.57	867.60	824.97	464.04	0.00	2155.13	1929.87	0.404	0.00	0.67	2.790	A
Industrial Units	5.27	1.32	5.26	6.75	1324.89	0.00	2118.85	1184.64	0.002	0.00	0.00	1.702	A
Humber Rd	743.82	185.95	741.53	975.15	355.00	0.00	2035.13	1168.64	0.365	0.00	0.57	2.778	A
A1173 Manby Rd	737.04	184.26	735.13	543.38	553.15	0.00	2269.87	1368.25	0.325	0.00	0.48	2.342	A
Depot	7.53	1.88	7.49	6.76	1281.52	0.00	781.95	0.00	0.010	0.00	0.01	4.648	A

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1039.22	259.81	1038.04	987.04	555.10	0.00	2102.62	1929.89	0.494	0.67	0.97	3.379	A
Industrial Units	6.29	1.57	6.29	8.08	1585.06	0.00	1950.61	1184.64	0.003	0.00	0.00	1.850	A
Humber Rd	888.19	222.05	887.30	1166.61	424.74	0.00	1997.19	1168.64	0.445	0.57	0.80	3.240	A
A1173 Manby Rd	880.10	220.03	879.37	650.16	661.88	0.00	2204.78	1368.24	0.399	0.48	0.66	2.714	A
Depot	8.99	2.25	8.98	8.08	1533.17	0.00	681.73	0.00	0.013	0.01	0.01	5.350	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1272.78	318.19	1270.04	1208.10	679.49	0.00	2030.90	1929.92	0.627	0.97	1.66	4.714	A
Industrial Units	7.71	1.93	7.70	9.89	1939.64	0.00	1721.31	1184.66	0.004	0.00	0.00	2.100	A
Humber Rd	1087.81	271.95	1085.97	1427.66	519.68	0.00	1945.53	1168.62	0.559	0.80	1.26	4.178	A
A1173 Manby Rd	1077.90	269.47	1076.42	795.58	810.08	0.00	2116.07	1368.24	0.509	0.66	1.03	3.458	A
Depot	11.01	2.75	10.98	9.89	1876.61	0.00	544.97	0.00	0.020	0.01	0.02	6.741	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1272.78	318.19	1272.73	1209.99	680.42	0.00	2030.37	1929.92	0.627	1.66	1.67	4.751	A
Industrial Units	7.71	1.93	7.71	9.91	1943.24	0.00	1718.98	1184.66	0.004	0.00	0.00	2.103	A
Humber Rd	1087.81	271.95	1087.78	1430.19	520.76	0.00	1944.95	1168.62	0.559	1.26	1.26	4.199	A
A1173 Manby Rd	1077.90	269.47	1077.88	797.11	811.43	0.00	2115.26	1368.24	0.510	1.03	1.03	3.469	A
Depot	11.01	2.75	11.01	9.91	1879.40	0.00	543.86	0.00	0.020	0.02	0.02	6.755	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1039.22	259.81	1041.95	989.89	556.50	0.00	2101.82	1929.89	0.494	1.67	0.99	3.407	A

Industrial Units	6.29	1.57	6.30	8.11	1590.34	0.00	1947.19	1184.64	0.003	0.00	0.00	1.856	A
Humber Rd	888.19	222.05	890.01	1170.33	426.31	0.00	1996.33	1168.64	0.445	1.26	0.81	3.261	A
A1173 Manby Rd	880.10	220.03	881.57	652.41	663.91	0.00	2203.57	1368.24	0.399	1.03	0.67	2.727	A
Depot	8.99	2.25	9.02	8.11	1537.37	0.00	680.06	0.00	0.013	0.02	0.01	5.364	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	870.30	217.57	871.51	828.34	465.74	0.00	2154.15	1929.87	0.404	0.99	0.68	2.810	A
Industrial Units	5.27	1.32	5.27	6.79	1330.46	0.00	2115.24	1184.64	0.002	0.00	0.00	1.705	A
Humber Rd	743.82	185.95	744.73	979.15	356.59	0.00	2034.26	1168.64	0.366	0.81	0.58	2.795	A
A1173 Manby Rd	737.04	184.26	737.78	545.79	555.53	0.00	2268.45	1368.25	0.325	0.67	0.48	2.354	A
Depot	7.53	1.88	7.54	6.78	1286.53	0.00	779.95	0.00	0.010	0.01	0.01	4.662	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	9.89	0.66	2.790	A	A
Industrial Units	0.04	0.00	1.702	A	A
Humber Rd	8.42	0.56	2.778	A	A
A1173 Manby Rd	7.06	0.47	2.342	A	A
Depot	0.14	0.01	4.648	A	A

Queueing Delay results: (08:00-08:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	14.25	0.95	3.379	A	A
Industrial Units	0.05	0.00	1.850	A	A
Humber Rd	11.72	0.78	3.240	A	A
A1173 Manby Rd	9.76	0.65	2.714	A	A
Depot	0.20	0.01	5.350	A	A

Queueing Delay results: (08:15-08:30)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	23.98	1.60	4.714	A	A
Industrial Units	0.07	0.00	2.100	A	A
Humber Rd	18.31	1.22	4.178	A	A
A1173 Manby Rd	15.11	1.01	3.458	A	A
Depot	0.30	0.02	6.741	A	A

Queueing Delay results: (08:30-08:45)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	24.95	1.66	4.751	A	A
Industrial Units	0.07	0.00	2.103	A	A
Humber Rd	18.89	1.26	4.199	A	A

A1173 Manby Rd	15.50	1.03	3.469	A	A
Depot	0.31	0.02	6.755	A	A

Queueing Delay results: (08:45-09:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	15.16	1.01	3.407	A	A
Industrial Units	0.05	0.00	1.856	A	A
Humber Rd	12.37	0.82	3.261	A	A
A1173 Manby Rd	10.21	0.68	2.727	A	A
Depot	0.21	0.01	5.364	A	A

Queueing Delay results: (09:00-09:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	10.40	0.69	2.810	A	A
Industrial Units	0.04	0.00	1.705	A	A
Humber Rd	8.83	0.59	2.795	A	A
A1173 Manby Rd	7.35	0.49	2.354	A	A
Depot	0.15	0.01	4.662	A	A

(Default Analysis Set) - DTA Revised Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Humber Rd - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A160 Humber Rd	1.00	56.79	29.78	F	1561.78	2342.68	804.46	20.60	8.94	804.50	20.60
Industrial Units	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humber Rd	1.14	220.11	131.36	F	1688.42	2532.62	4388.22	103.96	48.76	4388.34	103.96
A1173 Manby Rd	0.90	17.18	8.27	C	1518.66	2277.99	346.58	9.13	3.85	346.62	9.13
Depot	0.10	21.42	0.11	C	15.60	23.40	5.44	13.95	0.06	5.44	13.95

Main Results for each time segment

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1281.35	320.34	1274.77	1343.29	648.34	0.00	2048.86	1971.51	0.625	0.00	1.65	4.613	A
Industrial Units	0.00	0.00	0.00	1.50	1921.61	0.00	1732.97	1196.19	0.000	0.00	0.00	0.000	A
Humber Rd	1385.25	346.31	1375.11	1350.91	570.70	0.00	1917.78	1103.97	0.722	0.00	2.53	6.519	A
A1173 Manby Rd	1245.97	311.49	1240.55	1202.18	743.63	0.00	2155.84	1521.87	0.578	0.00	1.36	3.911	A
Depot	12.80	3.20	12.70	5.24	1978.94	0.00	504.22	0.00	0.025	0.00	0.03	7.321	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1530.06	382.52	1523.42	1601.79	775.22	0.00	1975.71	1971.49	0.774	1.65	3.31	7.842	A
Industrial Units	0.00	0.00	0.00	1.79	2296.85	0.00	1490.32	1196.18	0.000	0.00	0.00	0.000	A
Humber Rd	1654.12	413.53	1636.02	1614.80	682.04	0.00	1857.20	1103.99	0.891	2.53	7.06	15.164	C
A1173 Manby Rd	1487.81	371.95	1483.27	1433.27	884.80	0.00	2071.34	1521.88	0.718	1.36	2.49	6.074	A
Depot	15.28	3.82	15.21	6.27	2361.80	0.00	351.76	0.00	0.043	0.03	0.04	10.694	B

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1873.94	468.48	1804.17	1832.65	941.50	0.00	1879.83	1971.49	0.997	3.31	20.75	32.977	D
Industrial Units	0.00	0.00	0.00	2.12	2743.54	0.00	1201.46	1196.18	0.000	0.00	0.00	0.000	A
Humber Rd	2025.88	506.47	1775.41	1935.45	808.10	0.00	1788.62	1103.98	1.133	7.06	69.68	86.442	F
A1173 Manby Rd	1822.19	455.55	1801.40	1621.82	961.69	0.00	2025.31	1521.87	0.900	2.49	7.69	14.869	B
Depot	18.72	4.68	18.48	7.42	2755.67	0.00	194.91	0.00	0.096	0.04	0.10	20.377	C

