

South Humber Gateway Ecological Mitigation

North East Lincolnshire Delivery Plan

September 2016

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1.0 Executive Summary

- 1.1 The South Humber Gateway (SHG) is located on the south bank of the Humber estuary in northern Lincolnshire. Covering an area of approximately 1,000 hectares, it represents one of the largest potential development areas in the UK. In recent years there has been significant development interest in the area particularly from the emerging renewable energy industry on the Humber.
- 1.2 The area is immediately adjacent to the Humber Estuary, which is recognised for its importance for wildlife at both national and international levels. The Humber Estuary is designated as a Special Area of Conservation, a Special Protection Area, a Ramsar site and a Site of Special Scientific Interest. These designations mean that great care is required when undertaking works which may result in negative impacts on the wildlife interest features of the Estuary. A potential conflict therefore exists between the need to develop the South Humber Gateway's economic potential for the benefit of the national economy and the legal obligation to ensure that its wildlife is protected.
- 1.3 This document sets out a mechanism, which will resolve the potential conflicts within the South Humber Gateway. In addition to providing details on the background to the strategy and the principles upon which it is founded, it seeks to identify the preferred mitigation sites for the North East Lincolnshire area, the proposals associated with them and provide details of the approach to their implementation and delivery. Proposals for delivery within North Lincolnshire have been prepared separately.

2.0 The Strategy

Context

- 2.1 The South Humber Gateway (SHG) (figure 1) stretches from the outskirts of Grimsby to the East Halton Skitter on the South Bank of the Humber Estuary. Straddling the boundaries of North Lincolnshire and North East Lincolnshire councils, the SHG is one of the most exciting strategic development locations in the UK. Covering almost 1,000 hectares of development land it is attracting significant global interest and unprecedented levels of investment. Major investments under way or planned are estimated to be worth almost £2billion. If all goes to plan, upwards of 15,000 new quality jobs will be created by 2020. The SHG already provides 27 per cent of the UK's refinery capacity and is home to the UK's busiest ports complex and one of the world's largest Combined Heat and Power (CHP) plants. Together with its sister Port of Grimsby, Immingham is the UK's largest port by tonnage.



Figure 1: Map of the South Humber Gateway

- 2.2 At the same time an estimated 175,000 birds visit the estuary every winter. The Humber is one of the top six estuaries for migratory birds in the UK and one of the top ten in Europe. The estuary forms an essential link in a chain of wetland sites creating what is known as the East Atlantic Flyway, stretching from the Arctic Circle to southern Europe and Africa, via the estuaries of North West Europe. The Humber supports internationally important populations of a number of bird species (including more than one per cent of the Western European non-breeding population), which are attracted by the plentiful food supplies of the salt-marsh and mudflats and often moving inland to roost and feed. In recognition of its value for biodiversity the Humber Estuary has been designated for its national, European and international importance. The Humber Estuary and the populations of wild birds it supports are

afforded special protection being designated at national and international levels. The estuary includes several Sites of Special Scientific Interest (SSSI) and is designated as a Special Area of Conservation (SAC)¹, Special Protection Area (SPA)² and Ramsar site. As such, both the estuary and its special features are covered by The Conservation of Habitats and Species Regulations 2010 (the “Habitats Regulations”) (SI No. 2010/490) as amended.

- 2.3 A significant amount of effort has been expended on establishing the fact that large numbers of SPA birds rely upon terrestrial areas adjacent to the estuary for roosting, loafing and foraging especially at high tide. A suite of ecological surveys funded by the former regional development agency, Yorkshire Forward, North and North East Lincolnshire Councils, the Environment Agency and the RSPB and managed by Humber INCA (now Humber Nature Partnership) has established that these areas are of functional importance to the conservation of the SPA bird populations. Details of wintering and migratory wader surveys carried out to date are included in Box 1.

Box 1. South Humber Gateway wintering and migratory bird surveys

- North Lincolnshire (allocated land) - January 07 - March 07. Weekly surveys on a field by field basis by Nyctea Consultants. Attached to this there were further targeted surveys during April 07 and May 07 to identify field usage by passage curlew, ruff and whimbrel.
- North Lincolnshire (allocated land) - July 07 - March 08. Weekly surveys on a field by field basis by Nyctea Consultants.
- North East Lincolnshire (allocated land plus additional area both North and South of A180) - November 2007 - March 2007. Weekly surveys on a field by fields basis by IECS.
- North East Lincolnshire (allocated land plus additional land both North and South of A180) - late July 2008 - November 2008. Weekly surveys on a field by field basis by Nyctea Consultants.
- North Lincolnshire (north and west of East Halton Skitter) - Jan 2009 - Mar 2009. Weekly surveys on a field by field basis by Nyctea Consultants.
- North Lincolnshire (north and west of East Halton Skitter) - August 2009 - March 2010. Weekly surveys on a field by field basis by Nyctea Consultants.
- Entire area (allocated land within North and North East Lincolnshire and area north and west of east Halton Skitter) - August 2010 - March 2011. Weekly surveys on a field by field basis by Nyctea Consultants.

- 2.4 Consultants used much of the early survey information to carry out a field-by-field study of waterbird usage of the SHG at that time (Mott Macdonald 2009). Fields that had supported at least 1% of the Humber population of given waterbird species on at least one survey visit were flagged as being potentially important in supporting the

waterbird assemblage of the Humber Estuary SPA. 454 hectares of such fields were identified across the SHG in North and North East Lincolnshire. However, this resource was clearly highly variable, with some fields only being used on a few occasions, and other fields being used regularly by significant numbers of one or more species. Habitats used varied from arable crops that might only be used at certain stages of growth or vegetation height to areas of permanent pasture that might be used more predictably from year to year.

- 2.5 The development of all or most of the SHG area is considered likely to lead to a significant loss of this supporting terrestrial habitat and it is not possible to conclude that an adverse effect on the integrity of the SPA will be avoided. The *Conservation of Habitats and Species Regulations 2010* require that, where there are reasons of “overriding public interest” (including both social and economic issues), proposals for development that will have a negative impact upon the integrity and sustainability of the site must have appropriate mitigation measures in place prior to planning permission being supported.
- 2.6 It was determined that the most effective course of action in the SHG was to identify large areas of land which can be used to mitigate against the loss of land currently used by waders. In order to deliver this strategic mitigation, a South Humber Gateway Ecology Group was formed comprising local authorities, landowners and both statutory and non-statutory conservation bodies.
- 2.7 A Memorandum of Understanding (MOU) was prepared and signed by each of the parties within the SHG Ecology Group in June 2010. This demonstrated the commitment of all parties to cooperative working to the production, adoption and implementation of a framework to address the ecological and economical demands upon the Estuary. The signatories agreed to a strategic approach to delivery, believing this to be more preferable to piecemeal implementation, and that positive planning reduces ad hoc loss and speeds decision making. The objectives for the approach identified are detailed in Box 2, and a full copy of the MOU is enclosed at Appendix 1.

Box 2. Objectives for Strategic Mitigation Approach

- To identify strategic conservation mitigation options through an agreed Delivery Plan, which will form part of the Local Development Frameworks for both North Lincolnshire and North East Lincolnshire Council.
- To ensure that the Delivery Plan and the emerging LDFs comply with the Habitat Regulations and are subject to the relevant Regulations 61,62 and 66.
- To examine the need and nature of Strategic Environmental Assessment for the LDFs.
- To acknowledge that both the LDF and Delivery Plan for strategic mitigation will be delivered over a period of time and work together to establish these timescales with agreement over what will need to be delivered to meet environmental requirements.
- To identify implementation and financial mechanisms for utilising the strategic mitigation that provide a clear process for development to address the issue of direct land take of areas used by SPA and Ramsar birds within the SHG.
- To ensure the Delivery Plan takes into account the implementation of the approved Humber Estuary Flood Risk Management Strategy and subsequent reviews, recognising that there are intertidal issues.
- To agree that mitigation areas identified by the Delivery Plan and associated LDF.
- Allocations documents will be delivered both within the SHG Employment Allocation zone and in close proximity outside this zone, as currently adopted.
- To meet the requirements of PPS9 to build in biodiversity to all developments.
- To examine and agree the evidence base to support the development and implementation of the Delivery Plan, including Identifying the location and extent of existing critical land areas for avifauna – identified through bird survey work.
- To agree the area where the Delivery Plan will operate, supported by an agreed evidence base, including optimal management guidelines and basic design principles to ensure that mitigation areas function appropriately.
- To agree the basis for the ownership and management of mitigation sites, how contributions are worked out and methods of making contributions (S106 agreements/CIL etc) as well as how they will be used and how mitigation sites will be managed and by whom.
- To agree requirements for monitoring and review of the Delivery Plan and the mitigation areas.
- To share data and to work together to ensure that data are interpreted in a consistent manner by developers and regulators

- 2.8 The work proceeded outlining a series of general principles that would give a broad picture of what a final solution would likely look like. The principles identified in Box 3 were utilised to assess the requirements.

BOX 3. Strategic Mitigation: General Principles

- Continued unmitigated development of the SHG will cause adverse effects on the integrity of the Humber SPA and Ramsar site
- It is highly unlikely that all adverse effects can be mitigated outside the SHG
- Given the size and length of the SHG a single mitigation site would not represent an acceptable solution
- The total area of mitigation will likely be less than the combined area of land used by birds, provided the mitigation is appropriately located, designed and managed
- There are likely to be areas in the SHG used in such large numbers that their loss alone or in combination with other development in the area constitute an adverse effect on the integrity of the Humber SPA and Ramsar site
- The pattern of bird use may indicate areas that subject to the right mitigation could support higher levels of use and may be suitable for mitigation
- Some areas of the SHG not be used by birds may be affected by factors such as crop regimes rather than locational factors

- 2.9 It was concluded that, in order to mitigate for 454ha within the SHG area, four 20ha blocks of core wetland habitat, each surrounded by 150m wetland habitat buffers, would be sufficient to offset the potential loss of proposed development land. These should be located in close proximity to key intertidal feeding areas. These criteria led to the identification of a requirement for two of the above blocks to be provided in North Lincolnshire and two within North East Lincolnshire.
- 2.10 Further discussion relating to North East Lincolnshire led to agreement on an approach, which will see the delivery of a number of sites smaller than the proposed buffered 20ha sites. These sites will provide a network for birds, which reflects how birds are currently using the area. Whilst some of these sites are too small to function as mitigation alone, they are ecologically functional as part of the suite of mitigation sites. These were subsequently taken further and a set of Mitigation Principles have been developed and embodied in the Delivery Plan, as detailed in Box 4.

BOX 4. Strategic Mitigation: Mitigation Principles

Area (combined):

The mitigation required to enable continued development of the SHG will need to be sufficient to support the needs of the birds using the inland areas of the SHG and intertidal areas. Data collected through the HINCA coordinated surveys suggests that the SHG supports more than 1% of golden plover, lapwing, curlew, whimbrel and ruff on c.454ha of the available c.1000ha – *the creation of optimal mitigation would therefore need to mitigate for the loss of the 454ha of land.*

Area (individual):

The size of individual mitigation areas will need to take account of species and numbers of birds to be accommodated, preferred roosting densities, scanning requirements, disturbance effects and viable management. *Calculations suggest that to create a 20ha core refuge, allowing for minimal edge effect equating to a minimum 150m sub optimal area of habitat to absorb edge effects, the overall mitigation site area would be 50ha. To achieve confidence in ecological functioning a minimum of four mitigation areas are required within the SHG*

Location:

Mitigation must be located within appropriate distance of the intertidal areas, other mitigation areas and “the potential development areas” used by SPA birds. The sites should allow for distance impacts and should ideally be contiguous/ near contiguous to the Humber flood banks and should closely linked.

Availability and Suitability:

Potential mitigation should be available for use by target species prior to development commencing.

Accessibility:

Mitigation must be accessible to the birds they are to support, and provide clear pathways between other mitigation areas and areas of the Humber bank.

Timing:

The mitigation area required to support development must be ready to support SPA birds before that development commences.

Habitat Type and Management:

The needs of the target species should be met and potential mitigation maximised.

Efficacy

Adequate monitoring must be undertaken to assess development, management and use of the mitigation areas

Durability:

Arrangements for the ownership and management of the mitigation measures must be secured in the long term.

- 2.10 Care has been taken to consider and refine the mitigation principles, particularly considering their application in an area of existing landuses. In North East Lincolnshire the patchwork of existing industrial uses and the pattern of existing bird usage raises particular difficulties and considerations.

Preferred Sites

- 2.11 Whilst work advanced on refining the individual principles, it became clear that there was not one solution that would deliver the mitigation solution coming from the principles and that specific site options needed to be considered and evaluated. This was not a simple process as there was no agreed consensus as to the significance of weighting or particular factors. It was, therefore, through a process of site identification, discussion and consideration that the site options were refined. The options assessment is provided in more detail in Appendix Two.
- 2.12 The options assessment resulted in the identification of four key sites, complemented by two existing areas of grassland, totalling an area of 107ha as indicated on the plan below. These sites have been agreed within the Ecology group as the preferred sites for mitigation provision.

