Narrow Water Bridge Project

NATURA IMPACT STATEMENT / HABITATS REGULATIONS ASSESSMENT



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February 2012

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Document No: 08.119.24/NIS-HRA

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Revision	Description	Made	Checked	Approved	Date
01	Draft	Andrew Warwick / Brian Madden	Barry Corrigan	Tony Dempsey	February 2011
02	Final	Andrew Warwick / Brian Madden	Barry Corrigan	Tony Dempsey	February 2012

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1.0 Introduction

This Natura Impact Statement / Habitat Regulations Assessment report (hereinafter referred to as a Natura Impact Statement) has been prepared by Roughan & O'Donovan Consulting Engineers, in conjunction with Dr. Brian Madden of Biosphere Environmental Services, on behalf of Louth County Council to determine the potential effects, if any, of the proposed Narrow Water Bridge on sites with European conservation designations (i.e. Natura 2000 sites). It will be submitted alongside the Environmental Impact Statement / Environmental Statement to support the planning application for the Narrow Water Bridge Project in both the Republic of Ireland and Northern Ireland.

1.1 The Requirement for an Assessment under Article 6

The requirement for appropriate assessment is set out in the EU Habitats Directive (92/34/EEC) in Article 6.3 which states:

> "*Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives."*

1.2 The Aim of this Report

This Natura Impact Statement (NIS) has been prepared in accordance with the current guidance (National Parks & Wildlife Service (NPWS) 2009, Revised February 2010), and provides an ecological impact assessment for the proposed Narrow Water Bridge project.

The NIS provides the information required in order to establish whether or not the proposed development is likely to have a significant impact on the Natura 2000 sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 sites have been designated. The NIS considers the potential impact on the Natura 2000 sites in both the Republic of Ireland and Northern Ireland.

By undertaking the ecological impact assessment in a step by step manner in relation to the habitats and species of the Natura 2000 sites, this report seeks to inform the screening process required as the first stage of the process pursuant to Article 6.3 of the EU Habitats Directive and also to provide full and detailed information for the second stage, that of Appropriate Assessment, should the competent authority decide that such an assessment is required.

1.3 Background to the Project

Carlingford Lough and the upper reaches of the Newry River estuary are bounded by Counties Louth, Armagh and Down. In times past, up to the 19th Century, ferry services were provided between Greenore in County Louth and Greencastle in County Down. Similarly, ferry services existed across the Newry River Estuary at Narrow Water Keep and continue during Summer months.

At present, there is no direct link between the Cooley Peninsula and coastal area of Co. Down. Instead, access is provided by crossing the Newry River in the town of Newry. Since the termination of the ferry services between Greenore and Greencastle, there has been a locally recognised need for a link across Carlingford

Lough. At present all traffic travelling along the southern or northern shores of Carlingford Lough is directed away from the Lough through Newry and toward the motorway linking Dublin and Belfast. Consequently the majority of tourist traffic does not continue around the Lough, to the detriment of the tourist economy in both areas. The proposed Narrow Water Bridge aims to create a new crossing over the Newry River to the north of Carlingford Lough. It is intended that the proposed bridge will link the R173 Omeath to Newry Road in Co. Louth with the A2 Newry to Warrenpoint Road in Co. Down.

The project arises from a commitment in Ireland's National Development Plan 2007-2013 for "*improved access for tourism and other opportunities along the eastern corridor, including better links between Co. Louth and Co. Down in Northern Ireland*". The Good Friday Agreement in Northern Ireland supports this stance and has designated tourism as an area for co-operation under the auspices of the North-South Ministerial Council.

Louth County Council has also identified that linking the Cooley Peninsula and the Mourne District would unlock the tourist and leisure potential of Carlingford Lough. The Louth County Council Development Plan 2009 – 2015, at Section 7.5.4, states, "*The provision of a road link through the construction of a bridge bewteen the Cooley Peninsula in County Louth and the southern portion of the Mourne Mountains in County Down at Narrow Water would make a valuable contribution to the development of tourism in Louth and the Mournes*."

This statement is supported by Policy TOU 6 "To co-operate with the authorities in Northern Ireland in the provisionof a road bridge bewteen Cooley and south County Down."

The primary objectives of providing the Narrow Water Bridge are to:

- Assist the social and economic development of the area;
- Facilitate access to the scenic beauty of Carlingford Lough;
- Enhance the tourist potential of the region;
- Improve the leisure potential of the region;
- Promote interaction between communities north and south of the border; and
- Encourage pedestrian and cyclist activity.

2.0 The Appropriate Assessment Process

2.1 Introduction

As set out in 1.1 above, Article 6(3) of the EU Habitats Directive (92/43/EEC) defines the requirement for Appropriate Assessment of certain plans and projects. In order to inform the requirements of the NIS the following guidance documents have been referred:

- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (NPWS 2009, Revised February 2010);
- The Habitats Regulations: A Guide for Competent Authorities (EHSNI, 2002)
- EU Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (2007); and

- Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (2002).