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1873.94	468.48	1837.81	1843.84	951.17	0.00	1874.25	1971.49	1.000	20.75	29.78	56.791	F
Industrial Units	0.00	0.00	0.00	2.16	2786.83	0.00	1173.47	1196.18	0.000	0.00	0.00	0.000	A
Humber Rd	2025.88	506.47	1779.13	1963.76	823.06	0.00	1780.48	1103.98	1.138	69.68	131.36	208.286	F
A1173 Manby Rd	1822.19	455.55	1819.88	1638.19	964.00	0.00	2023.92	1521.87	0.900	7.69	8.27	17.184	C
Depot	18.72	4.68	18.69	7.56	2776.32	0.00	186.69	0.00	0.100	0.10	0.11	21.425	C

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1530.06	382.52	1634.52	1711.11	788.81	0.00	1967.87	1971.49	0.778	29.78	3.67	14.193	B

Industrial Units	0.00	0.00	0.00	1.92	2421.41	0.00	1409.77	1196.18	0.000	0.00	0.00	0.000	A
Humber Rd	1654.12	413.53	1816.65	1690.25	731.16	0.00	1830.48	1103.99	0.904	131.36	90.73	220.106	F
A1173 Manby Rd	1487.81	371.95	1509.23	1565.90	981.92	0.00	2013.20	1521.88	0.739	8.27	2.91	7.432	A
Depot	15.28	3.82	15.50	6.72	2484.42	0.00	302.93	0.00	0.050	0.11	0.05	12.536	B

Main results: (18:00-18:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1281.35	320.34	1289.23	1540.94	654.02	0.00	2045.59	1971.51	0.626	3.67	1.70	4.809	A
Industrial Units	0.00	0.00	0.00	1.51	1941.73	0.00	1719.96	1196.19	0.000	0.00	0.00	0.000	A
Humber Rd	1385.25	346.31	1736.93	1364.53	577.20	0.00	1914.24	1103.97	0.724	90.73	2.81	61.843	F
A1173 Manby Rd	1245.97	311.49	1251.27	1378.04	936.09	0.00	2040.63	1521.87	0.611	2.91	1.59	4.592	A
Depot	12.80	3.20	12.89	5.30	2182.06	0.00	423.33	0.00	0.030	0.05	0.03	8.772	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	23.65	1.58	4.613	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	35.54	2.37	6.519	A	A
A1173 Manby Rd	19.62	1.31	3.911	A	A
Depot	0.38	0.03	7.321	A	A

Queueing Delay results: (17:00-17:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	46.27	3.08	7.842	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	90.52	6.03	15.164	C	B
A1173 Manby Rd	35.51	2.37	6.074	A	A
Depot	0.65	0.04	10.694	B	B

Queueing Delay results: (17:15-17:30)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	212.37	14.16	32.977	D	C
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	588.46	39.23	86.442	F	F
A1173 Manby Rd	97.71	6.51	14.869	B	B
Depot	1.47	0.10	20.377	C	C

Queueing Delay results: (17:30-17:45)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	382.99	25.53	56.791	F	E
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	1508.30	100.55	208.286	F	F

A1173 Manby Rd	120.49	8.03	17.184	C	B
Depot	1.61	0.11	21.425	C	C

Queueing Delay results: (17:45-18:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	112.52	7.50	14.193	B	B
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	1665.72	111.05	220.106	F	F
A1173 Manby Rd	48.52	3.23	7.432	A	A
Depot	0.85	0.06	12.536	B	B

Queueing Delay results: (18:00-18:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	26.66	1.78	4.809	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	499.68	33.31	61.843	F	E
A1173 Manby Rd	24.73	1.65	4.592	A	A
Depot	0.49	0.03	8.772	A	A

(Default Analysis Set) - DTA Revised Base + DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Humber Rd - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A160 Humber Rd	0.80	9.20	3.89	A	1294.76	1942.14	191.21	5.91	2.12	191.22	5.91
Industrial Units	0.01	2.51	0.01	A	6.42	9.64	0.35	2.20	0.00	0.35	2.20
Humber Rd	0.54	4.06	1.19	A	881.83	1322.75	74.45	3.38	0.83	74.45	3.38
A1173 Manby Rd	0.58	3.97	1.35	A	1024.06	1536.09	81.97	3.20	0.91	81.97	3.20
Depot	0.02	7.41	0.02	A	9.18	13.76	1.40	6.09	0.02	1.40	6.09

Main Results for each time segment

Main results: (07:45-08:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1062.27	265.57	1058.20	802.42	566.82	0.00	2095.87	1898.94	0.507	0.00	1.02	3.457	A
Industrial Units	5.27	1.32	5.26	6.75	1618.27	0.00	1929.13	1168.06	0.003	0.00	0.00	1.870	A
Humber Rd	723.49	180.87	721.30	1268.78	354.75	0.00	2035.26	1257.29	0.355	0.00	0.55	2.735	A
A1173 Manby Rd	840.18	210.05	837.86	545.40	530.64	0.00	2283.35	1353.01	0.368	0.00	0.58	2.486	A
Depot	7.53	1.88	7.49	6.75	1361.75	0.00	750.00	0.00	0.010	0.00	0.01	4.848	A

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1268.46	317.12	1265.98	960.07	678.08	0.00	2031.72	1898.94	0.624	1.02	1.64	4.686	A
Industrial Units	6.29	1.57	6.29	8.08	1935.98	0.00	1723.68	1168.07	0.004	0.00	0.00	2.095	A
Humber Rd	863.92	215.98	863.08	1517.86	424.41	0.00	1997.37	1257.29	0.433	0.55	0.76	3.172	A
A1173 Manby Rd	1003.26	250.82	1002.30	652.55	634.95	0.00	2220.91	1353.01	0.452	0.58	0.82	2.951	A
Depot	8.99	2.25	8.97	8.08	1629.17	0.00	643.51	0.00	0.014	0.01	0.01	5.673	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1553.54	388.38	1544.92	1174.98	829.85	0.00	1944.21	1898.99	0.799	1.64	3.79	8.831	A
Industrial Units	7.71	1.93	7.70	9.85	2364.92	0.00	1446.30	1168.09	0.005	0.00	0.01	2.501	A
Humber Rd	1058.08	264.52	1056.39	1854.60	518.02	0.00	1946.44	1257.27	0.544	0.76	1.18	4.037	A
A1173 Manby Rd	1228.74	307.18	1226.65	797.33	777.08	0.00	2135.82	1353.00	0.575	0.82	1.34	3.951	A
Depot	11.01	2.75	10.98	9.88	1993.86	0.00	498.28	0.00	0.022	0.01	0.02	7.387	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1553.54	388.38	1553.17	1176.96	831.25	0.00	1943.40	1898.99	0.799	3.79	3.89	9.201	A
Industrial Units	7.71	1.93	7.71	9.91	2374.51	0.00	1440.10	1168.09	0.005	0.01	0.01	2.512	A
Humber Rd	1058.08	264.52	1058.05	1861.55	520.67	0.00	1945.00	1257.27	0.544	1.18	1.19	4.058	A
A1173 Manby Rd	1228.74	307.18	1228.71	800.32	778.40	0.00	2135.03	1353.00	0.576	1.34	1.35	3.971	A
Depot	11.01	2.75	11.01	9.91	1997.20	0.00	496.95	0.00	0.022	0.02	0.02	7.407	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1268.46	317.12	1277.26	963.00	680.14	0.00	2030.53	1898.94	0.625	3.89	1.69	4.835	A

Industrial Units	6.29	1.57	6.30	8.15	1949.25	0.00	1715.10	1168.07	0.004	0.01	0.00	2.108	A
Humber Rd	863.92	215.98	865.59	1527.52	428.03	0.00	1995.40	1257.29	0.433	1.19	0.77	3.192	A
A1173 Manby Rd	1003.26	250.82	1005.34	656.72	636.91	0.00	2219.73	1353.01	0.452	1.35	0.83	2.971	A
Depot	8.99	2.25	9.02	8.12	1634.12	0.00	641.53	0.00	0.014	0.02	0.01	5.693	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1062.27	265.57	1064.88	805.76	569.07	0.00	2094.57	1898.94	0.507	1.69	1.04	3.506	A
Industrial Units	5.27	1.32	5.27	6.79	1627.15	0.00	1923.38	1168.06	0.003	0.00	0.00	1.875	A
Humber Rd	723.49	180.87	724.35	1275.48	356.94	0.00	2034.07	1257.29	0.356	0.77	0.55	2.752	A
A1173 Manby Rd	840.18	210.05	841.16	548.37	532.91	0.00	2281.99	1353.01	0.368	0.83	0.59	2.501	A
Depot	7.53	1.88	7.54	6.79	1367.29	0.00	747.79	0.00	0.010	0.01	0.01	4.862	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	14.86	0.99	3.457	A	A
Industrial Units	0.04	0.00	1.870	A	A
Humber Rd	8.07	0.54	2.735	A	A
A1173 Manby Rd	8.53	0.57	2.486	A	A
Depot	0.15	0.01	4.848	A	A