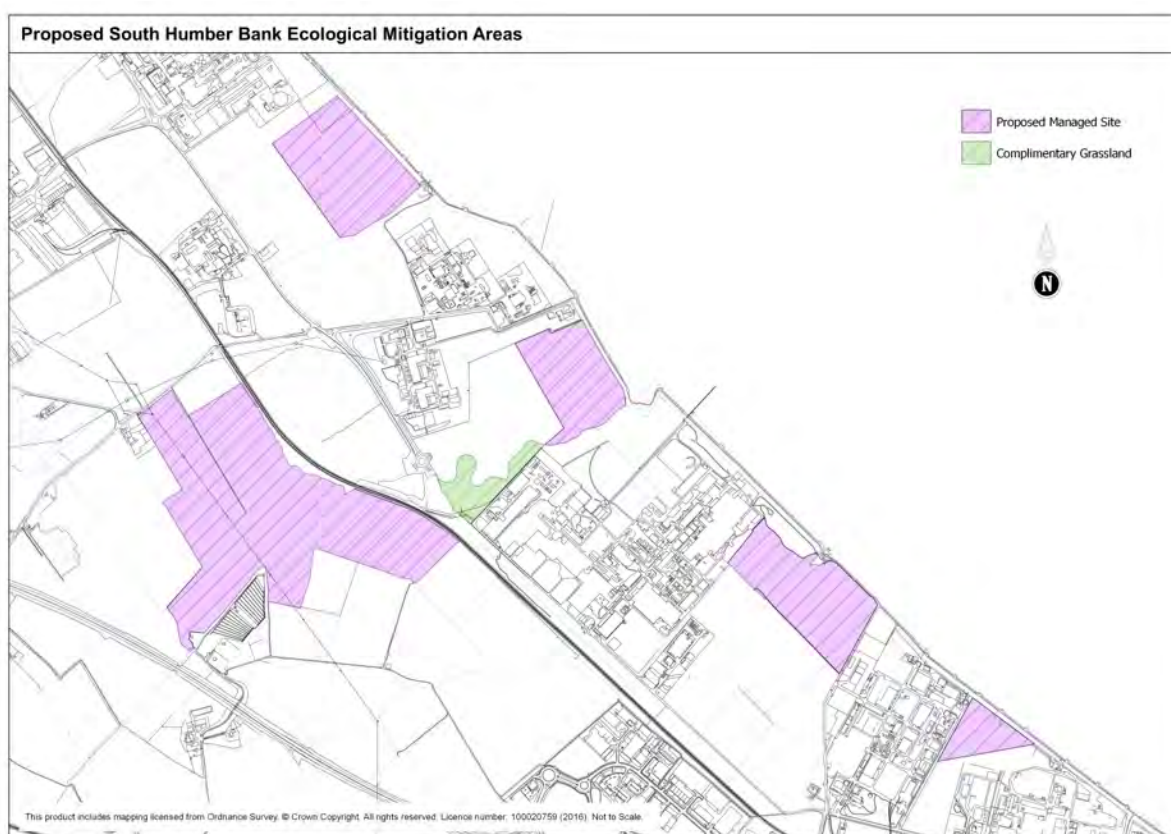


Figure 2: Proposed South Humber Bank ecological mitigation areas

3.0 Delivery Plan

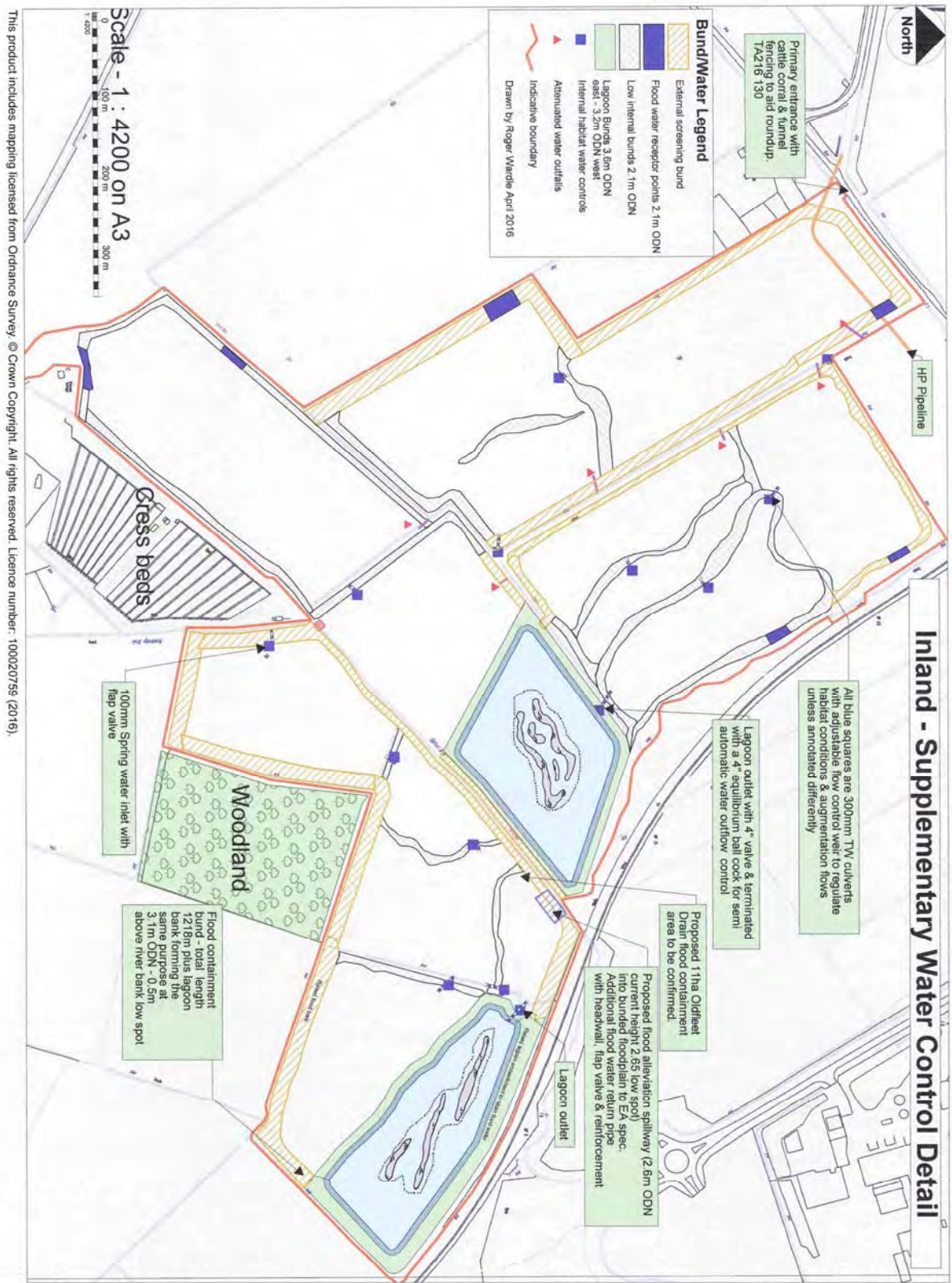
Site Specific Proposals

- 3.1 For the delivery plan a suite of *specific* mitigation sites must be identified, with clear boundaries, each with a *specific* long-term management plan identified that will deliver the appropriate habitat for the birds' functional needs. The key principles agreed by the Ecology Group are summarised as follows:
- 3.2 In terms of habitat management, wet grassland, managed to meet the requirements of passage and wintering birds, and fulfilling several functions to provide for foraging, roosting and loafing birds, was considered the most appropriate land use. To provide most value, the mitigation must be delivered close (preferably adjacent) to the estuary, and the areas should be of an appropriate size and shape to allow for undisturbed central 'refuges' surrounded by marginal habitats (acting as a buffer from disturbance).
- 3.3 Optimal management of such sites is generically well understood and would probably involve: the creation and management of ditches and other water features; the control of water levels; management of the sward through cattle grazing (with an appropriate breed of cattle), and vegetation control; maintaining open sight lines for waterbirds; and, keeping the areas free from disturbance while allowing access for stock checks and other maintenance works.
- 3.3 A complex mosaic of small-scale topography is also required due to being of greater potential benefit to waterbirds than larger-scale topographical work. This would result in a patchwork of dry and wet grassland, with the former providing a resource of invertebrate prey. Seasonal management of water levels would be actively managed and was an early consideration in the design process.
- 3.4 A range of water features is required, including field edge and in-field ditches (primarily for water and access management), smaller drains (foot-drains), which are likely to be used by waders, scrapes and islands, and large seasonally inundated areas. Wet grassland will require an appropriate breed of cattle to graze during the summer months to create a mosaic of tussocks and short turf (their dung will also help augment invertebrate populations). Cattle would (ideally) be removed, or stocking density at least reduced, during the passage and winter periods. Rush cover should be confined to less than 10% of the total waterbird mitigation area, this being controlled in part by trampling by cattle, but cutting and water-level manipulation may also be required to inhibit regrowth.

- 3.5 Mitigation areas are required to be as free as possible from disturbance during the key migration and winter periods. Both informal and formal access to the site should be controlled if possible to ensure the target birds are not subjected to disturbance. Measures to control disturbance have been designed and implemented on a site-by-site basis.
- 3.6 To progress the detailed design of the mitigation areas, North East Lincolnshire Council appointed The Environment Bank to undertake all necessary assessments, discuss areas for inclusion with landowners and prepare detailed designs for each of the sites.
- 3.7 The principle habitat to be created and managed is wet grassland, primarily to provide displacement habitat and additional refuge for birds using the SPA during the overwinter period (principally September – March). The habitat will be established through a combination of seeding (sowing rates should be within 3-5g/m² and should be carried out in the spring or autumn), or use of green hay followed by a management regime based on that for coastal grazing marsh. The areas will be seeded with common plants from wet grassland habitats, including common grasses such as Red Fescue *Festuca rubra*, Rough Meadow-grass *Poa trivialis*, Marsh Foxtail *Alopecurus geniculatus*, Meadow Foxtail *Alopecurus pratensis*, Perennial Rye-grass *Lolium perenne* and Creeping Bent *Agrostis stolonifera*. Sowing blocks of taller tougher grasses such as Yorkshire Fog *Holcus lanatus*, Tall Fescue *Festuca arundinacea* and Tufted Hair-grass *Deschampsia caespitosa* provides tussocky structure to the sward and, therefore, suitable habitat for nesting waders. Low growing herbs of wet grasslands could also be sown such as Silverweed *Potentilla anserina*, Creeping Jenny *Lysimachia nummularia*, Cuckooflower *Cardamine pratense* and Self-heal *Prunella vulgaris*.
- 3.8 The key factors in creating wet grassland habitat for overwintering waterfowl are:
- a) Water management to create shallow standing water areas with muddy margins and a soft substrate.
 - b) Sward management to create a suitable structure for invertebrates whilst maintaining an open landscape for bird predator detection.
 - c) Disturbance management.
- 3.9 Due to the clay substrate, water level management will primarily be achieved through design of the habitat with scrapes and ditches impounding rainfall, and a much smaller influence of water level control structures. Perimeter ditch water

levels will be controlled by installed sluices to hold water back on site and distribute it across the field wetland features. These will be serviceable and maintained at specified levels to ensure sufficient surface water in features and a large perimeter of moist soil for terrestrial feeding. During the habitat design process, small, shallow ephemeral pools will provide a food source for wader chicks through colonisation of invertebrate communities of high biomass such as the *Chironomidae*. Water levels will be monitored and adjusted in order to maintain desired features. As scrapes slowly silt up, they, or new ones will be dug to ensure that suitable habitat is always available. Water control structures will be inspected at least annually for damage.

3.10 The proposals for habitat creation on each of the sites are shown below:



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Figure 3: Inland site habitat proposals