Queueing Delay results: (08:00-08:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	23.78	1.59	4.686	A	A
Industrial Units	0.05	0.00	2.095	A	A
Humber Rd	11.16	0.74	3.172	A	A
A1173 Manby Rd	12.07	0.80	2.951	A	A
Depot	0.21	0.01	5.673	A	A

Queueing Delay results: (08:15-08:30)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	52.32	3.49	8.831	A	A
Industrial Units	0.08	0.01	2.501	A	A
Humber Rd	17.23	1.15	4.037	A	A
A1173 Manby Rd	19.55	1.30	3.951	A	A
Depot	0.33	0.02	7.387	A	A

Queueing Delay results: (08:30-08:45)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	57.75	3.85	9.201	A	A
Industrial Units	0.08	0.01	2.512	A	A
Humber Rd	17.76	1.18	4.058	A	A

A1173 Manby Rd	20.18	1.35	3.971	A	A
Depot	0.34	0.02	7.407	A	A

Queueing Delay results: (08:45-09:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	26.54	1.77	4.835	A	A
Industrial Units	0.06	0.00	2.108	A	A
Humber Rd	11.77	0.78	3.192	A	A
A1173 Manby Rd	12.71	0.85	2.971	A	A
Depot	0.22	0.01	5.693	A	A

Queueing Delay results: (09:00-09:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	15.96	1.06	3.506	A	A
Industrial Units	0.04	0.00	1.875	A	A
Humber Rd	8.45	0.56	2.752	A	A
A1173 Manby Rd	8.92	0.59	2.501	A	A
Depot	0.16	0.01	4.862	A	A

(Default Analysis Set) - DTA Revised Base + DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Humber Rd - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A160 Humber Rd	0.97	36.82	17.68	E	1517.74	2276.61	552.57	14.56	6.14	552.60	14.56
Industrial Units	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Humber Rd	1.37	757.15	410.66	F	2029.77	3044.65	18342.04	361.46	203.80	20256.08	399.18
A1173 Manby Rd	0.90	17.77	8.46	C	1502.14	2253.21	362.49	9.65	4.03	362.54	9.65
Depot	0.11	22.74	0.12	C	15.60	23.40	5.95	15.26	0.07	5.95	15.26

Main Results for each time segment

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1245.22	311.30	1239.16	1527.10	634.52	0.00	2056.83	1980.29	0.605	0.00	1.52	4.371	A
Industrial Units	0.00	0.00	0.00	1.50	1872.18	0.00	1764.94	1200.41	0.000	0.00	0.00	0.000	A
Humber Rd	1665.31	416.33	1641.53	1301.33	570.85	0.00	1917.70	1085.82	0.868	0.00	5.94	12.153	B
A1173 Manby Rd	1232.42	308.10	1226.43	1284.63	927.75	0.00	2045.62	1507.90	0.602	0.00	1.50	4.364	A
Depot	12.80	3.20	12.68	5.24	2148.94	0.00	436.53	0.00	0.029	0.00	0.03	8.492	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1486.91	371.73	1481.39	1752.22	758.69	0.00	1985.24	1980.31	0.749	1.52	2.90	7.068	A
Industrial Units	0.00	0.00	0.00	1.79	2238.30	0.00	1528.18	1200.42	0.000	0.00	0.00	0.000	A
Humber Rd	1988.54	497.14	1830.55	1555.84	682.46	0.00	1856.98	1085.81	1.071	5.94	45.44	60.095	F
A1173 Manby Rd	1471.63	367.91	1466.39	1477.41	1035.60	0.00	1981.06	1507.90	0.743	1.50	2.81	6.925	A
Depot	15.28	3.82	15.19	6.27	2495.72	0.00	298.43	0.00	0.051	0.03	0.05	12.706	B

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1821.09	455.27	1776.15	1882.68	921.96	0.00	1891.10	1980.28	0.963	2.90	14.13	25.009	D
Industrial Units	0.00	0.00	0.00	2.15	2695.96	0.00	1232.23	1200.40	0.000	0.00	0.00	0.000	A
Humber Rd	2435.46	608.86	1782.35	1877.51	818.45	0.00	1782.99	1085.82	1.366	45.44	208.72	262.233	F
A1173 Manby Rd	1802.37	450.59	1781.90	1589.04	1011.76	0.00	1995.33	1507.90	0.903	2.81	7.92	15.553	C
Depot	18.72	4.68	18.49	7.52	2786.15	0.00	182.77	0.00	0.102	0.05	0.11	21.883	C

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1821.09	455.27	1806.90	1887.94	931.46	0.00	1885.62	1980.28	0.966	14.13	17.68	36.819	E
Industrial Units	0.00	0.00	0.00	2.18	2736.18	0.00	1206.22	1200.40	0.000	0.00	0.00	0.000	A
Humber Rd	2435.46	608.86	1775.25	1903.64	832.54	0.00	1775.33	1085.82	1.372	208.72	373.77	585.741	F
A1173 Manby Rd	1802.37	450.59	1800.24	1599.67	1008.12	0.00	1997.51	1507.90	0.902	7.92	8.46	17.766	C
Depot	18.72	4.68	18.70	7.65	2800.71	0.00	176.98	0.00	0.106	0.11	0.12	22.740	C

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS

A160 Humber Rd	1486.91	371.73	1545.05	1771.79	772.74	0.00	1977.14	1980.31	0.752	17.68	3.14	9.418	A
Industrial Units	0.00	0.00	0.00	1.87	2315.92	0.00	1477.99	1200.42	0.000	0.00	0.00	0.000	A
Humber Rd	1988.54	497.14	1841.01	1604.39	711.53	0.00	1841.16	1085.81	1.080	373.77	410.66	757.152	F
A1173 Manby Rd	1471.63	367.91	1493.46	1510.45	1042.09	0.00	1977.18	1507.90	0.744	8.46	3.00	7.760	A
Depot	15.28	3.82	15.52	6.54	2529.01	0.00	285.17	0.00	0.054	0.12	0.06	13.360	B

Main results: (18:00-18:15)

Name	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A160 Humber Rd	1245.22	311.30	1251.54	1682.25	640.32	0.00	2053.49	1980.29	0.606	3.14	1.56	4.525	A
Industrial Units	0.00	0.00	0.00	1.51	1890.35	0.00	1753.19	1200.41	0.000	0.00	0.00	0.000	A
Humber Rd	1665.31	416.33	1909.92	1313.75	576.60	0.00	1914.57	1085.82	0.870	410.66	349.50	716.637	F
A1173 Manby Rd	1232.42	308.10	1237.51	1409.04	1077.48	0.00	1955.99	1507.90	0.630	3.00	1.73	5.045	A
Depot	12.80	3.20	12.88	5.30	2309.69	0.00	372.51	0.00	0.034	0.06	0.04	10.012	B

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	21.84	1.46	4.371	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	76.55	5.10	12.153	B	B
A1173 Manby Rd	21.58	1.44	4.364	A	A
Depot	0.43	0.03	8.492	A	A

Queueing Delay results: (17:00-17:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	40.87	2.72	7.068	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	405.61	27.04	60.095	F	E
A1173 Manby Rd	39.70	2.65	6.925	A	A
Depot	0.77	0.05	12.706	B	B

Queueing Delay results: (17:15-17:30)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	157.93	10.53	25.009	D	C
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	1906.76	127.12	262.233	F	F
A1173 Manby Rd	100.54	6.70	15.553	C	B
Depot	1.57	0.10	21.883	C	C

Queueing Delay results: (17:30-17:45)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	241.66	16.11	36.819	E	D
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	4368.72	291.25	585.741	F	F
A1173 Manby Rd	123.55	8.24	17.766	C	B
Depot	1.72	0.11	22.740	C	C

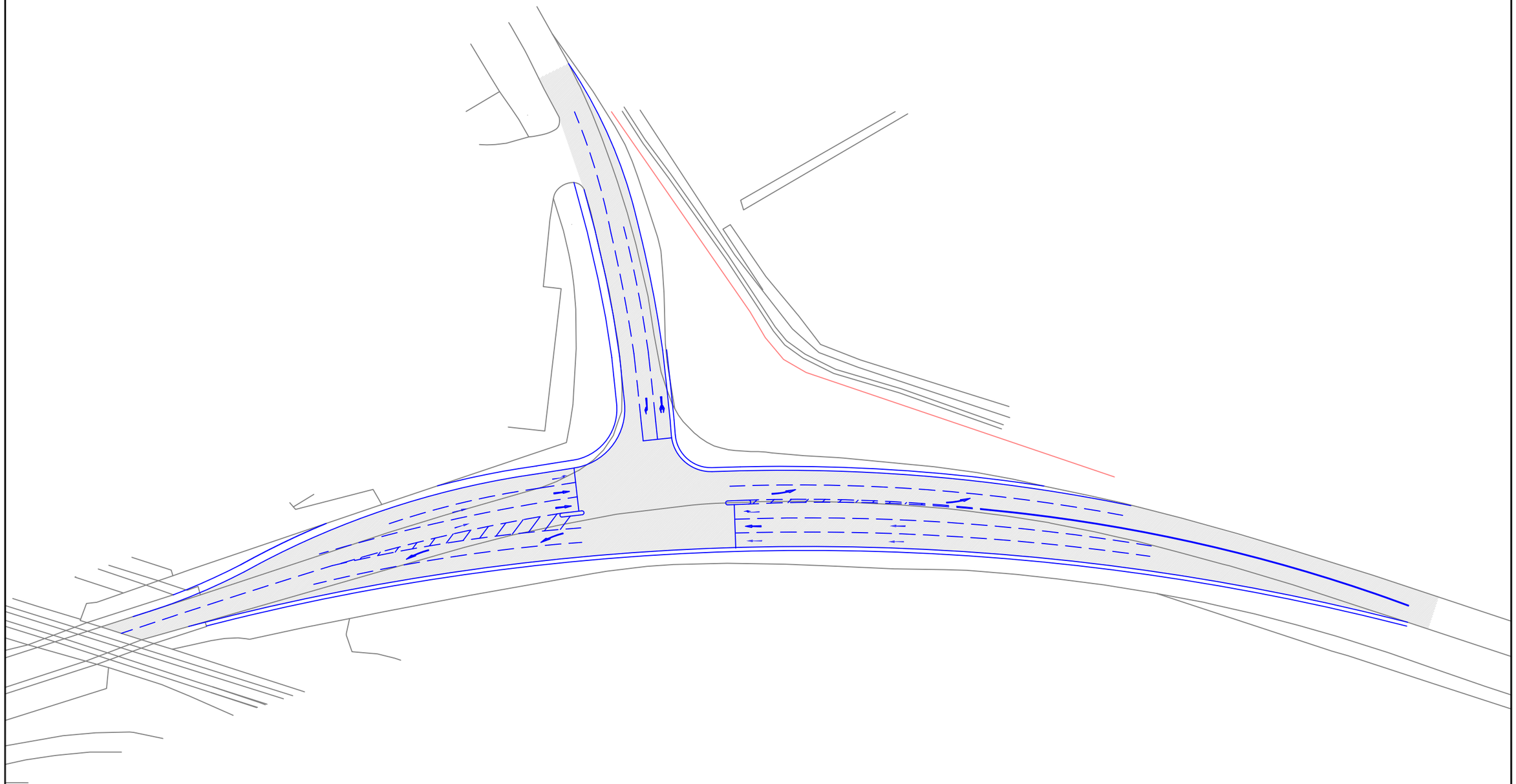
Queueing Delay results: (17:45-18:00)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	65.96	4.40	9.418	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	5883.22	392.21	757.152	F	F
A1173 Manby Rd	50.14	3.34	7.760	A	A
Depot	0.91	0.06	13.360	B	B

Queueing Delay results: (18:00-18:15)

Name	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A160 Humber Rd	24.32	1.62	4.525	A	A
Industrial Units	0.00	0.00	0.000	A	A
Humber Rd	5701.19	380.08	716.637	F	F
A1173 Manby Rd	26.99	1.80	5.045	A	A
Depot	0.56	0.04	10.012	B	B

Appendix J



REV	DESCRIPTION	DRAWN	INITIALS	DATE

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JOB TITLE	CLIENT
Able UK	ABP

DRAWING TITLE

Sketch Arrangement For Alternative Mitigation Scheme

SCALE	DRAWN BY	DATE	DRAWING No	REVISION
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28 June 2012

Application for the proposed ABLE Marine Energy Park on the south bank of the River Humber at Immingham, North Lincolnshire

Written Representation in Respect of Terrestrial Ecology and Nature Conservation

By

Andrew Baker BSc (Hons) MIEEM
Final



bakerconsultants

Project data

Client	ABP
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File reference	WR_AJB_001_final.doc
Team leader	Andrew Baker
Contact details	[redacted]

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	Name	**Position**	**Date**
Author	Andrew Baker	Managing Director	28 June 2012
Reviewed	Carlos Abrahams	Technical Director	28 June 2012
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Report Contents

1 Summary

1.1 I am Andrew Baker (BSc, MIEEM), a professional ecologist with over 25 years' experienced and managing director of Baker Consultants Ltd. One of my key areas of expertise is the practical application of nature conservation law and policy both at the domestic and European level.

1.2 In this written representation I have reviewed the documentation presented by Able UK that is pertinent to the issues of terrestrial ecology, both of the development site and the compensation area. I have also reviewed the comments that have been provided by Natural England and the RSPB. These organisations have both raised significant concerns over the efficacy of the Environmental Statement (ES) and the shadow Habitats Regulations Assessment (sHRA) with which I concur.

1.3 The scope of my written representation is confined to matters of terrestrial ecology. Issues of sub-tidal ecology, sedimentation and coastal processes, are dealt with by Mr Peter Whitehead.

1.4 My written representation has the following structure;

i) review of the ES,
ii) review of the sHRA and
iii) review of the proposed compensation.

Review of the ES

1.5 I have found the ES presented by the applicant to be fundamentally deficient and flawed. The scope of the ecological survey work was insufficient and surveys for key groups, namely invertebrates and vascular plants have not been carried out, contrary to the Scoping Opinion provided by the IPC.

1.6 The technical competence of those surveys that were carried out is defective and does not follow published guidance. Surveys for bats (European Protected Species that enjoy the highest levels of legal protection) are insufficient, employed poor techniques and used out-of-date equipment that was incorrectly deployed. Surveys for great crested newts (another European Protected Species) are also incomplete.

1.7 The assessment presented in Chapter 11 of the ES Volume 1 is defective as it does not follow industry guidelines, lacks scientific rigour and omits fundamental steps in the assessment process. The conclusions of the assessment are wholly unsupported by the normal systematic evaluation process that is established by industry guidance.

1.8 The proposed mitigation is not supported by a sufficiently detailed description and the objectives of the mitigation are mutually exclusive and therefore unachievable. Aspects of the mitigation or badly designed and would not achieve their stated objectives.

1.9 In summary, the ES does not present a full and accurate assessment of the terrestrial ecological impacts and in my opinion cannot be relied upon by the ExA to complete the Environmental Impact Assessment process and does not meet the requirement of the EIA Regulations.

Review of the sHRA

1.10 The applicant has provided the ExA with a sHRA presumably to assist the ExA in carrying out its own independent assessment of the impacts of the scheme upon the Special Protection Area (SPA) and the Special Area of Conservation (SAC). I have found the sHRA to be critically flawed and I do not think that it is possible for the ExA to carry out an HRA based on the information provided.

1.11 Of fundamental importance is the open-ended nature of the project for which Able UK are applying i.e, the project is not confined to a Marine Energy Park (MEP). It is a legal requirement, that *all* aspects of a development, which are likely to have a significant effect upon a European site must be examined. The sHRA does not consider the potential impacts of the use of the site as a general port. Moreover, without an assessment of the impact of the use of the site for wider activities it is not possible for the ExA to carry out its own HRA nor consider the test of *alternative solutions* and *imperative reasons of overriding public interest* as required by the regulations. It is my view, based on the information presented and the scope of the Development Consent Order (DCO) that the ExA simply cannot follow the steps required of them as set out in Appendix 1 of this written representation.

1.12 In addition I have serious concerns of how the In Combination effects have been assessed in the sHRA. The method used is incorrect and there are knock-on effects upon the scope of the compensation that have therefore not been assessed.

Review of the proposed compensation

1.13 Finally I do not consider the compensation offered to be sufficient to allow the coherence of the Natura 2000 to be maintained as required by regulation. Specifically the potential impacts upon black tailed godwits have not been properly assessed and are therefore not properly compensated.

1.14 In order for the ExA to meet its legal obligations under the various legislation that protects nature conservation (both at the European and domestic level) further, more detailed and technically competent surveys need to be carried out. In order for there to be any question of meeting the requirements of the Habitats Directive and the Conservation of Habitat and Species Regulations 2010 that protected European sites, at the very least the scope of the DCO would need to be confined to that of an MEP as set out in the project description within the ES. Assessment of the use of the site as a general port would require further ecological information to be collated depending upon the precise nature of the proposal.

2 Qualifications

2.1 I am Andrew Baker and I am Director of the ecological consultancy Baker Consultants Limited, which I established in March 2009. I hold the degree of Bachelor of Science with Honours in Botany from the University of Nottingham (1986). I have been a full member of the Institute of Ecology and Environmental Management since 1994.

2.2 I have been a practising ecologist for over 25 years, having worked throughout the UK for organisations such as English Nature (now Natural England), local Wildlife Trusts, National Parks, large civil engineering consultancies and private ecological firms. My work ranges from undertaking botanical surveys for the Nature Conservancy Council (the predecessor organisation to English Nature), to completing full, statutory Environmental Impact Assessments and supervising the ecological mitigation work for large civil engineering schemes

including Manchester Airport's Runway 2 and Severn Trent Water's Witches Oak Waters project. Prior to setting up Baker Consultants I was a founding partner of Baker Shepherd Gillespie (also an ecological consultancy), which I established in 1997.