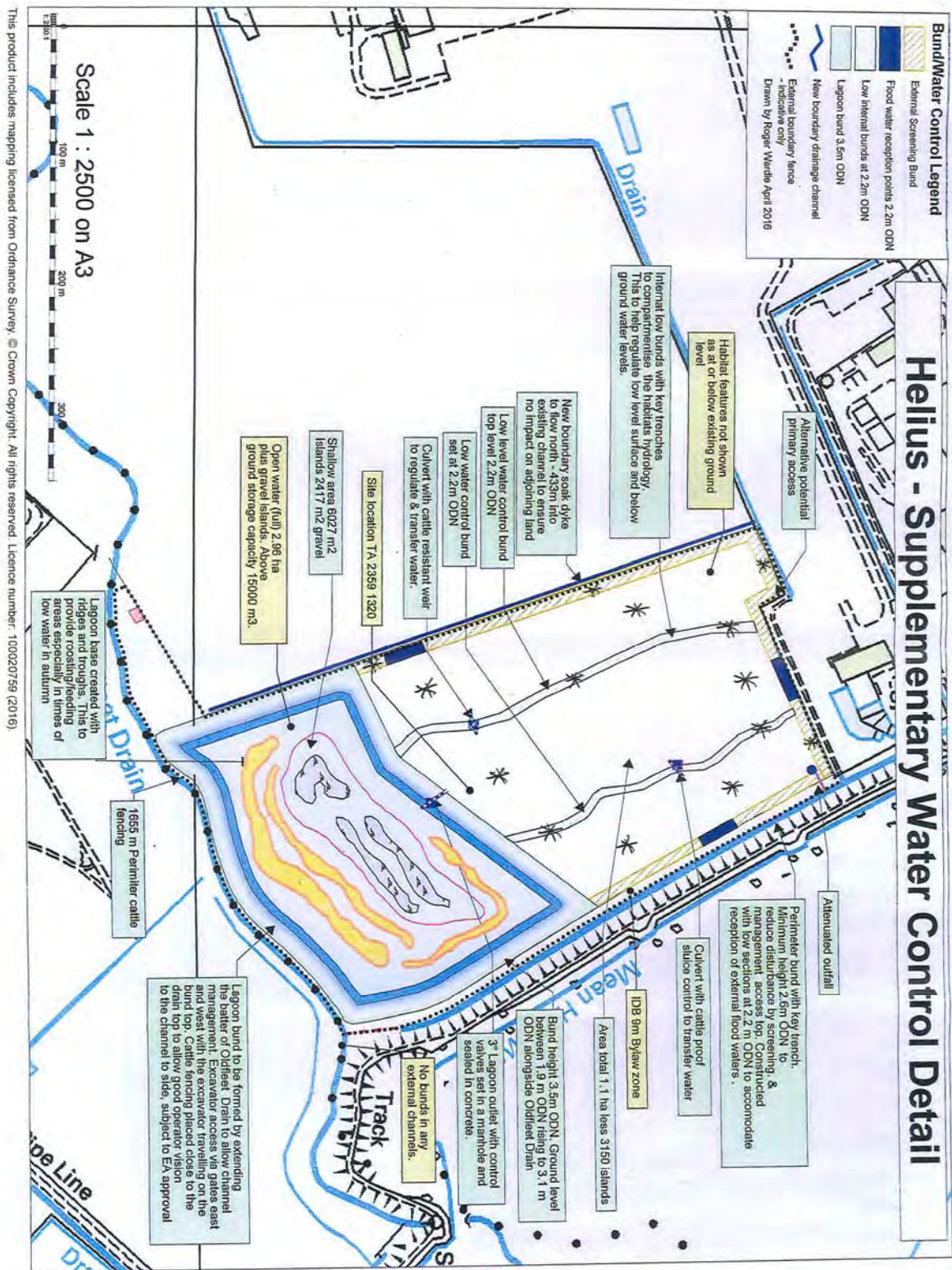


Figure 5: RWE site habitat proposals

- 3.11 A Management regime has been devised, which will be implemented over the 20 year period. Following establishment, grazing with a breed of cow able to cope with wet exposed conditions will be necessary to create the structure suitable for invertebrate prey populations and wintering waders. Grazing pressure should be in the region of 100-250 livestock unit (LSU) days/ha/year, in order to produce a mosaic of short sward of 5-7cm in length and tussocks (RSPB 1997).
- 3.12 In the spring and early summer grazing pressure should be lighter to avoid poaching and trampling nests and allow herbs to flower and seed. In the late summer and early autumn grazing pressure could be increased to allow cattle to break down any large stands of vegetation and open up the sward to create foraging areas for waders.
- 3.13 The ground will not be poached, although small areas of bare ground can create niches for colonisation of plants. Cover of rushes *Juncus spp.* should be less than 40% (Natural England 2010). Tussocky swards require grazing to keep them more open between the tussocks (tussocks ideally at a density of 1 per m²). This provides suitable habitat for nesting waders. Where rushes are in the sward, management is needed to maintain the tussocks at the optimum density for Redshank and Lapwing. A combination of cutting in late summer and grazing can be used to keep density of tussocks to 1 in 10m². If tussocks are very dense they can be cut late autumn and flooded immediately to knock them back.
- 3.14 Signage and interpretive boards will be used to explain the management of the area and the importance of lack of disturbance to the area. Stock inspections will be done from a distance using binoculars, and management tasks will be undertaken in such a way as to limit the number of disturbance events.

Delivery and Phasing

- 3.15 Natural England, as the regulatory body ensuring compliance with the Habitats Regulations, requires 'certainty' that the mitigation will meet the requirements of the Habitats Regulations. As such, it needs to be demonstrated 'beyond reasonable doubt' that the strategic mitigation proposed is achievable "in perpetuity". Through discussion with the Ecology Group, "in perpetuity" has been agreed as requiring appropriate land interests and management agreements for each of the mitigation sites for a minimum period of 25 years.
- 3.16 The four identified sites sit within seven separate ownerships. Negotiations have been progressed with each owner, either on the basis of a freehold purchase or 25 year lease. Purchase values are to be determined at the prevailing market value and

subject to a valuation in accordance with the RICS Valuation – Professional Standards (January 2015) (“The Red Book”).

- 3.17 The Council will procure appropriate/suitable contractors to undertake the habitat creation works, and it will also procure a management company to ensure that appropriate management of the mitigation sites is undertaken in accordance with the agreed specification over the perpetuity period (25 years). All appointments will be subject to the Public Procurement Regulations 2015.
- 3.18 Delivery of each site will be dependent upon the ability to quickly negotiate land interests and access arrangements with the respective landowners. It is noted, however, that sites closer to the Estuary have a greater level of importance given their SPA bird usage. These sites will, therefore, be progressed as a matter of priority.
- 3.19 On-site works will be progressed on an individual basis pending completion of appropriate land negotiations and the granting of planning permission. It is recognised that development should not be permitted prior to the Mitigation being put in place. NELC and Natural England have agreed that, as a matter of course, mitigation land should always be provided in advance of the employment development, and that this will be determined on balanced book basis. Each development proposal will therefore be judged against this approach.

Funding

- 3.20 Current estimates of cost for land acquisition, habitat creation and management are currently estimated at between £5.5m and £6.8m, the extent of which is dependent upon the result of land negotiations and final prices agreed. A breakdown of the funding requirement is shown below.

| | |
|---|--------------------------------------|
| Land Acquisition/Lease costs (25 years) | £3,296,000 - £4,560,000 ¹ |
| Habitat Creation | £1,380,500 |
| Ongoing Management (25 years) | £ 894,000 |
| TOTAL | £5,570,500 - £6,834,500 |

Table 1: Strategic Ecological Mitigation Costs

- 3.21 Funding has been committed from the Council’s SHIP programme (a £15m funding programme to deliver key infrastructure projects across the South Humber Bank), and Greater Lincolnshire LEP Local Growth Fund. A further bid for ESIF funding has also been allocated and is awaiting final approval. All funds required to deliver the Ecological Strategic Mitigation are therefore in place.

¹ Variations in Acquisition costs based on minimum and maximum values anticipated to be required as part of the negotiation process.

- 3.22 It is intended that the Council will utilise the funds available to it to acquire appropriate interests in the sites, create wet grassland habitat and ensure a 25-year management programme. This investment will therefore enable future economic/employment development within the South Humber gateway area, subject to the balancing provisions identified in Paragraph 3.19 above.
- 3.23 Planning legislation places the responsibility for appropriately mitigating any negative impact of development on the developer. All development proposals within the Mitigation Zone will be expected to contribute to the implementation of the Mitigation Strategy. It is anticipated that contributions will be secured either through Unilateral Agreements or s106 agreements.
- 3.24 Analysis of the Employment Land Review indicates that within the proposed Mitigation Zone, the total developable area equates to 680ha (1,647 acres). This includes all sites held for some form of future potential operation.
- 3.25 The contribution sought from developers will be therefore based on the following equation:

$$\text{Total Cost/Total Land} = \text{£ per ha (£ per acre)}$$

Based on a minimum project cost, this equates to:

$$£5,570,000/680 = \textbf{£8,191 per ha} \quad (£5,570,000/1,680 = \textbf{£3,315 per acre})$$

Based on a maximum project cost, this equates to:

$$£6,834,500/680 = \textbf{£10,050 per ha} \quad (£6,834,500/1,680 = \textbf{£4,068 per acre})$$

- 3.26 On this basis, a contribution of between £8,191 and £10,050 per ha. (£3,315 - £4,068 per acre) could be sought from developers. The total costs of the scheme are currently provided as a range dependent upon the extent of land price negotiations and will not be finalised until such time as all negotiations are completed. As an interim position, the Council intends to set a target contribution figure of £8,650/ha (£3,500/acre), with this figure being amended accordingly once final values are ascertained. Details on the final calculations should be provided within appropriate supplementary documents.

Programme

- 3.27 The external funding regimes (Greater Lincolnshire LGF and ESIF) associated with this scheme requires that all funding is committed within the period April 2016 to March 2020. The Council commitment has the ability to be utilised more flexibly, but is currently anticipated to be fully expended by March 2021. The programme therefore anticipates delivery of all Strategic Mitigation grassland sites within a five year programme.

Monitoring

- 3.28 In order to ensure the efficacy of the mitigation sites, regular monitoring will take place over the perpetuity period to ensure the ecological functioning of the wet grassland sites. The exact details of the monitoring to be undertaken will be agreed with the Ecology Group.

4.0 Conclusions

- 4.1 This Mitigation Delivery Plan highlights the importance of the Humber Estuary in ecological terms, and the conflict that occurs between the protection of the ecological importance of the Estuary and the promotion of economic development within the South Humber Gateway.
- 4.2 The Habitats Regulations require that where an adverse ecological impact will result from development that is in the overriding public interest, appropriate mitigation can be put in place to off-set the adverse impacts.
- 4.3 A number of surveys relating to the important bird species utilising the Estuary have been undertaken and have established the extent and importance of the bird populations. Any development is considered likely to have an adverse impact, and therefore a strategic approach to mitigation has been devised.
- 4.4 Within North East Lincolnshire, four sites have been identified which meet the overall criteria established by the Ecology Group. Detailed proposals for each of these sites has now been developed, and negotiations have commenced with all of the landowners concerned.
- 4.5 In addition, North East Lincolnshire Council has been successful in securing appropriate funds to ensure mitigation habitats are delivered, and progress has been made to secure sites for mitigation purposes. All funding needs to be utilised between 2016 and 2020. Developers within the mitigation area will be expected to make an appropriate contribution towards the cost of the mitigation scheme.
- 4.6 This document demonstrates the extent of work and level of commitment made by North East Lincolnshire Council to deliver the Strategic Mitigation scheme. A funding strategy is in place, and a programme has been devised which enables the delivery of the scheme over a period of time. This strategy will protect the long term integrity of the Humber Estuary SPA by ensuring that any adverse impact of economic development within the South Humber Gateway is adequately mitigated.

APPENDIX 1 **Memorandum of Understanding (June 2010)**

Memorandum of Understanding for the Delivery of the South Humber Gateway Strategic Mitigation



South Humber Gateway Mitigation Group
June 2010

Memorandum of Understanding for the Delivery of the South Humber Gateway Strategic Mitigation

1. Introduction

- 1.1 The South Humber Gateway (SHG) is located on the south bank of the Humber estuary. It stretches from the outskirts of Grimsby to the East Halton Skitter. Straddling the boundaries of North Lincolnshire and North East Lincolnshire councils, the SHG is one of the most exciting strategic development locations in the whole of the Yorkshire and Humber region. Covering almost 1,000 hectares – nearly four square miles – of development land it is attracting significant global interest and unprecedented levels of investment. Major investments under way or planned are estimated to be worth almost £2billion. If all goes to plan, upwards of 15,000 new quality jobs will be created over the next 10 years. The SHG already provides 27 per cent of the UK's refinery capacity and is home to the UK's busiest ports complex and one of the world's largest Combined Heat and Power (CHP) plants. Together with its sister Port of Grimsby, Immingham is the UK's largest port by tonnage.
- 1.2 At the same time an estimated 175,000 birds visit the estuary every winter, the Humber is one of the top six estuaries for migratory birds in the UK and one of the top ten in Europe. The estuary forms an essential link in a chain of wetland sites creating what is known as the East Atlantic Flyway, stretching from the Arctic Circle to southern Europe and Africa, via the estuaries of North West Europe. The Humber supports internationally important populations of a number of bird species (containing more than one per cent of the Western European non-breeding population) which are attracted by the plentiful food supplies of the salt-marsh and mudflats; often moving inland to roost and feed. In recognition of its value for biodiversity the Humber Estuary has been designated for its national, European and international importance. The Humber Estuary and the populations of wild birds it supports are afforded special protection being designated at national and international levels. The estuary includes several Sites of Special Scientific Interest and is designated as a Special Area of Conservation¹, Special Protection Area and Ramsar site. As such, the estuary and its special features are covered by The Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") (SI No. 2010/490).
- 1.3 Large numbers of SPA/Ramsar birds rely upon terrestrial areas adjacent to the estuary for roosting, loafing and foraging especially at high tide and these areas are therefore of functional importance to the conservation of the SPA/Ramsar bird populations.
- 1.4 The purpose of this MoU is to demonstrate the commitment of the signatories to cooperative working to establish a mechanism which aims to highlight and resolve the potential conflicts within the South Humber Gateway between the need to realise the national economic benefits of the estuary related opportunities and the need to protect the environmental assets of the area in accordance with the applicable legislative obligations. The main output of the collaboration between key stakeholders is to work to produce, adopt and implement a framework (the Delivery Plan) to address the considerable ecological and economic demands on the SHG.

¹ The strategic mitigation is being developed to address potential impact on the SPA and Ramsar features therefore potential impacts on the SAC will not be addressed by the proposed Delivery Plan

2. Background

- 2.1 Approximately 80 per cent of the SHG falls within the North Lincolnshire Council boundaries, with the remaining 20 per cent in the North East Lincolnshire Council area. The Killingholme Marshes area is of vital importance to the future development of the SHG, given its proximity to the deep-water channel – the last undeveloped deep-water channel in the UK. Following extensive studies, negotiations are at an advanced stage with landowners and Yorkshire Forward to develop the land. Consequently, there are a number of major planning applications in the system for large-scale industrial and commercial development on both the Killingholme Marshes and East Halton Marshes. Combined, this total area of land represents the major part of the employment allocation within the North Lincolnshire Council boundaries. At the same time, in North East Lincolnshire there are a number of approved planning applications for major bio-energy businesses and also plans for the EuroParc 4 development.
- 2.2 It is recognised that a large proportion of the planned developments on the SHG could contribute positively to the climate change and sustainability agenda in the following areas: carbon capture and storage, biomass and wind energy, especially that associated with the Round 3 announcement made by the Government. In addition, the flow of trade through the SHG should have less of an environmental impact overland given its central UK location, low-congestion and excellent rail links.
- 2.3 The Regional Economic Strategy and the Local Development Frameworks of North Lincolnshire Council and North East Lincolnshire Council all recognise the SHG's strategic economic importance for the Hull and Humber Ports City Region and the wider Yorkshire and Humber Region and the considerable environmental value of the area. Sustainable development of the SHG will bring with it major employment and Gross Value Added (GVA) benefits for the whole of the Hull and Humber Ports City Region, and indeed regionally and beyond.
- 2.4 All parties to this Memorandum of Understanding are committed, in a spirit of cooperation and transparency, to successfully resolving the challenge of unlocking the unprecedented economic potential of the SHG for the Hull and Humber Ports Region whilst securing the protection and enhancement of a world-class environment. The economic and environment challenges are viewed as inextricably linked.
- 2.5 If successful, the SHG's Delivery Plan will provide the necessary framework to fulfil some of the nature conservation requirements of the Humber Estuary SPA and Ramsar site, specifically addressing mitigation needs arising from direct land take from development within the South Humber Bank Employment Allocation². Although the SHG zone is not in the designated SAC area, any potential impacts on the SAC as a result of development will also need to be addressed. The Delivery Plan will also create clarity and confidence that the impact of direct land take from within the South Humber Gateway can be mitigated both inside and outside the SHG zone. Such an approach will enable the emerging LDF's to allocate this area for the future estuary related activity and identify a clear framework for potential investors. Of particular value is that the Delivery Plan will work towards a strategic approach across the two unitary councils, in place of an ad hoc site-by-site approach to mitigation.
- 2.6 The signatories to the Memorandum of Understanding are the key organisations responsible for the development of the Delivery Plan, while those responsible for development are also committed to working cooperatively to safeguard and maintain the integrity of the Designated Site to support the delivery of sustainable development of the area. All the signatories agree to a strategic approach to delivery, believing this avoids a piecemeal approach and creates the necessary clarity and confidence, essential for both conservation bodies and developers/investors. The signatories also recognise that to achieve this requires their continued commitment to explore and examine strategic options to develop and implement the Delivery Plan through a transparent approach. The signatories further recognise that planning positively for wildlife reduces ad hoc loss and compromise, speeds decision-making and reduces the cost and time of submitting and resolving planning applications for estuary-based development.

2 The Employment Allocation in the relevant emerging LDF's and currently adopted Unitary plans.

- 2.7 The signatories agree that the Delivery Plan, and the mechanisms identified and agreed to implement it, will be outlined in the North Lincolnshire and North East Lincolnshire Core Strategies with mitigation areas identified in the Allocations Development Plan Document (DPD) and will be subject to assessment under the Habitats Regulations



3. Objectives

- 3.1 The signatories to this Memorandum of Understanding agree to work cooperatively and transparently to safeguard and maintain the integrity of the Designated Sites while enabling the sustainable development of the area. The signatories agree to the following objectives:
1. To identify strategic conservation mitigation options through an agreed Delivery Plan, which will form part of the Local Development Frameworks for both North Lincolnshire and North East Lincolnshire Council.
 2. To ensure that the Delivery Plan and the emerging LDFs comply with the Habitat Regulations and are subject to the relevant Regulations 61, 62 and 66
 3. To examine the need and nature of Strategic Environmental Assessment for the LDFs
 4. To acknowledge that both the LDF and Delivery Plan for strategic mitigation will be delivered over a period of time and work together to establish these timescales with agreement over what will need to be delivered to meet environmental requirements.
 5. To identify implementation and financial mechanisms for utilising the strategic mitigation that provide a clear process for development to address the issue of direct land take of areas used by SPA and Ramsar birds within the SHG
 6. To ensure the Delivery Plan takes into account the implementation of the approved Humber Estuary Flood Risk Management Strategy and subsequent reviews, recognising that there are intertidal issues

7. To agree that a Draft Interim Strategy may be helpful in establishing a staged approach as an output of the first stage of work
8. To agree that mitigation areas identified by the Delivery Plan and associated LDF Allocations documents will be delivered both within the SHG Employment Allocation zone and in close proximity outside this zone, as currently adopted.
9. To meet the requirements of PPS9 to build in biodiversity to all developments.
10. To examine and agree the evidence base to support the development and implementation of the Delivery Plan, including Identifying the location and extent of existing critical land areas for avifauna – identified through bird survey work.
11. To agree the area where the Delivery Plan will operate, supported by an agreed evidence base, including optimal management guidelines and basic design principles to ensure that mitigation areas function appropriately
12. To agree the basis for the ownership and management of mitigation sites, how contributions are worked out and methods of making contributions (S106 agreements/ CIL etc) as well as how they will be used and how mitigation sites will be managed and by whom.
13. To agree requirements for monitoring and review of the Delivery Plan and the mitigation areas.
14. To share data and to work together to ensure that data are interpreted in a consistent manner by developers and regulators



4. EU Habitats Directive

4.1 In order to ensure that the Delivery Plan complies with the Habitats Regulations, the signatories agree that:

1. Delivery of mitigation will be based on alone and in combination effects of developing the SHG on the Humber SPA/Ramsar, but will combine to support a strategic approach to economic development and mitigation in the estuary zone.
2. The Delivery Plan doesn't necessarily negate the need for an Appropriate Assessment at development control stage for individual developments; however the Delivery Plan should assist the AA process by identifying potential mitigation.
3. The Delivery Plan will inform the assessment under the Habitats Regulations for the LDFs for North Lincolnshire and North East Lincolnshire councils.
4. Mitigation sites will be safeguarded in perpetuity with appropriate management regimes



5. Mitigation

5.1 In order that strategic mitigation fulfils its requirements under the Habitats Regulations, signatories agree:

1. That the land will need to be managed specifically for the SPA/Ramsar birds that are impacted by development.
2. To identify mitigation areas based on evidence of the totality of potential development within the specified zone and possible in-combination effects outside the immediate zone. This will identify the maximum development (worst case scenario) and therefore required mitigation.

3. To explore and identify methods and options for land acquisition and shared strategic delivery of mitigation.
4. To consider the options for acquiring mitigation land and how developers may buy into it.
5. To determine timescales and any phasing to secure habitat
6. To consider multi-functionality of sites (where still consistent with SPA/Ramsar requirements) including opportunities for accessible green space, acknowledging that if multiple uses are pursued, it may result in additional mitigation land requirements to allow for additional buffers etc
7. To review progress on a regular basis to ensure continued compliance with the Habitat Regulations

6. Signatories

6.1 The following organisations are signatories to this Memorandum of Understanding

| Organisation | Officer Title | Signature | Date |
|---------------------------------|--------------------------------|--|----------|
| Yorkshire Forward | Executive Director Environment |  | 05.05.10 |
| Natural England | Regional Director |  | 06.05.10 |
| Environment Agency | Area Manager |  | 14.08.10 |
| RSPB | Acting Regional Director |  | 05.07.10 |
| Lincolnshire Wildlife Trust | Chief Executive |  | 17.06.10 |
| North East Lincolnshire Council | Leader |  | 12.07.10 |
| North East Lincolnshire Council | Chief Executive |  | 13.07.10 |
| North Lincolnshire Council | Leader |  | 26.07.10 |
| North Lincolnshire Council | Chief Executive |  | 02.08.10 |

APPENDIX 2 South Humber Gateway Mitigation Approach: Site Options Assessment

Introduction

This paper provides a summary of the process to date of considering and identifying appropriate mitigation in the South Humber Gateway, to allow development of the South Humber Gateway (SHG) and ensure the conservation of the SPA bird populations.

Why Was Action Required?

- The work addresses the needs of birds covered by the EU Birds Directive and included in the Special Protection Area, but does not meet all the requirements of the Habitat Regulations with regard to protected species and habitats. These will be addressed through the environmental assessment of individual developments and the subsequent determination of appropriate measures if necessary through Habitat Regulations Assessments (HRA).
- The overall aim of the work is to provide strategic mitigation which would ensure ecological functioning of sufficient land to provide adequate habitat for the birds on land to allow full economic development of the remaining land in the SHG.

Establishing an Agreed Approach

- Work on developing a conservation mitigation strategy to assist industrial development in the South Humber Gateway has been underway for some time. It has been agreed with key stakeholders, working together as the SHG Ecology Group, that a strategic approach to providing mitigation for any impacts upon the birds which use the Estuary would be the most effective way of meeting the requirements of The Conservation of Habitats and Species Regulations 2010 (SI No. 490) and would reduce the risk of one development creating problems for others.
- Considerable investment from North Lincolnshire Council (NLC), North East Lincolnshire Council (NELC) and formerly Yorkshire Forward (YF) has gone into the work required to prepare a strategic approach and significant work has been done to establish the ecological requirements of the birds, how these can be delivered, how support for the work can be achieved from industry and how the delivery of the mitigation strategy can ensure that the planning processes for NLC and NELC can be seen to comply with the Habitat Regulations.
- The work has been aided by the development of a **Memorandum of Understanding** between the key parties who have agreed to work together constructively to develop and deliver the strategy. The MoU was signed in May 2010 and the Group

worked on specific areas of the work which culminated in the production of an **Initial Delivery Plan** in August 2010. This identified the work that needed to be done and the key players required to achieve; it has been signed up to by both Councils, Natural England, RSPB, Lincolnshire Wildlife Trust and the Environment Agency.

Establishing a Sound Evidence Base

- The work is based upon specific information, understanding and evidence covering:
 - A thorough understanding of the legislative framework for the work, primarily under the Habitat Regulations, 1994 as amended;
 - Comprehensive waterfowl data for the full extent of the SHG by SPA birds;
 - An analysis of bird behaviour, including habitat preferences, roosting densities, flight lines etc

Clarifying Ecological Principles

- The work proceeded outlining a series of general principles that would give a broad picture of what a final solution would likely look like, these general principles have subsequently been taken further and a set of Mitigation Principles have been developed and embodied in the Delivery Plan

GENERAL PRINCIPLES

- Continued unmitigated development of the SHG will cause adverse effects on the integrity of the Humber SPA and Ramsar site
- It is highly unlikely that all adverse effects can be mitigated outside the SHG
- Given the size and length of the SHG a single mitigation site would not represent an acceptable solution
- The total area of mitigation will likely be less than the combined area of land used by birds, provide the mitigation is appropriately located, designed and managed
- There are likely to be areas in the SHG used in such large numbers that their loss alone or in combination with other development in the area constitute an adverse effect on the integrity of the Humber SPA and Ramsar site
- The pattern of bird use may indicate areas that subject to the right mitigation could support higher levels of use and may be suitable for mitigation
- Some areas of the SHG not used by birds may be affected by factors such as crop regimes rather than locational factors

- **MITIGATION PRINCIPLES**

Work was undertaken headed by NE and RSPB to clarify the ecological understanding necessary to meet the requirements of the birds for roosting and loafing in the SHG, this culminated in a set of initial mitigation principles:

- **Area (combined),** The mitigation required to enable continued development of the SHG will need to be sufficient to support the needs of the birds using the inland areas of the SHG and intertidal areas. Data collected through the HINCA coordinated surveys suggests that the SHG supports more than 1% of golden plover, lapwing, curlew, whimbrel and ruff on c.454ha of the available c.1000ha – *the creation of optimal mitigation would therefore need to mitigate for the loss of the 454ha of land.*
 - **Area (individual),** The size of individual mitigation areas will need to take account of species and numbers of birds to be accommodated, preferred roosting densities, scanning requirements, disturbance effects and viable management. *Calculations suggest that to create a 20ha core refuge, allowing for minimal edge effect a minimum 150m sub optimal area of habitat to absorb edge effects would be 50ha. To achieve confidence in ecological functioning a minimum of four mitigation areas are required within the SHG.*
 - **Location,** Mitigation must be located within appropriate distance of the intertidal areas, other mitigation areas and ‘the potential development areas’ used by SPA birds. The sites should allow for distance impacts and should ideally be contiguous/ near contiguous to the Humber flood banks and should closely linked
 - **Availability and Suitability,** Potential mitigation should be available for use by target species prior to development commencing
 - **Accessibility,** Mitigation must be accessible to the birds they are to support, and provide clear pathways between other mitigation areas and areas of the Humber bank
 - **Timing,** The mitigation area required to support development must be ready to support spa birds before that development commences
 - **Habitat Type and Management,** This should ensure that the needs of the target species are met and potential mitigation is maximised.
 - **Efficacy,** It is essential that adequate monitoring is undertaken to assess development and management and use of the mitigation areas
 - **Durability,** Arrangements for the ownership and management of the mitigation measures must be secured in the long term.
- **REFINEMENT OF THE PRINCIPLES**
Care has been taken to consider and refine the mitigation principles, particularly considering their application in an area of existing landuses. In North East