2.3 In my work in private practice my clients come from the public, independent and voluntary sectors. Public sector clients include English Nature, Department of the Environment Transport and the Regions, the Environment Agency and Local Planning Authorities.

2.4 My involvement in large civil engineering schemes includes all stages of development from the initial planning stage, producing ecological sections of the Environmental Statement, planning and supervising ecological mitigation and compensation works.

2.5 I hold, or have held, protected species licences issued by either English Nature or Department of the Environment and Rural Affairs (DEFRA) for bats, badgers and great crested newts and I was a volunteer bat warden, licensed by English Nature.

2.6 I am actively involved in the development of the ecological profession. I have published articles on Environmental Impact Assessment and protected species legislation. I am a member of the United Kingdom Environmental Law Association (UKELA) and a former Convenor of its Nature Conservation Working Group. As Convenor of the working group I was responsible for coordinating comments on emerging wildlife legislation and policy such as Planning Policy Statement 9. In 2003 I was a member of the Highways Agency's Translocation Steering Group, which subsequently published a best practice guide on habitat translocation. More recently I was a member of the steering group working with the British Standard Institute and the Association of Local Government Ecologists to produce a 'Publicly Available Specification' that provides recommendations for the integration of biodiversity conservation into land use and spatial planning in the UK.

2.7 In the course of my work I have been commissioned by Local Planning Authorities, Harbour Boards, Regional Government and other 'competent authorities' to compile Appropriate Assessments (AA) of plans or projects

under Regulations 61 and 102 of the Conservation of Habitats and Species Regulations 2010 (and previous instruments). I have also been commissioned by project promoters to provide 'shadow' Habitats Regulations Assessments (sHRA) to accompany planning applications.

3 Introduction

3.1 I was instructed by Associated British Ports in October 2011 to provide ABP with advice on Able's proposals for a new port and marine energy park in relation to its terrestrial ecological impact.

3.2 My initial work was to review the documentation relevant to terrestrial ecology that has been provided by Able to support the AMEP application. This included the various relevant chapters of the Environmental Statement (ES) and the shadow Habitats Regulations Assessment (sHRA). I have also reviewed the concerns that have been raised by Natural England and the Royal Society of the Protection of Birds, which I consider to be significant and have not been addressed.

3.3 From the beginning of my work on this project ABP made it very clear that they did not wish to oppose the development on ecological grounds but they did wish to be satisfied that as part of the application process there had been full compliance with the UK and European environmental regulatory regime both generally and particularly in the context of other port developments undertaken on the Humber estuary.

3.4 The purpose of my evidence and these written representations (WR) is to examine the data produced by the applicant, and to present an assessment of both the ES and the sHRA. In order to comply with the strict regulations that protect European nature conservation sites, development within or close to such areas cannot be undertaken without proper observance of the protections and safeguards applied to such sites. If the regulatory and legal code is not applied consistently then this can lead to a significant ecological harm.

3.5 In this WR I will refer to the HRA that was compiled for ABP's development of Green Port Hull. In many respects, this HRA provides a benchmark against which other development should be measured. Green Port Hull has been correctly assessed against the EU Habitats Directive and has been found to meet the various tests that must be applied.

3.6 The HRA process and the Environmental Impact Assessment (EIA) process, while separate, are inextricably linked. Much of the data provided for the EIA can also be used to inform the HRA process. The EIA is, however, a separate and distinct process which has its own regulations and accompanying guidance. I have therefore examined the efficacy of the ecological chapters of the EIA again to highlight any discrepancies between the level of scrutiny between the AMEP and other projects. The scope of my evidence is confined to terrestrial ecology. Marine issues, relating to areas below the mean low-water mark, are being considered by ABPmer in their WR – however given that the European nature conservation sites are concerned with both marine and terrestrial environments there is in some areas an inevitable overlap. That being the case, our evidence has been co-ordinated so as to avoid unnecessary duplication.

3.7 In the course of these WR I have identified issues and set out the reasons why I understand them to be problematic. In order to aid the ExA I have also set out, in each case, how I think these problems could be addressed in order to allow the ExA to come to a sound and legally defensible conclusion. This is of particular importance for the HRA process.

3.8 As well as carrying out a comprehensive review of the documentation in the course of my work, I have also visited the development site and the proposed Cherry Cobb Sands compensation area.

4 Review of the Environmental Statement

4.1 In this section I have reviewed the relevant Chapters of the ES. The ES is split into two volumes, Volume 1 dealing with the main development site while Volume 2 assesses the impacts arising from the proposed Cherry Cobb Sand compensation site. From Volume 1 the relevant Chapter is '11 Terrestrial Ecology and Birds' and from Volume 2, Chapter 35. Both volumes of the ES include various Annexes, which I have also reviewed

4.2 In the course of reviewing the ES I have identified a number of shortcomings that I believe to be of such significance as to seriously undermine the validity of the ES. The flaws I have identified fall into three key areas:

(i) the scope of the ecological surveys completed;

(ii) the technical competence of those surveys that were carried out; and

(iii) the quality of the ecological assessment process.

Scope of ecological surveys

4.3 In its letter to the applicant (13th October 2010 reproduced in the IPC Scoping Opinion TR030001/APP/14b p152) North Lincolnshire Council defined the scope of the ecological surveys that they wished to be carried out. The IPC Scoping Opinion specifically mentions North Lincolnshire's response in the main body of the report para 3.36 p23, and the issues that should be addressed in the ES are detailed in para 3.39. The same paragraph concludes '*The Commission advises that these matters should be addressed in the ES or a full explanation provided as to why this was not considered appropriate.'*

Invertebrates

4.4 The Scoping Opinion includes a statement that the effects on invertebrates should not be limited to the potential impacts of noise and vibration.

4.5 Paragraph 11.3.28 (p11-13) of the ES Volume 1, however, states that no surveys for invertebrates were undertaken. No explanation is offered to support this omission from the baseline data other than the reliance on historical data, but no historical data is actually reproduced in the

documentation. The 2006 Extended Phase 1 and Scoping Report (Annex 11.1 Volume 1) makes frequent reference to the potential for the site to support invertebrates (para 5.2.4, 5.2.8, 5.3.3, 5.3.7, 6.4.3) yet no recommendation for further survey work is made.

4.6 The failure to undertake an invertebrate survey is a significant omission given the fact that it was flagged at the scoping stage – and with the recognised potential for the site to support invertebrate interest. In the ES (para 11.5.30) it is stated that there is the potential for an elm hedge on site to support the Local Biodiversity Action Plan butterfly, white-letter hairstreak (*Satyrium w-album*). This hairstreak butterfly is a priority Biodiversity Action Plan species listed under Section 41 of the Natural Environmental and Rural Communities Act 2006. As such, it enjoys protection in law and clearly must be viewed as material to the planning process as defined in Section 40 (1) of the same Act.

4.7 Furthermore the Humber Estuary SSSI is known to support good assemblages of terrestrial invertebrates as detailed on page 56 of the 2006 Phase 1 report (Annex 11.1 Volume 1). Such invertebrate populations will not be confined within the SSSI boundary and the various habitats contained within the development site are highly likely to support rare and/or threatened species.

4.8 The complete lack of terrestrial invertebrate surveys is a major omission from the Ecological Impact Assessment (EcIA), which is compounded by the apparent lack of any historical data. It should be borne in mind that existing ecological data should only be used to set the context of an assessment and while it may provide useful information that can be an indication of environmental change, it is by its very nature out-of-date. Historical data can therefore never be a substitute for current survey information. This is recognised in the IPC Scoping opinion where the IPC advised the applicant that "*All surveys should be thorough* [and] *up to date"*. The only reason for not carrying out a particular survey should be that the site is not considered to be important for that group or species – and even then, that fact should be verified and justified. In this case, the applicant has not offered any verification or justification even though there clearly exists evidence that the area is likely to support rare and/or threatened invertebrates.

Vascular Plants

4.9 The scoping letter from North Lincolnshire Council to the applicant also highlighted the need to undertake surveys of vascular plants within the development site. The most comprehensive vascular plant survey carried out appears to be the 2006 National Vegetation Classification (NVC) survey referred to in paragraph 11.3.28 of the ES Volume 1. This NVC survey does not, however, appear to have been reproduced within the ES or the Annexes and as a consequence, cannot be reviewed. The extent of this survey is, therefore, unknown and in any case it would be too far out of date to be considered appropriate data.

4.10 The lack of an up-to-date botanical survey is justified in the ES on the grounds that the Phase 1 surveys carried out in 2010 (ES Annex 11.2 Volume 1) showed little change from those completed in 2006. This logic is however fundamentally flawed in that the Phase 1 survey methodology only records habitats at a gross scale and is not designed to show if there have been changes in the species mix within a habitat. It is, therefore, not possible to conclude that the botanical assemblage had not changed simply because the Phase 1 habitats were similar. Furthermore, the 2010 Phase 1 surveys were carried out in April and September 2010, which is outside the key period for botanical surveys and any incidental botanical records may well have been missed. In this respect, the ecological assessment in the ES is based on botanical data that is incomplete and out of date and as a consequence, is deficient.