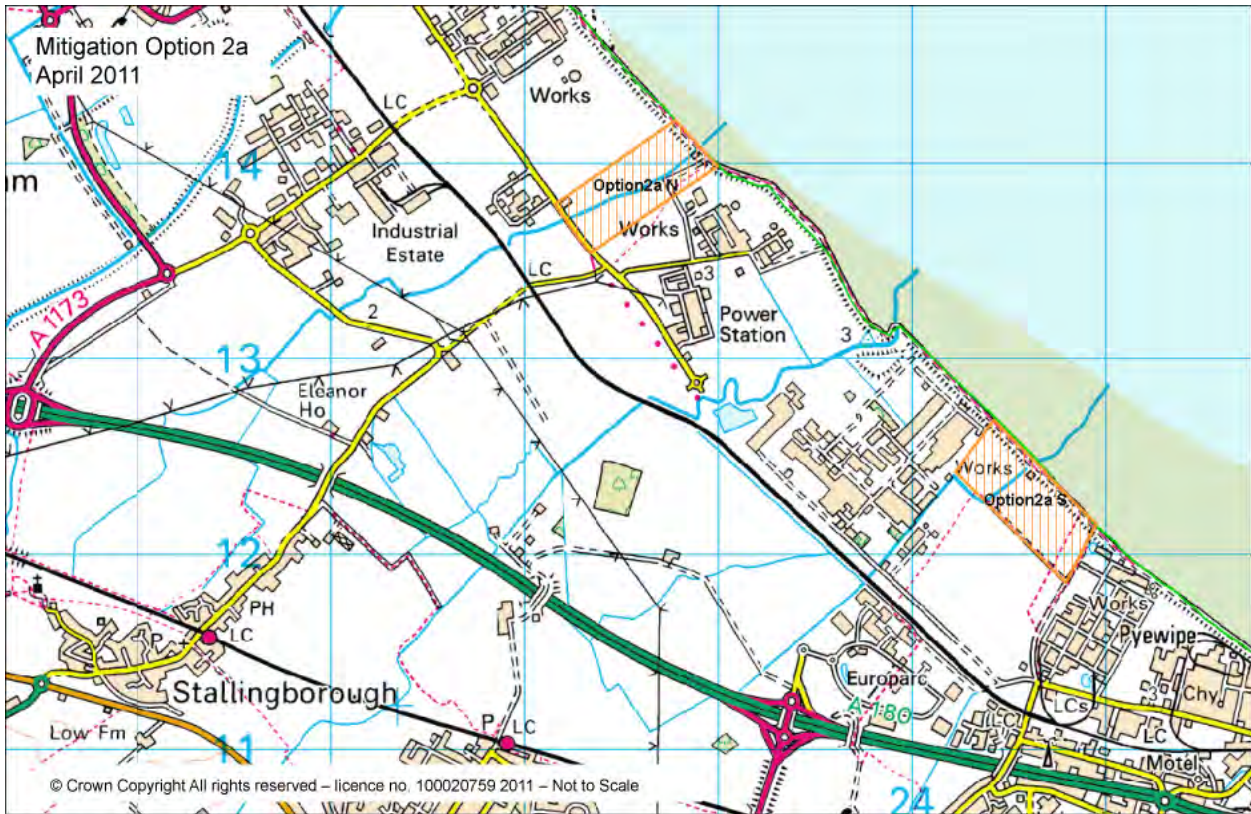
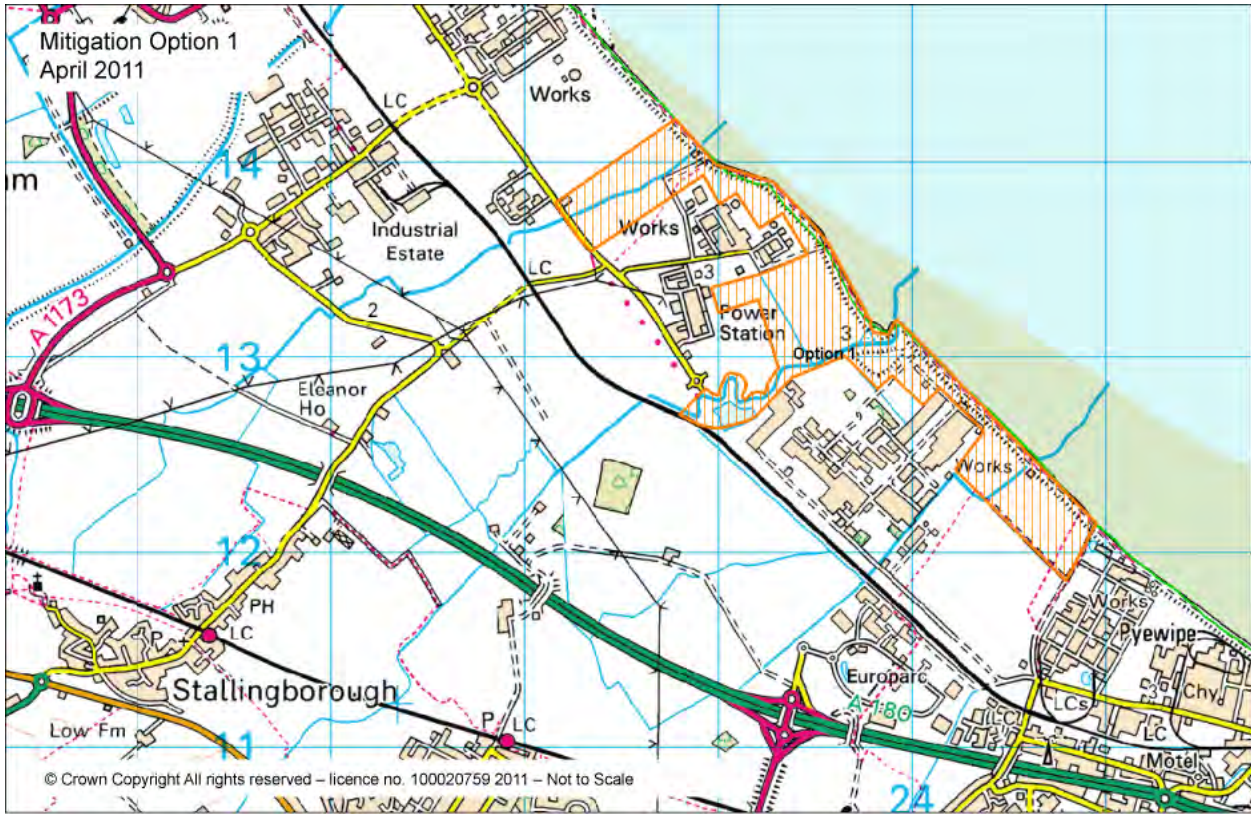
Lincolnshire the patchwork of existing industrial uses and the pattern of existing bird usage raises particular difficulties and considerations.

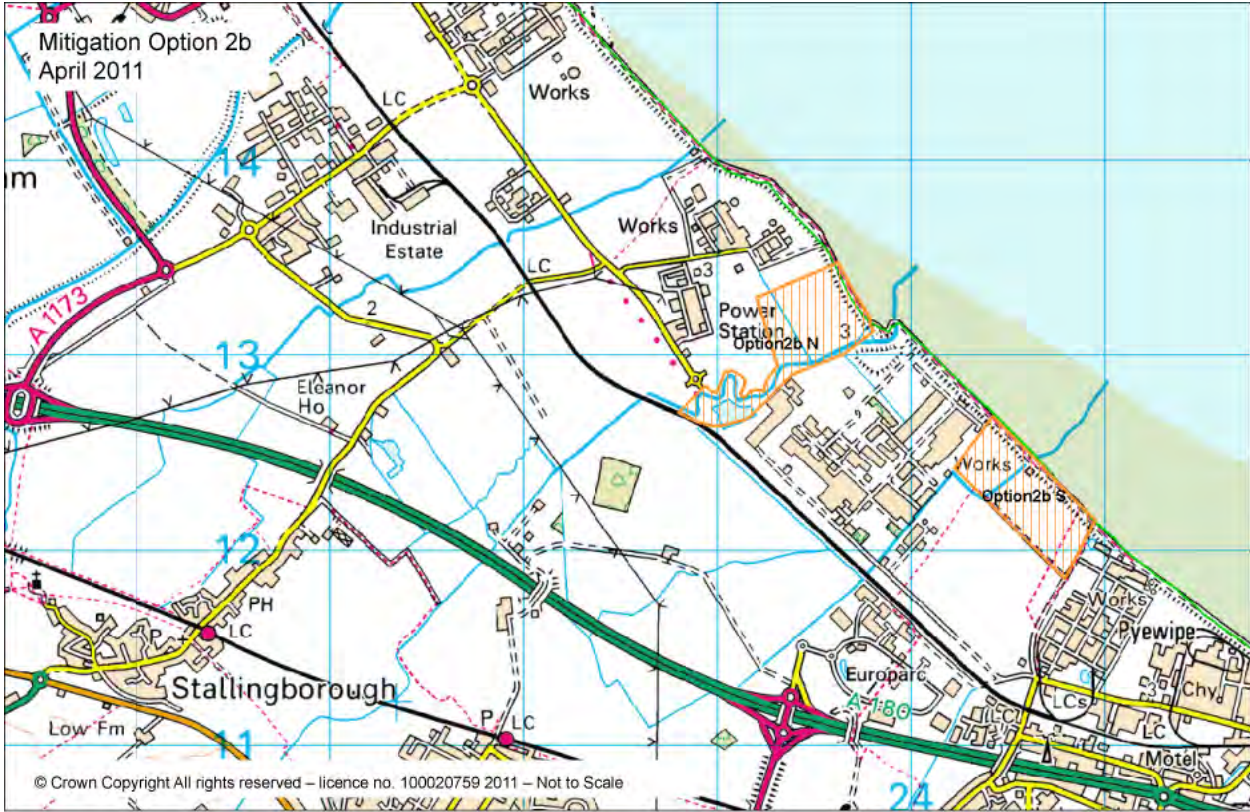
Whilst work advanced on the refining the individual principles it became clear that there was not one solution that would deliver the mitigation solution coming from the principles and that specific site options needed to be considered and evaluated. This was not a simple process as there was no agreed consensus as to the significance of weighting or significance of particular factors. It was therefore through a process of site identification, discussion, and consideration that site options were refined.

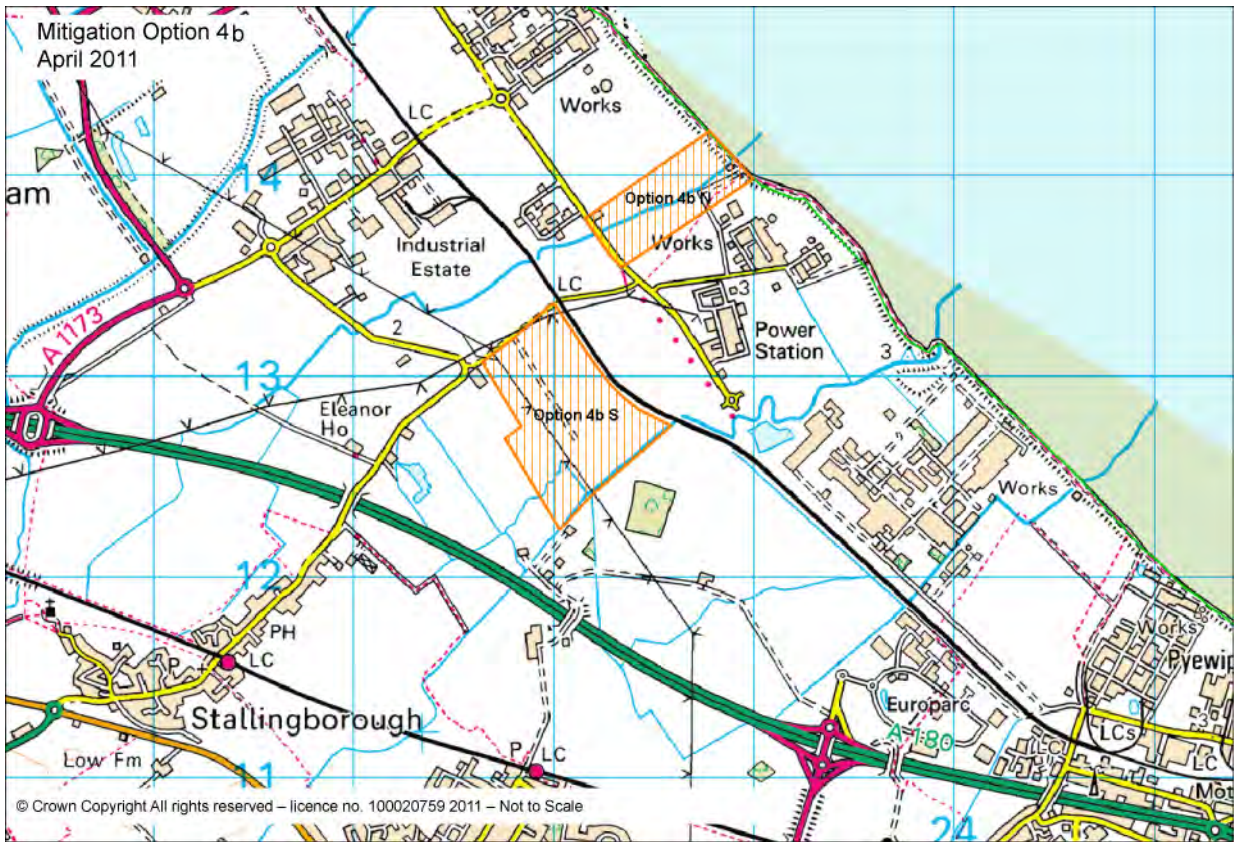
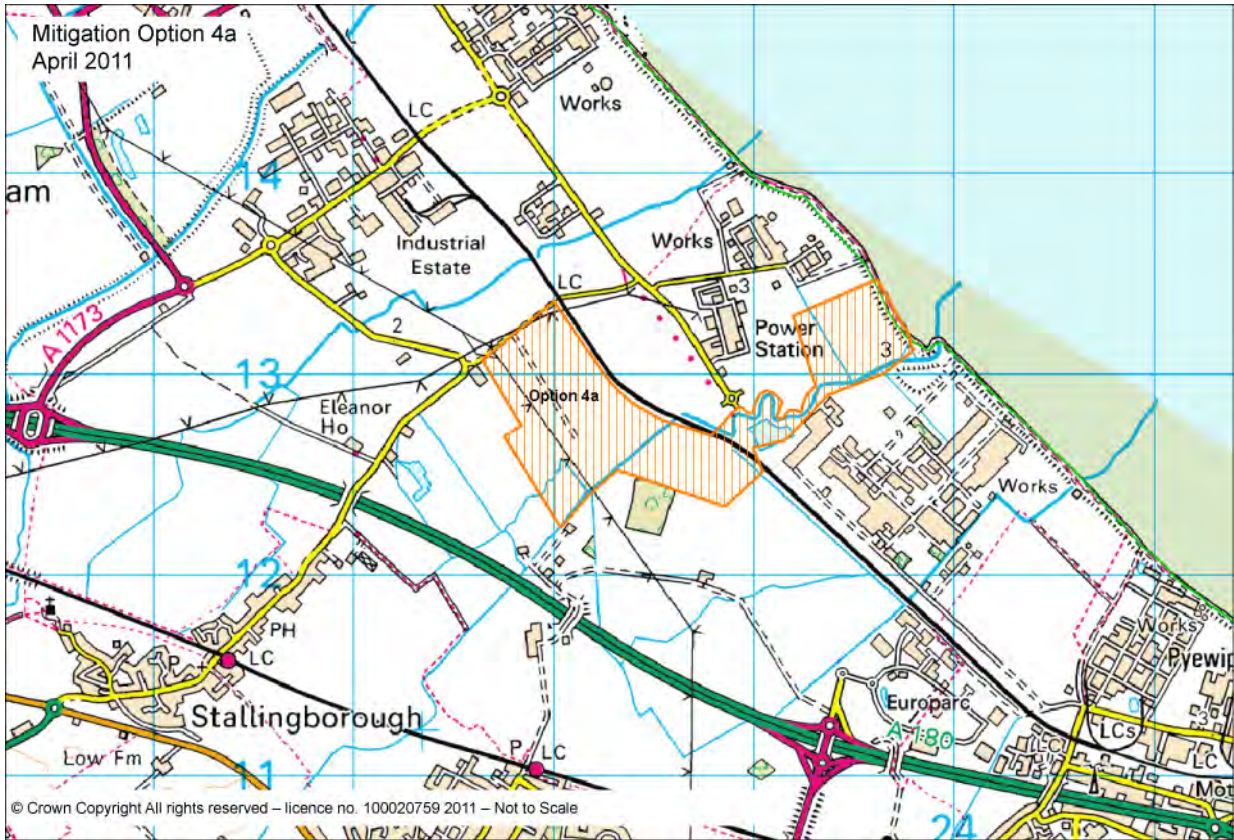
In **North East Lincolnshire** after a process of early site discussions an initial set of options were considered (appendix A). These options were set out to explore the significance of different factors and explore the inter-relationship between sites. This culminated in June 2011, in an agreed **Area of Search** (appendix B) within which it was accepted the NEL mitigation could be provided. Additional work was undertaken to examine the ecological potential of the identified sites to ensure there were no “show stoppers” to the land providing appropriate mitigation (Roger Wardle Study). The study addressed the relative merits of the sites forming the area of search. It concluded all areas presented opportunity to provide appropriate mitigation.

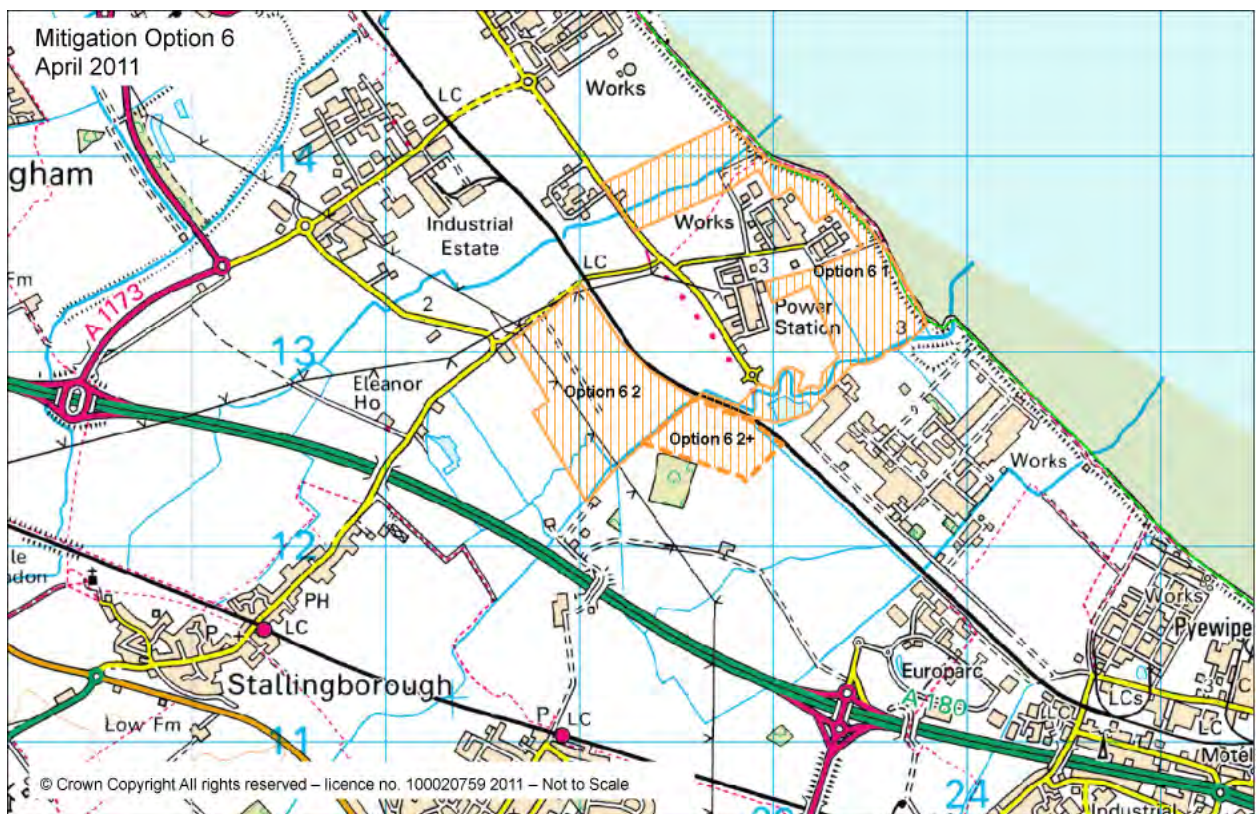
Having established that the Area of Search could form the basis for identifying an agreed mitigation approach, the consideration of specific mitigation sites followed. Through a refinement of boundaries, recognising the significance of important existing bird sites and patterns of use, interconnectivity of sites, disturbance effects, and proximity to estuary frontage a **preferred approach** has been identified (appendix C)

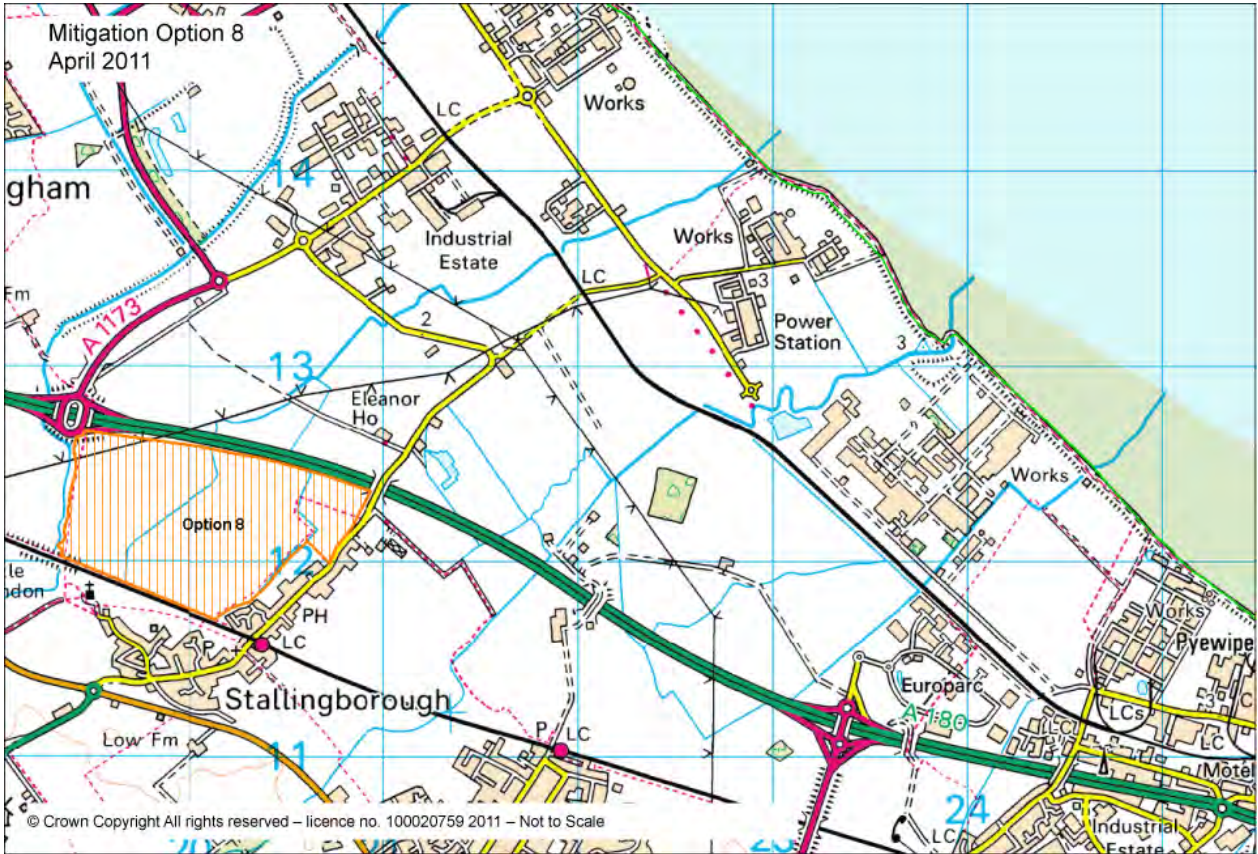
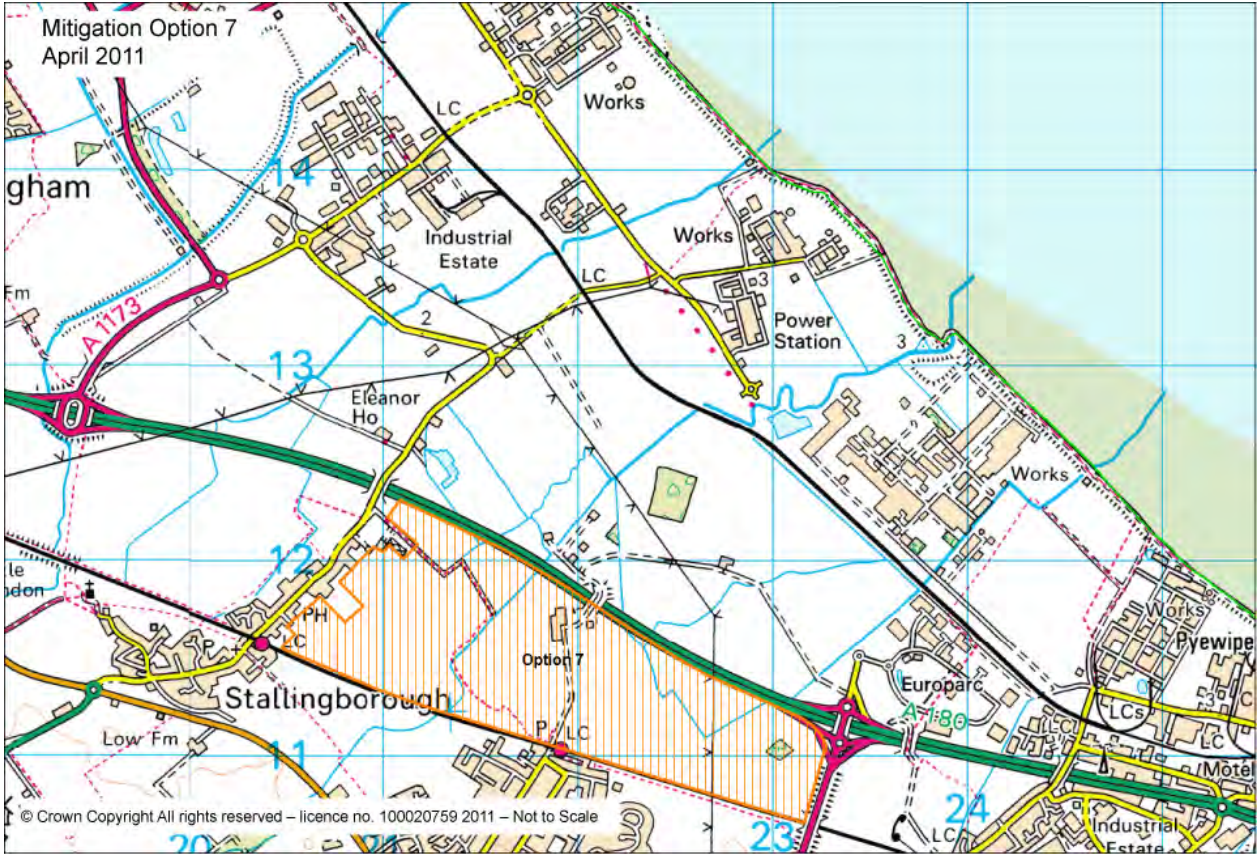
Appendix A