Summary review of the ES

4.11 The lack of compliance with the scoping consultation and the subsequent IPC Scoping Opinion raises fundamental questions about the validity of the ecological section of the ES and whether it provides the data required to assess the effects of the scheme. I am of the opinion that the absence of invertebrate data and records of vascular plants means that the ecological chapter of the ES is fundamentally deficient and that further data is required to allow a proper assessment to be completed.

Technical competence of the ecological surveys

4.12 In Paragraph 11.3.1 of the ES it is stated that 'surveys have broadly followed the survey guidance for habitats and species'. The ES, however, does not detail where the surveys have deviated from the survey standard and has not justified any such departure from standard practice.

Bats

4.13 The survey effort for bats appears not to have followed either the guidance current at the time of the survey, Bat Conservation Trust (2007) Bat Surveys – Good Practice Guidelines, or used survey techniques that are technically competent. The bat surveys carried out in 2010 (ES Annex 11.3 Volume 1) were insufficient in both their geographical range and the survey effort employed, in that;

i) No walked transects were carried out across the site.

ii) Only automated detectors were used and these were incorrectly placed

iii) Only one full night of survey was completed as rain caused one of the surveys to be called off.

4.14 Although further surveys were carried out in 2011 (ES Annex 11.8 Volume 1) these were also insufficient in that;

i) The surveys did not record bat activity across the whole site but rather concentrated on walking short transects around the Old Copse woodland.

ii) The surveyors used equipment that in 2011 was out of date (Anabat SD1).

iii) The recording methods used (zero-crossing rather then full spectrum) have been shown to produce a much lower number of records.

iv) The surveys in 2011 were also carried out in April, too early in the season to be assured of recording roosting activity.

v) The trees that were identified as having potential for roosting bats were only surveyed from the ground, rather than using rope or ladder access or focused emergence surveys.

Further, and most critically and contrary to the interpretation presented in the ES.

vi) The data gathered does indicate that a roost may be present in one of the woodland trees, as a bat was recorded 35 minutes after sunset, indicating that its roost was very close to the position of the surveyor.

4.15 In this context, it should be noted that the BCT guidelines have now been updated (Hundt, L., 2012. Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust) and even greater survey effort is now considered to be necessary to provide sufficient evidence of bat use within an area, or the absence of a roost.

4.16 All species of bats are European Protected Species and the decision-making authority has a legal duty under Regulation 9 of the Conservation of Habitats and Species Regulations 2010 to secure compliance with the Habitats Directive. In my opinion, the information presented within the ES is not sufficient to allow the ExA to make an accurate assessment of the impacts of the development on bats, which means that it will not be possible to ensure compliance with either the Directive or the Habitats Regulations 2010.

Great Crested Newts

4.17 In 2010, a survey for great crested newts (*Triturus cristatus*) was commissioned by the applicant. These surveys were reported in ES Volume 1 Annex 11.2. The survey identified two ponds where great crested newts were found to be present (Ponds 12 and 13). A number of ponds could not be surveyed due to access issues and other ponds that had been previously recorded were dry in 2010. It should be noted, therefore, that the surveys for this species are incomplete. It is also worthy of note that great crested newts can favour ponds that are ephemeral or dry up from time to time. This is because such ponds do not support fish, which feed on newt eggs and younger animals. Great crested newts are relatively long-lived animals and failure to breed in a dry year does not normally threaten the population.

4.18 Like bats, great crested newts are European Protected Species and the same legal and policy tests apply. The applicant has not provided full survey data to

confirm their presence/absence in all ponds. For those ponds where the newts are present then there is insufficient data to inform the proposed mitigation.

Ecological assessment process

4.19 The Institute of Ecology and Environmental Management (IEEM) has produced comprehensive guidance on compiling ecological impact assessments (Guidelines for Ecological Impact Assessment in the United Kingdom, IEEM 2006). These guidelines have become the industry standard and indeed are referred to in the Volume 1 of the ES (para 11.3.9).

4.20 The IEEM guidance sets out in some detail the process that should be followed in Ecological Impact Assessment and, while different practitioners (quite properly) have differing ways of meeting the needs of the process, there are some fundament steps which are required. Indeed these steps are set out in the introductory paragraphs to the Chapter 11 of the ES Volume 1 (e.g. 11.3.3, 11.3.9, 11.3.10 and 11.3.11).

4.21 Once the ecological data has been collated, one would ordinarily carry out the following steps:

Ecological evaluation – the features recorded are evaluated i.e. given some context in terms of their importance. This is usually done with reference to a geographical scale such as: site, local, regional, national, international importance. The evaluation is done not only for the individual features of the site (receptors) but also for the assemblage of those receptors. Factors such as the legal protection afforded to a receptor or its rarity are normally considered as this will often relate to the vulnerability of that receptor.

Impact assessment - once the values of the receptors are determined, the potential impacts of the development are assessed. The impact assessment normally involves predictions of the direction, timing and magnitude of the impact and assessing the significance of that impact.

Mitigation - following the impact assessment one would normally look at how the adverse impacts may be balanced though the provision of measures such as avoidance or habitat enhancement.

Residual impacts - taking into account the mitigation measures, one would reassess the overall impact of the development and go on to assess the residual impacts of the scheme and how they might be compensated for.

4.22 Chapter 11 of the ES (Volume 1) mentions this four step process; however it then bypasses it almost entirely. Of particular note is the lack of any evaluation of the ecological interest recorded on the site or an assessment of the significance of the impacts. Although para 11.3.11 describes the four step process, it is absent from the document. The basic structure that one would expect of any such EIA chapter is therefore absent.

4.23 Moving past any systematic assessment of the magnitude, direction or significance of the ecological impacts, the analysis also contains unsupported statements which dismiss impacts without any rigorous examination. For example, paragraphs 11.6.57 to 11.6.58 consider the loss of terrestrial habitat, including loss of 21.2 ha of wintering and passage wader habitats, loss of ponds supporting great crested newts, loss of 4.8 km of water vole habitat and permanent loss of breeding bird habitat - including the loss of semi-natural woodland supporting 12 red-listed bird species and one Schedule 1 species. This adverse impact on habitats is dismissed in a single sentence: '*The losses of terrestrial habitats outlined above do not constitute significant losses within the context of the local or regional a*reas *although some of these habitats are either BAP of LBAP listed*.' (Paragraph 11.6.28).

4.24 It is hard to see how such a conclusion could be reached. Indeed, given the lack of rigour and process applied throughout Chapter 11 and taking into account the limited baseline data, I find the assessment of the impact upon the terrestrial environment to be grossly understated.

4.25 It is my view that ecological losses detailed in the ES, namely;

i) loss of European Protected Species (bats and great crested newts;

ii) loss of National Biodiversity Habitats (ponds, hedgerows and, neutral grassland);

iii) loss of species protected under Schedule 5 of the Wildlife and Countryside Act 1981 (water vole);

iv) loss of pasture and arable land that supports species designated under the SPA (e.g. curlew);

v) loss of breeding bird habitat (including 12 reds list species and species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (little ringed plover and possibly barn owl)) and

vi) loss of a Local Wildlife Site;

must be regarded as highly significant. Such significant losses require commensurate mitigation and/or compensation, which is not provided by either Cherry Cobb Sands or Old Little Humber Farm.

4.26 The lack of detail in the evaluation and impact assessment sections is repeated in the presentation of the mitigation proposals (Annex 4.5 Landscape Masterplan (ES Volume 1)). There is a large discrepancy in the stated size of Mitigation Area A between the text of the ES 11.7.10 and Annex 4.5, with figures given of 16.7ha and 47.8ha respectively. The Masterplan contains insufficient detail to allow an assessment of how effective this mitigation area may be in mitigating/compensating habitat loss. The Masterplan merely offers a number of bullet points on habitat to be managed or created**.**

4.27 The multiple proposed objectives for Mitigation Area A appear to be conflicting and mutually exclusive. Bats for example, require an intimate landscape with a high density of hedges and woodland – whereas waders require large open spaces with good sight lines. It is therefore highly improbable that Mitigation Area A will achieve both these aims in the same space.

4.28 Much of the compensation for the loss of water vole habitat seems to rely on the provision of narrow drainage channels within the main development site. No detail is given on the profile of these ditches, their cross-section, structure or management and therefore it is not possible to assess whether the proposals will adequately mitigate the loss of water vole habitat.

4.29 The mitigation for bats is equally scant. Bearing in mind that the surveys for bats were insufficient and therefore it is not known what harm it would be necessary to mitigate/compensate for, much of the bat mitigation seems to be reliant on the narrow vegetated corridors that are planned within the site. While the lack of detail makes it difficult to assess how these 'green corridors' would be structured, I am of the opinion that these would not offer sufficient shelter or habitat structure to attract bats. Even if sufficient structure could eventually be created in these corridors, it is difficult to envisage how the lighting could be designed to make these narrow corridors sufficiently dark to allow bats to travel. No detail of the lighting design is referred to within the ecological chapter.