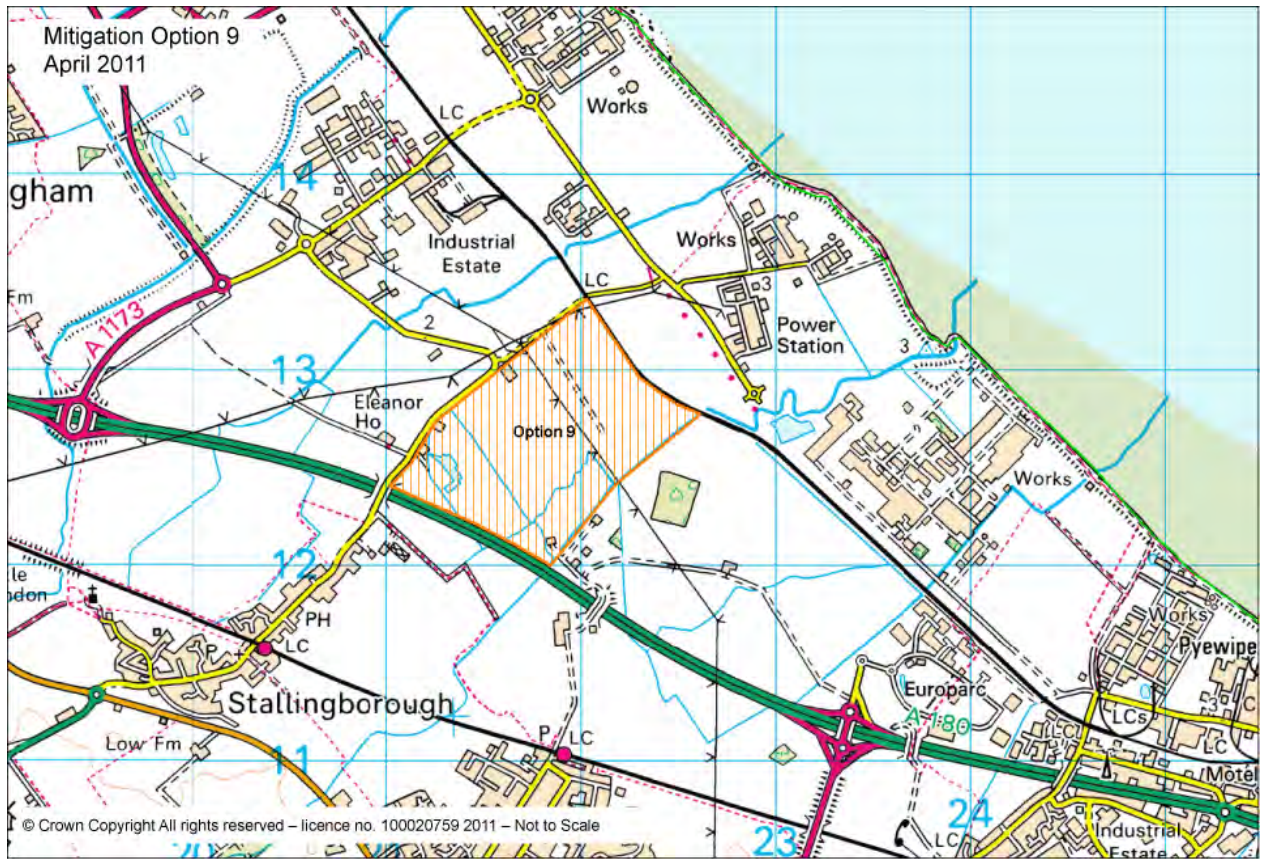












| Site Reference and size | Basic Layout and Connectivity | Proximity to Estuary (Range) | Disturbance | Obstructions | Usage History | Land Suitability | Economic Potential | Availability | POTENTIAL (including changes to improve) |
|---|---|---|--|--------------|---------------|---|---|--------------|--|
| Option 1 Total 110.8ha 23ha existing or proposed mitigation Net 87.8ha | Continuous narrow ribbon of sites with estuary frontage. Includes existing / proposed areas of mitigation | Direct estuary frontage along long length | <p>The identified land fits tightly around existing industrial complexes. The southern most area is bordered by a public footpath and bridleway, the latter runs the length of the estuary frontage.</p> <p>Estuary frontage includes key access points for anglers and dog walkers.</p> <p>A public footpath runs across a section of land close to the estuary</p> | None | | <p>Flat low lying land, very narrow sites in some areas. (Including some pockets of raised land)</p> <p>Unobstructed views to estuary</p> | <p>Southern area valued highly by owner as manufacturing expansion land (Novartis)</p> <p>Smaller sites of minimal value to land owners</p> <p>Central Area subject to agreement as area of mitigation for individual scheme</p> <p>Northern area identified as having significant development potential.</p> | | <p>As a single solution this land provides a collection of many small sites, including three main blocks. Each site is to varying degree compromised by disturbance factors.</p> <p>The option does not provide an individual site above 30ha. To extend site boundaries to provide larger sites would face strong opposition from commercial interests as the land that would be taken would significantly compromise economic development.</p> <p>The option maximises frontage land which provides some value and boosts the overall amount of mitigation land over 80ha but most would be classed as buffer land due to scale and disturbance.</p> |

| Site Reference and size | Basic Layout and Connectivity | Proximity to Estuary (Range) | Disturbance | Obstructions | Usage History | Land Suitability | Economic Potential | Availability | POTENTIAL (including changes to improve) |
|--|--|--|--|--------------|---------------|---|---|--------------|--|
| | | | | | | | | | |
| Option 2a Total 49.63 ha 3ha existing mitigation Net 46.63ha | Two separate areas, both with estuary frontage | Direct estuary frontage for both sites | <p>The southern most area is bordered by a public footpath and bridleway, the latter runs the length of the estuary frontage.</p> <p>Estuary frontage includes key access point for anglers and dog walkers.</p> <p>A public footpath runs across a section of land close to the estuary</p> | None | | <p>Flat low lying land</p> <p>Unobstructed views to estuary</p> | <p>Southern area valued highly by owner as manufacturing expansion land (Novartis)</p> <p>Northern area identified as having significant development potential.</p> | | <p>As a single solution the two sites identified are compromised by disturbance factors.</p> <p>Each site is around 25ha</p> <p>To extend site boundaries to provide larger sites would face strong opposition from commercial interests as the land that would be taken would significantly compromise economic development.</p> |
| Option 2b Total 54.78ha 26ha existing or proposed | Two separate areas, both with estuary frontage one of which includes area of proposed mitigation | Direct estuary frontage for both sites | <p>The southern most area is bordered by a public footpath and bridleway, the latter runs the length of the estuary frontage.</p> <p>Estuary frontage includes key</p> | None | | <p>Flat low lying land</p> <p>Unobstructed views to estuary</p> | <p>Southern area valued highly by owner as manufacturing expansion land (Novartis)</p> <p>Central Area subject to agreement as area of mitigation for individual scheme</p> | | <p>As a single solution the two sites identified are compromised by disturbance.</p> <p>The inclusion of additional frontage land would provide some value and would boost the overall amount of mitigation land but most would be classed as buffer land due to scale and disturbance To extend site boundaries would involve including smaller</p> |

| Site Reference and size | Basic Layout and Connectivity | Proximity to Estuary (Range) | Disturbance | Obstructions | Usage History | Land Suitability | Economic Potential | Availability | POTENTIAL (including changes to improve) |
|---|--|---------------------------------------|---|--------------|---------------|--|---|--------------|---|
| mitigation Net 31.78ha | | | access points for anglers and dog walkers. | | | | | | areas of estuary frontage or increasing the size of the southern site. The smaller sites are compromised because of their size and level of disturbance whilst including a larger area of the southern site would face strong opposition from commercial interests as the land that would be taken would significantly compromise economic development. |
| Option 3 Total 79.19ha 26ha existing or proposed mitigation Net 56.19ha | Three separate areas, all which estuary frontage, equally spaced along frontage. Two sites include existing / proposed areas of mitigation | Direct estuary frontage for all sites | The southern most area is bordered by a public footpath and bridleway, the latter runs the length of the estuary frontage. Estuary frontage includes key access points for anglers and dog walkers A public footpath runs across a section of land close to the estuary | None | | Flat low lying land Unobstructed views to estuary | Southern area valued highly by owner as manufacturing expansion land (Novartis) Central Area subject to agreement as area of mitigation for individual scheme Northern area identified as having significant development potential. | | As a single option the three sites provide a spread of three frontage sites equally spaced along the frontage. Each is between 25 and 30ha in size and would therefore be classed mostly as buffer land. Extending the site boundaries would face strong opposition from commercial interests as the land that would be taken would significantly compromise economic development. |

| Site Reference and size | Basic Layout and Connectivity | Proximity to Estuary (Range) | Disturbance | Obstructions | Usage History | Land Suitability | Economic Potential | Availability | POTENTIAL (including changes to improve) |
|--|--|---|---|--|---------------|--|---|--------------|---|
| | | | | | | | | | |
| Option 4a Total 95.3ha 20ha proposed mitigation Net 75.3ha | Two inter-connecting blocks of land, with an area of estuary frontage that connects to an inland block. Includes area of proposed mitigation | Connects to area of direct estuary frontage | A bridleway runs the length of the estuary frontage A public footpath runs across a section of land close to the estuary | Larger block situated west of rail freight line and crossed by overhead power line. Adjacent to area of woodland (? Provision for connecting highway link) | | Flat low lying land Direct link to estuary and protected linkage to inland area | Estuary frontage area subject to agreement as area of mitigation for individual scheme Area of Europarc IV identified as having development potential Large block falls outside current allocations but within Core strategy identified scope | | As a single option the sites identified provide an area of estuary frontage linked through an inland corridor to a large block of land which is situated within between 1 and 2 kms from the estuary. The large block of land exceeds 50ha and would therefore address disturbance effects. Part of the large block is crossed by a high voltage line however total mitigation land (excluding proposed mitigation) amounts to 75.3ha. |
| Option 4b Total 72.93ha Net 72.93 | Two separate areas, one with estuary frontage and a separate inland block | Direct estuary frontage for one site | A bridleway runs the length of the estuary frontage A public footpath runs across a section of land close to the estuary | Larger block situated west of rail freight line and crossed by overhead power line. | | Flat low lying land Direct link to estuary, some separation with inland area | Northern area identified as having significant development potential. Large block falls outside current allocations but within Core strategy identified scope | | As a single option the sites identified provide an area of estuary frontage and a separate large block of land which is situated within between 1 and 2 kms from the estuary. The large block of land exceeds 50ha and would therefore address disturbance effects. Part of the large block is crossed by a high voltage line however total mitigation land (excluding proposed mitigation) amounts to 72.93ha. |
| Option 5 | Three inter-connecting | Connects to area of direct | The land closest to the estuary is | Three areas stretching | | Flat low lying | Estuary frontage block valued highly by owner as | | As a single option the sites identified provide three linked blocks of land stretching inland. |

| Site Reference and size | Basic Layout and Connectivity | Proximity to Estuary (Range) | Disturbance | Obstructions | Usage History | Land Suitability | Economic Potential | Availability | POTENTIAL (including changes to improve) |
|---|---|-------------------------------|--|---|---------------|---|---|--------------|--|
| <p>Total 108.19</p> <p>3ha existing mitigation</p> <p>Net 105.19</p> | blocks of land, with an area of estuary frontage that connects to inland areas. Includes area of existing mitigation | estuary frontage | <p>crossed by a public footpath. A bridleway runs the length of the estuary frontage.</p> <p>Estuary frontage includes key access points for anglers and dog walkers.</p> <p>A second public footpath runs parallel to the Grimsby rail line</p> | inland separated by rail freight line and A180 dual carriageway. A small area of the most western area of land is crossed by an overhead power line | | <p>land</p> <p>Direct link to estuary although linkage to inland sites is staggered around existing development</p> | <p>manufacturing expansion land (Novartis)</p> <p>Area of Europarc IV identified as having significant development potential</p> <p>Area south of A180 outside current allocations</p> | | The connecting links are however staggered around existing development and fall across highly valued development land. |
| <p>Options 6</p> <p>Total 131.43ha</p> <p>20ha proposed mitigation</p> | Inter-connecting areas of land, providing areas of estuary frontage stretching inland to inland block. Includes area of proposed mitigation | Direct estuary frontage | <p>A bridleway runs the length of the estuary frontage.</p> <p>A public footpath runs across a section of land close to the estuary</p> | Larger block situated west of rail freight line and crossed by overhead power line. | | <p>Flat low lying land</p> <p>Direct link to estuary and protected linkages to inland area along two corridors</p> | <p>Northern area identified as having significant development potential.</p> <p>Smaller sites of minimal value to land owners</p> <p>Central Area subject to agreement as area of mitigation for individual</p> | | <p>As a single option the sites identified comprise a net area of over 110ha This includes blocks of land along the estuary frontage, connecting inland corridors which connect with existing mitigation and a large inland block.</p> <p>All the land identified is located within 2kms of the estuary.</p> |

| Site Reference and size | Basic Layout and Connectivity | Proximity to Estuary (Range) | Disturbance | Obstructions | Usage History | Land Suitability | Economic Potential | Availability | POTENTIAL (including changes to improve) |
|---|--|--|-------------|--------------------------------|---------------|--|---|--------------|---|
| Net 111.43ha | | | | | | | <p>scheme</p> <p>Large block falls outside current allocations but within Core strategy identified scope for future allocations</p> <p>Area of Europarc IV identified as having significant development potential</p> | | |
| Option 7 (Off Site) Total 188.7ha Net 188.7ha | Large area situated west of A180 > 2kms | No direct estuary frontage, some distance from estuary | | Crossed by overhead power line | | Flat low lying land. Includes small area of woodland Inland site situated beyond existing development | Large block falls outside current allocations and outside the Core strategy identified scope for future allocations | | As a single option this site forms one extremely large block of land south of the A180. |
| Option 8 (Off Site) | Large area situated west of A180 | No direct estuary frontage, Some distance | | None | | Flat low lying land | Large block falls outside current allocations and outside the Core strategy identified scope for future | | As a single option this site forms a large block of land south of the A180. |

| Site Reference and size | Basic Layout and Connectivity | Proximity to Estuary (Range) | Disturbance | Obstructions | Usage History | Land Suitability | Economic Potential | Availability | POTENTIAL (including changes to improve) |
|--|---|--|---|---|---------------|--|--|--------------|--|
| Total 97.32ha Net 97.32ha | > 2kms | from estuary | | | | Inland site situated beyond existing development | allocations | | |
| Option 9 Total 102ha Net 102ha | Large central inland site Between 1 and 2 kms | No direct estuary frontage | | Crossed by overhead power line | | Flat low lying land Inland site situated beyond existing development | Large block falls outside current allocations but within Core strategy identified scope for future allocations | | As a single option this land provides a large area of potential mitigation. It is however, as a stand alone solution disconnected from the estuary frontage. |
| Preferred Option – Overview Total Area ... Net ... | The preferred option comprises a combination of Options 3 and 4b. It combines key frontage blocks based upon 20ha core areas and a large inland site with good connectivity to the estuary sites. | Direct estuary frontage at three locations | The southern most area is bordered by a public footpath and bridleway, the latter runs the length of the estuary frontage. Estuary frontage includes key access points for anglers and dog walkers | Larger block situated west of rail freight line and crossed by overhead power line. | | Flat low lying land Direct link to estuary, some separation with inland area but overall good connectivity. | Southern area valued highly by owner as manufacturing expansion land (Novartis) Central Area subject to previous negotiated agreement as area of mitigation for individual scheme Northern area identified as having significant development potential | | The Preferred Option represents a combination of frontage sites, although recognition is made that each offers a core area but each provides a compromised solution in terms of buffer areas. The location of these sites with direct un-obstructed access to the estuary does however make these sites valuable as part of an overall mitigation package. To compensate for the edge effects associated with the estuary frontage sites a further area of land has been identified which provides good inter connectivity with the estuary sites. It is considered large enough to |

| Site Reference and size | Basic Layout and Connectivity | Proximity to Estuary (Range) | Disturbance | Obstructions | Usage History | Land Suitability | Economic Potential | Availability | POTENTIAL (including changes to improve) |
|-------------------------|-------------------------------|-------------------------------|--|--------------|---------------|------------------|--|--------------|---|
| | | | A public footpath runs across a section of land close to the estuary | | | | The large inland block falls outside current allocations but within Core strategy identified scope | | address edge effects and is of a size that is likely to be attractive to target waterbirds. |

Summary of Options Responses

Natural England

- Option 1 made up of smaller sites, whilst offering site frontage unlikely to contribute to SPA/Ramsar mitigation
- Most promising areas are next to Novartis and Millenium linking to inland area Option 9
- Importance of connectivity between inland area and estuary frontage
- ? Need to clarify exactly what ecological function estuary land would deliver
- Re-routing of footpaths should be explored
- Options 7,8,9 on their own not acceptable, to far from estuary to achieve meaningful connectivity
- Not convinced proposed mitigation at NPower would not be required

Lincolnshire Wildlife Trust

- Option 1 whilst having advantages in linking estuary frontages the small strips are not suitable for SPA/Ramsar mitigation, might be appropriate if Novartis block extended (LWT would bow to expertise from NE/RSPB)
- Prefer Option 1 to 2a as it excludes some land in central area outside the NPower mitigation land
- 2b not acceptable, south are not large enough and northern area existing mitigation
- Option 3 as per comments under options 1 and 2
- Option 4a, linkage to estuary favoured but sacrifices all current undeveloped estuary frontage, not considered acceptable
- Option 4b, Whilst this option does provide additional mitigation with estuary frontage there will soon be development between it and the inland block, not considered acceptable
- Option 5, this option has some benefits, particularly the enlargement of the Novartis site but crossing the motorway takes it too far from the estuary, not considered acceptable on its own
- Option 6, as for option 4b although the addition of additional land makes it more useful
- Option 7,8, crossing the motorway with no estuary links makes these options unacceptable
- Option 9, Whilst this provides a significant sized block it has the same disadvantages as option 4a, not considered acceptable

Preference would be for Option 1 with extensions north and south combined with Option 4a

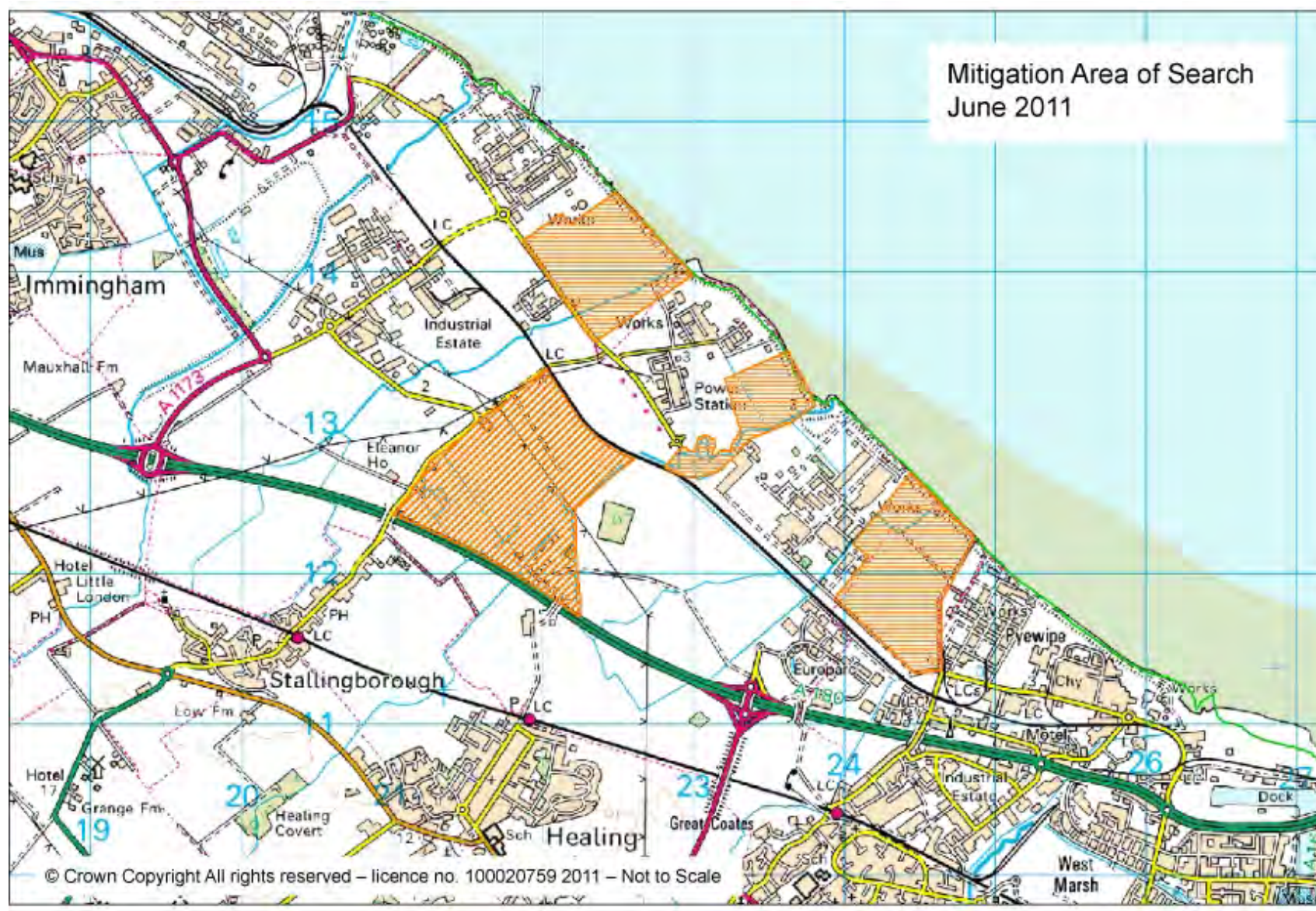
RSPB

- Advice remains most appropriate strategic mitigation solution for SHB would be in the order of 4 c50ha blocks along the estuary frontage plus an area outside, but close to SHB
- Most of the options have some merit which is worth exploring further with the exception of those options which are exclusively inland sites
- Not possible to achieve the appropriate ecological function without mitigation which is in part directly adjacent to the estuary
- No single option presents a solution which is robust enough to provide the necessary strategic mitigation, although most options have some merit
- The focus should be on areas identified in larger blocks along the estuary frontage, (Millenium, NPower and Novartis, at least 2-3 good sized blocks) with addition of larger block further inland, close and connected to the estuary
- If current data does not identify bird use, it is essential to understand and have confidence that sites would provide appropriate mitigation
- Sensible to build on existing high value and secured waterbird mitigation

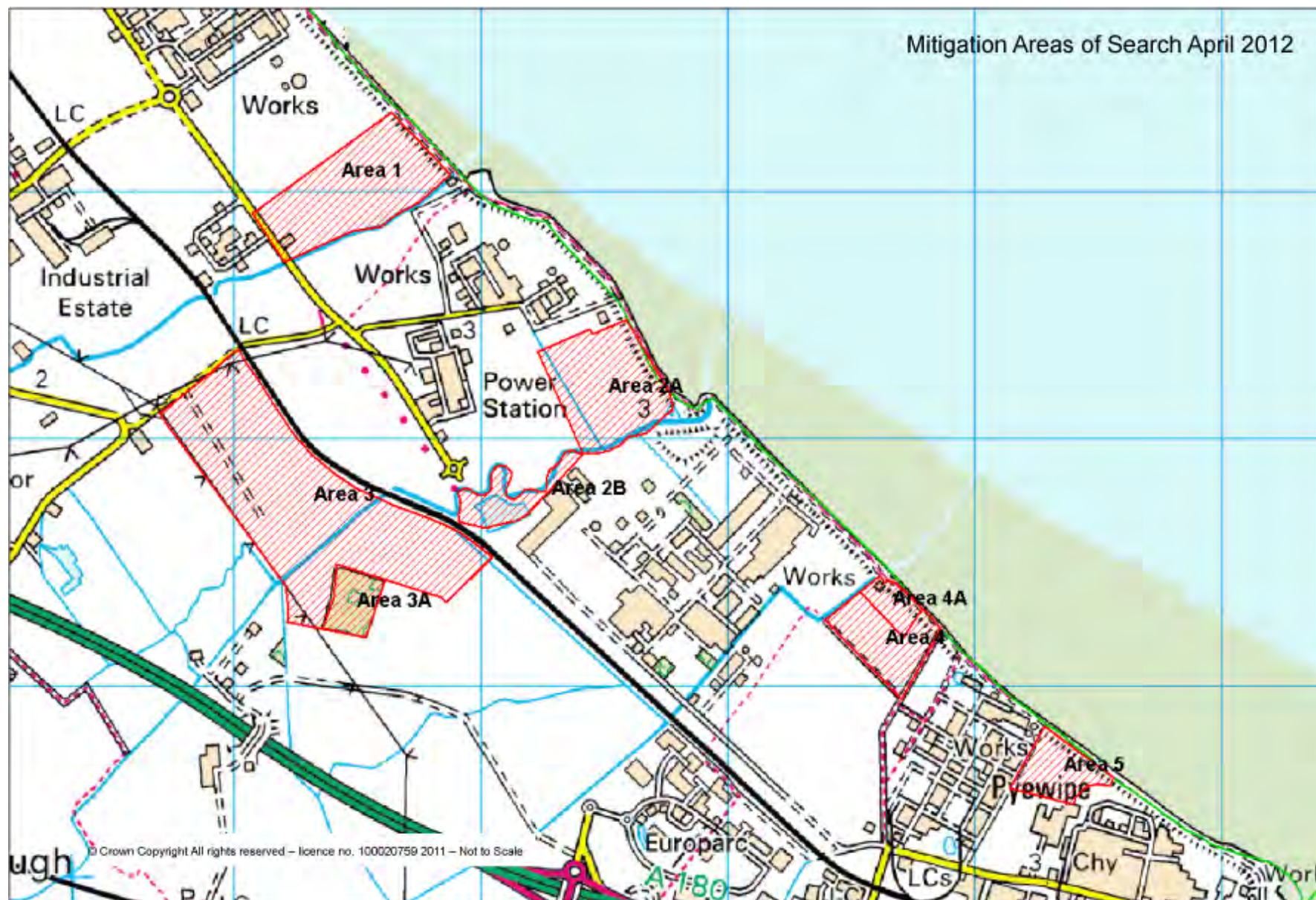
Ecology Group Minutes 9th May 2011

- General feeling, Land south of the A180 not ideal due to distance form estuary
- General Agreement, Linking estuary frontage to larger site slightly further inland would be effective, if well managed along with already committed NPower land they should meet the required ecological functions to provide sufficient mitigation for NEL area

Appendix B



Appendix C



North East Lincolnshire Strategic Mitigation for SHG Preferred Approach

Size

The mitigation identified on the Plan equates to a total gross area of 151.16ha. This includes 21.36ha of land which is either existing mitigation land (area 4A or land where an agreed mitigation scheme has been negotiated (area 2A). Whilst this represents land secured on a site by site basis it has been included in the gross area as the land has added ecological value as part of the strategic mitigation scheme*. Sites "B and 3A are included in the total package as they provide important buffers or flight corridors but are not included in the calculation of net mitigation provided. The overall net mitigation proposed exceeds 100ha**

Overall Net Mitigation – 119.62ha

*agreement of value of existing mitigation, ecology group meeting minutes....

**calculation of mitigation to be secured acknowledges that total area of mitigation is less than total area of combined areas of fields currently used

Basic Layout and Connectivity

The mitigation identified recognises that the adverse effects of developing land within the South Humber Gateway (SHG) can not be mitigated without providing mitigation land within the SHG. Given the size and distribution of existing development within the SHG a single mitigation site would not be appropriate*. It recognises that within the SHG some areas are used by birds in such high numbers that their loss alone or in combination with other development would lead to adverse effect**. The mitigation proposed also recognises that sites can in appropriate cases support higher levels of bird use subject to appropriate management. Conversely, it also recognises that some sites will not be used by birds because of specific site considerations. (There is therefore a need to examine individual site characteristics). Bird data illustrates that the birds favour different sites at different times and that no rigid selection criteria hold true for all sites. What can be said is that some criteria appear more significant than others. The mitigation identified has been developed from the initial "area of search" identified by the ecology group***.

*RSPB principles 2008

**HINCA Study Data

***Ecology group meeting minutes...

Proximity to Estuary

The mitigation identified recognises proximity to the estuary, as a fundamental criterion. The bird data illustrates that bird numbers are connected on a number of sites, each of these sites vary with respect to size, proximity to existing industry, and disturbance however all provide direct access to the estuary and adjacent mudflats.

Disturbance

The preferred roosting and scanning requirements for SPA birds would suggest that sites need to be large enough to support birds roosting and feeding characteristics, incorporating a 200m buffer. In North East Lincolnshire there is local evidence with regard to the localised impacts of disturbance. This would point to the fact that for certain species the proximity to industrial complexes is not a key roosting criterion. In particular where proximity to estuary frontage is maximised. Area 5 (6.78ha) whilst very small and immediately adjacent to existing industry is the most heavily utilised site in North East Lincolnshire recording high numbers of roosting birds.