4.30 In terms of the assessment process, the lack of full ecological data, combined with the lack of structured assessment and insufficient detail on mitigation, means that the assessment of the terrestrial ecological impacts is fundamentally flawed. The conclusion made on residual impacts cannot be relied upon and therefore the full impact of the scheme upon terrestrial ecology cannot be fully determined from the data and assessment that has been provided.

5 Review of the shadow Habitat Regulations Assessment

The HRA process

5.1 Special Areas of Conservation (SACs), together with Special Protection Areas under the Birds Directive 1979 are protected under *Council Directive of May 21 1992 on the Conservation of Natural Habitats and Wild Fauna and Flora* (92/43/EEC), otherwise known as the Habitats Directive. The Habitats Directive is translated into English Law by the Conservation of Habitats and Species Regulations 2010. Article 6 of the Regulations sets out a stepped-legal process that must be followed when a regulatory authority is considering plans or projects that may have an effect upon these protected sites. This process is summarised in Figure 1 of the ODPM Circular 06/2005, which accompanied Planning Policy Statement 9. Although PPS9 is now no longer in effect, the Circular is still extant. Figure 1 is reproduced in Appendix 1.

5.2 The stepped approach set out in Appendix 1 is a tried and tested process. There is a significant body of case law, both domestic and European, arising from the application of the Habitats Directive and the Regulations.

5.3 The Regulations set out a two-stage process. The first is the test that decides whether an AA is required, and this is set out in Regulation 61.

'Regulation 61—(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of the site,

must make an appropriate assessment of the implications for the site in view of that site's conservation objectives.'

5.4 In this case it is common ground that the project is likely to have a significant effect upon a European Site and that Appropriate Assessment is required.

5.5 The Regulations go on to describe the test that should be assessed by the competent authority as part of the Appropriate Assessment.

Regulation 61 (5) - *In the light of the conclusions of the assessment, and subject to regulation 62 (considerations of overriding public interest), the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or European offshore marine site (as the case may be).*

5.6 The competent authority should therefore only grant permission if their AA concludes that the plan will 'not adversely affect the integrity of the site'.

5.7 Regulation 62 then sets out the process of dealing with projects where it cannot be ascertained that there will be no adverse effect upon integrity.

Regulation 62 (1) - *If the competent authority are satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), they may agree to the plan or project notwithstanding a negative assessment of the implications for the European site or the European offshore marine site (as the case may be).*

5.8 In this case, the shadow AA has concluded that the project will have an adverse effect upon integrity of the SPA and the SAC and that Regulation 62 therefore requires the two further tests to be applied before a project can be given permission. Firstly there must be 'no alternative solutions' and secondly the project must be required for 'imperative reasons of overriding public interest' (IROPI).

5.9 If the competent authority can show that these two Regulation 62 tests are met (i.e. the project can go ahead because there is no satisfactory alternative and there are imperative reasons of overriding public interest), then under Regulation 66 it is necessary to seek compensation measures that are designed to ensure the coherence of the SAC/SPA 'Natura 2000' network is maintained.

Regulation 66. - *Where in accordance with regulation 62 (considerations of overriding public interest)*

(a) a plan or project is agreed to, notwithstanding a negative assessment of the implications for a European site or a European offshore marine site, or

(b) a decision, or a consent, permission or other authorisation, is affirmed on review, notwithstanding such an assessment,

the appropriate authority must secure that any necessary compensatory measures are taken to ensure that the overall coherence of Natura 2000 is protected.

5.10 Although it is the role of the competent authority to carry out the Appropriate Assessment, in this case the applicant has produced a 'shadow HRA' where it has set out its own view of the Habitats Regulations process. It should be noted that while it is common practice for applicants to provide the competent

authority with such a document, this does not absolve the competent authority from the legal requirement to undertake and record a full and independent assessment of its own.

Review of the Shadow HRA

5.11 The sHRA that has been produced by the applicant is reproduced in Annex 15 Volume 2 of the ES. The description of the project refers to the construction of a Marine Energy Park (MEP) with the overarching aim of being directly related to the decarbonisation of world energy production. As other evidence will show (see the Written Representation of Mr Philip Rowell) the nature of the project as defined in the draft Development Consent Order (DCO) is not confined to a Marine Energy Park but also refers to a more general port facility. This is reflected in paragraph 4.9.4 of the shadow HRA, amongst other references where the use of the quay is described as not being confined to installation craft but also 'use by other vessels delivering raw materials and other products either related to marine energy **or otherwise'** [my emphasis]. Others will examine the implications of this broader use as a general port, when examining 'no alternative solutions' and IROPI. The ambiguity of the purpose of the development does, however, have implications for the extent of the ecological impacts and the required compensation measures.

5.12 The EC case on Waddenzee (ECJ Case C-127/02) gave clarification to a number of aspects of the HRA process. Of relevance here is the requirement to carry out an assessment of *all* aspects of the development. This part of the judgment is referred to in paragraph 18 of the ODPM Circular 06/2005:

> *18. In the Waddenzee judgment, the European Court of Justice ruled that an appropriate assessment implies that **all** the aspects of the plan or project which can, by themselves or in combination with other plans and projects, affect the site's conservation objectives must be identified in light of the best scientific knowledge in the field* [their emphasis].

5.13 The logic of the need to ensure that all aspects of a project are examined may appear obvious but the full implications for this case need further explanation.

5.14 The open-ended nature of the proposal - *i.e*. the fact that the development would not be confined to manufacture and shipping of offshore renewable energy components - means that the scope of the project is unknown. The use of the quay for general port facilities may well have additional and significant impacts. These have not been explored by the sHRA. It is therefore not possible for the ExA to meet its obligations in a manner that is consistent with the Waddenzee decision because the impacts of the use of the site as a general port have not been examined.

5.15 Furthermore, the development gives rise to an adverse affect on integrity (the Regulation 61 (5) test) and the ExA must therefore examine the Regulation 62 (1) tests of '*no alternative solutions*' and '*imperative reasons of overriding public interest*'. However, the open ended nature of the proposal means that these tests cannot be judged as the ExA does not know what is it looking for in terms of alternative solutions or IROPI. If the ExA applies these tests to a Marine Energy Park it is not assessing the full extent of the proposal, conversely if it assesses a general port it does not have the full information available. In these circumstances the project simply cannot progress through the stepped process (Appendix 1) that the regulations require.

5.16 It is critical that all aspects of a project are fully assessed so that the full impact of the development can be understood. This is of great importance when, as in this case, the impact of the development will have an adverse impact upon the integrity of the site and compensation measures are required under Regulation 66. The required compensation measures have been designed to balance the loss of those impacts that are associated with the MEP. If the development is in fact a more general port, as is actually the case, more extensive or indeed entirely different compensation may be required to ensure that the integrity of the Natura 2000 network is maintained.

5.17 It should also be borne in mind that the nature of the project is also critical for the EIA process and while the concept of the 'Rochdale Envelope' has been developed to allow a certain degree of flexibility, such an assessment needs to be done within clear parameters (IPC Advice Note Nine 'Using the Rochdale

Envelope' February 2011). In this case, no material detail regarding the alternative uses of the site or assessment of these uses has been set out.

5.18 Leaving aside the scope of the project, there are also a number of additional issues that either are not addressed in the sHRA or have not been assessed with enough structure and rigour.

5.19 The assessment of 'in combination' effects within the sHRA is also worthy of review. The requirement to carry out an in-combination assessment is not confined to the significance test of Regulation 62 (1). English Nature issued guidance on this matter (HRGN 4 English Nature 2001) where it is stated that '*having ascertained the need for an appropriate assessment it would be illogical and inconsistent with the purposes of the tests in the Directive and the Regulations, not to consider the appropriate assessment in the same context. The appropriate assessment of the implications of the plan or project for the site should be made alone or in combination with other plans or projects'.* This approach is now universally adopted. The approach is also consistent with the Waddenzee Case as stated in Para 5.12 above.

5.20 While the sHRA includes a section on '*in-combination effects*' (Section 6.7 sHRA) the approach taken there is flawed. The author's tactic has been to consider the 'in-combination' taking into account the balancing effects of the compensation measures to be secured under Regulation 66. In paragraph 6.7.3 it is argued that the compensation area will balance any habitat loss for all birds and therefore essentially there is no effect that can be combined. This logic is fundamentally flawed. The purpose of the in-combination assessment is to allow a full assessment of the overall impact of a development and how the impacts identified may be compounded by other (possibly insignificant) impacts further afield. This must be done at the stage of assessing the effect upon integrity, as the sum of these effects may have a greater impact upon the site and consequently these increased impacts will need to be addressed by the compensation measure. To address the in-combination effects, taking into account the compensation measures, is erroneous as it short-circuits the process. Compensation needs to be devised to include the additional impacts that have been identified during the in-combination assessment.

5.21 By comparison, the AA of the Green Port Hull carried out by Hull City Council sets out detailed tables of the potential in-combination effects, examining a range of other projects and how the known impacts of these projects may combine to produce an increased impact, informing the assessment of adverse effect on integrity. In some cases it was possible to offer mitigation that would reduce the in-combination effects thereby decreasing any adverse effect upon integrity.

5.22 It should also be noted that the in-combination effects presented in the sHRA for AMEP are confined to birds and do not include an assessment of the effects upon the interest features of the SAC. This is a further fundamental flaw in the assessment work carried out in support of AMEP.

5.23 The importance of undertaking the in-combination assessment at the integrity test stage is also illustrated in the sHRA's approach to assessment of the project upon SPA qualifying birds. In carrying out the assessment of the impact upon the SPA a likely significant effect is assumed for those species that are recorded within the development area in numbers that are equal to or greater than 1% of the total Humber SPA population. However, as defined in paragraph 5.4.20 and in Table 5.9 of the sHRA, a number of species that do occur in numbers of 1% or more have been excluded because only small numbers have been recorded and it is assumed that these birds can be accommodated elsewhere in the Humber Estuary. These species have been excluded from the later integrity assessment and have not been subject to any in-combination assessment. The danger is that if these species are being affected in similar ways elsewhere, taken together these impacts will have a likely significant effect.

Review of the proposed compensation site

5.24 As stated above, it is my opinion that the sHRA has not taken into account the full impacts that may arise from this project. These additional impacts mean that there could be further effects on integrity that may require additional compensation to ensure that the overall coherence of Natura 2000 is maintained. I am of the opinion that a more thorough examination of the potential impacts is required, including a proper assessment of in-combination effects.

5.25 One of the key components of the SPA which the compensation aims to address is the loss of Killingholme Marshes Foreshore which is known to be a key feeding site for black tailed godwit (peak counts represent 66% of the Humber Population (Table 11.8 of the ES Volume 1 p11-41). North Killingholme Haven Pits (NKHP) is the main roosting site supporting an average of 85% of this species (ES Volume 2 Annex 35.6 p3 report by Dr S Percival).

5.26 The short distance between this main roosting site and the key feeding site at Killingholme Marsh Foreshore *c*.1 km away, has important ecological benefits for this species. Travelling to feeding sites requires energy, and the shorter the distance between roosting and feeding site the less energy is wasted gaining that food. The efficiency of feeding is important as it affects the condition of the birds and ultimately their ability to survive and breed.

5.27 This issues is acknowledged in Dr Percival's report (ES Volumes 2 Annex 35.6 p24 4th para) in his assessment of the loss of the foreshore on the feeding behaviour of black tailed godwits where it is stated '*If there are alternative feeding areas to which any displaced birds could go (**without any significant additional energetic cost**), then such displacement may not be ecologically significant.'* (my emphasis). The assessment does not then go on to look at whether the loss of the feeding site at Killingholme Marsh Foreshore would result in a significant additional energetic cost.

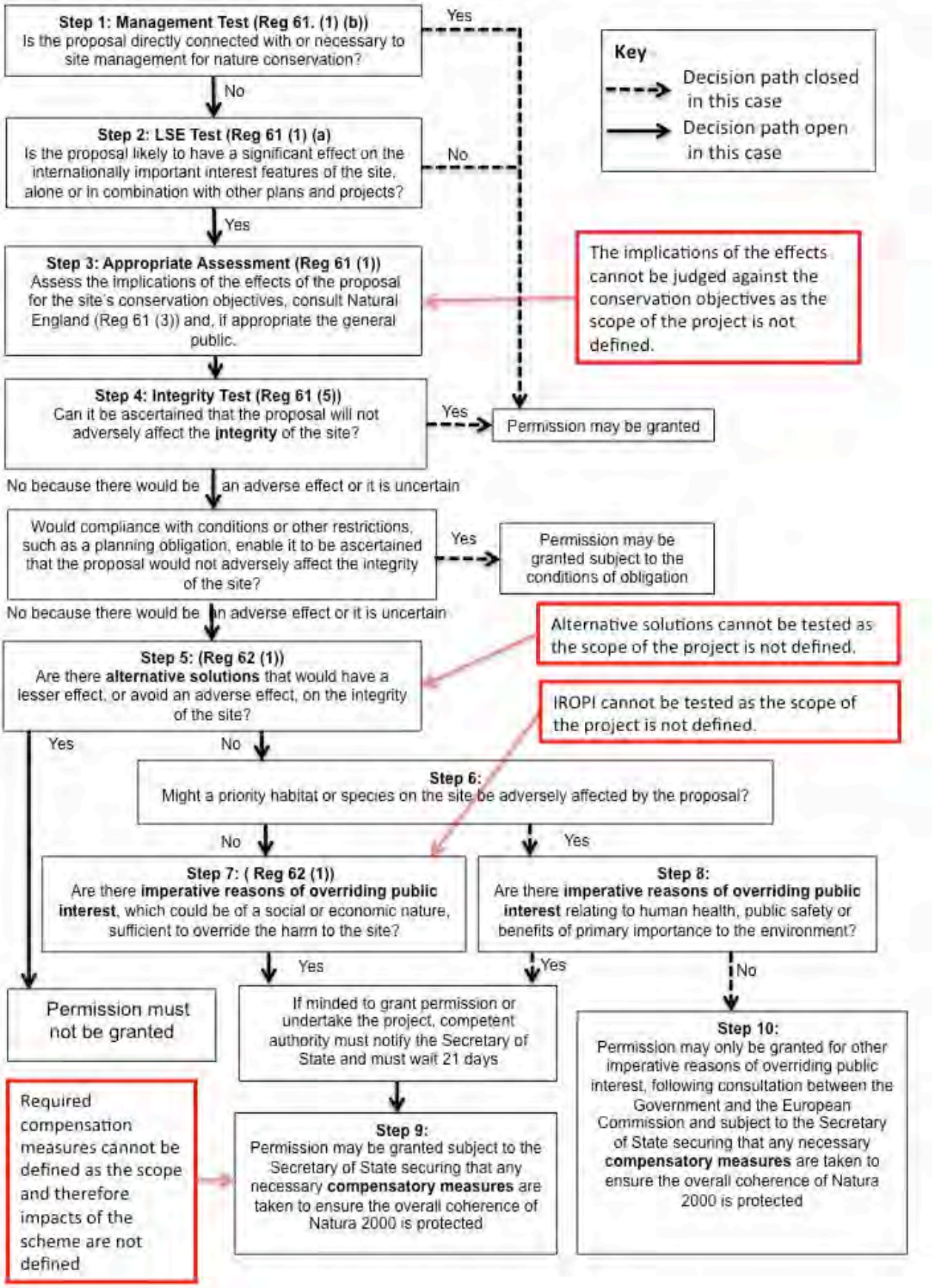
5.28 In contrast to the development AMEP site the compensation site is *c*.5.5km from NKHP. If the pits were to continue to be used by black tailed godwits as their main roosting site this would mean that the birds would have an additional energetic cost to reach the feeding site and a flight that involves crossing the Humber estuary. If the loss of the foreshore feeding area to the development means that black tailed godwits do not continue to use HKHP as their main roosting site, because the close proximity with the key feeding site at Killingholme Marsh Foreshore has been lost, then this raises the question where else will they roost? The applicant does not address this question and no mitigation or compensation is offered.

5.29 In order to maintain the ecological structure and function of the estuary for black tailed godwits, and in doing so maintain the overall coherence of Natura 2000 as required by Regulation 66, compensation needs to address the energetic costs associated with the loss of the feeding site. The compensation needs to ensure that similar habitat to NKHP is created close to the new mud flats to ensure that black tailed godwits have a replacement roost site should NKHP become unfavorable because of the development.

5.30 As it stands the proposed compensation is therefore not adequate even for the impacts that have been identified within the ES and s HRA.

Appendix 1 Habitats Regulations 2010 step by step guide

based on ODPM Circular 06/2005 Defra Circular 01/2205 Figure 1



Glossary

National Vegetation Classification (NVC)

Developed by Professor John Rodwell of Lancaster Univeristy the National Vegetation Classification provides a classification and descriptive system of British plant communities. The method uses detailed botanical surveys to compile floristic tables and the NVC community is defined by those species that are most frequently present within the survey samples.

Phase I survey

Phase 1 survey classification is a survey method that allow large areas of land to be rapidly and assigned to a predefined compendium of vegetation or other habitat types. The method is as a standardised sytem of recording wildlife within a survey area and is often used to provide a prelimiary assessment of site to help define what further, more detailed ecological surveys are required.

Natura 2000

Natura 2000 is the European Union wide network of areas that are protected for their nature conservation value. Established by the 1992 Habitats Directive the network includes Special Areas of Conservation (designated for the habitats they support) and Special Protection Areas which were designated under the 1979 Birds Directive. The Natura 2000 network also fulfils EU's international obligations under the UN Convention on Biological Diversity.



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