In terms of what is required to allow the competent authority to undertake and complete the Appropriate Assessment, the Guidance for Planning Authorities (NPWS 2009, revised February 2010) states:

'*AA is an impact assessment process that fits within the decision making framework and tests of Article 6(3) and 6(4) and, for the purposes of this guidance, it comprises two main elements. Firstly a* ***Natura Impact Statement – i.e. a statement of the likely and possible impacts of the plan or project on a Natura 2000 site (abbreviated in the following guidance to "NIS")*** *must be prepared. This comprises a comprehensive ecological impact assessment of a plan or project; it examines the direct and indirect impacts that the plan or project might have on its own or in combination with other plans and projects, on one or more Natura 2000 sites in view of the sites' conservation objectives. Secondly, the competent authority carries out the AA, based on the NIS and any other information it may consider necessary.'*

2.2 Stages in the Process

The European Commission's guidance promotes a four stage process, as set out below, to complete an Appropriate Assessment.

- 1. Screening
- 2. Appropriate Assessment
- 3. Assessment of Alternative Solutions
- 4. The "IROPI test" (Imperative Reasons of Over-riding Public Interest)

Stage 1 of the process is intended to identify whether the project is 'likely to have a significant effect' upon a European site, referred to as 'screening'. If the screening process identifies the potential for significant adverse impacts on Natura 2000 sites, stage two of the process needs to be completed. This considers any potential impacts in greater detail including whether further mitigation measures are required. If an adverse impact upon the site's integrity cannot be ruled out then stage 3 will need to be undertaken to assess whether alternative solutions exist. If no alternatives exist that have a lesser effect upon the Natura 2000 site/s in question, the project can only be implemented if there are 'imperative reasons of overriding public interest', as detailed in Article 6(4). In essence, the work at Stage 1 will determine whether further stages of the process are required.

This Natura Impact Statement (NIS) includes the ecological assessment and testing required under Stage One – the Screening Process. It also provides the information required for the Competent Authority to complete the Appropriate Assessment (Stage 2) should this be necessary.

3.0 Description of the Project

3.1 Site Location

The proposed Narrow Water Bridge will cross the Newry River approximately 400m south of the Narrow Water Keep. The project location is shown on **Figure 1**. The bridge, which will connect the R173 Omeath Road south of Ferry Hill and the A2 dual carriageway at the existing roundabout, is situated approximately 1km northwest of

Warrenpoint and 2km northwest of Omeath. The bridge will pass close to the stone tower navigational beacon near the southern shoreline.

The site is situated between the steep Cooley Mountains to the south and the drumlins of Down to the north. The Newry River flows through this valley before widening to form Carlingford Lough (see Plate 1 below).

Plate 1: View from Flag Staff towards the site and Carlingford Lough

3.2 Link Road

The proposed Narrow Water Bridge will provide a new single carriageway link road, which will connect Omeath and Warrenpoint in counties Louth and Down, respectively. It is intended that the proposed link would intersect the existing R173 south of Ferry Hill in the townland of Cornamucklagh. The total length of the scheme is approximately 660m. A plan drawing of the link road and bridge crossing is presented in **Figure 2**.

A new roundabout will be required, where the link road connects to the R173 Omeath Road. The route, which commences at the proposed Cornamucklagh Roundabout, heads towards the Newry River following the existing field boundaries. The vertical alignment generally reflects the existing terrain, which descends from 19m OD along the R173 Omeath Road to sea level, on the southside, however, some “cut and fill” will be necessary to ensure a smooth flowing alignment.

The route straightens and gently rises as it approaches the river avoiding the stone tower to the north. Upon reaching the river’s navigational channel, the alignment descends to tie into the A2 dual carriageway at the existing roundabout, which is situated directly adjacent the Newry River at 3.5m OD above sea level (Malin and Belfast). The existing A2 roundabout will be modified to accommodate this additional link.

The project also includes for the provision of pedestrian and cyclist facilities between the proposed Cornamucklagh Roundabout on the R173 and the A2 roundabout.

3.3 Proposed Structure

The chosen bridge design is a Cable-Stayed Bridge with a Rolling Bascule Opening Span. This structure is illustrated on Plates 2 and 3, below and is more comprehensively presented in **Figures 3 and 4**.

Cable-Stayed Bridge with Rolling Bascule Opening Span

The structure is a two span cable stayed bridge with an asymmetric arrangement. The south span is 138.35m and the north span is 56.8m giving a total length of 195m.

All towers are located at the edge of the bridge over the abutment foundation and are leaning back 56 degrees towards the outside of the main crossing. Neither tower has back stays.

The asymmetry of the span is reflected in the tower heights, while the south tower is approximately 84m high and the north tower is only 32m high. Additionally, the south tower is located transversally on the centre line of the bridge while the north tower consists of twin cantilever towers located on each side of the structure.

The deck has a linear variable depth along the south span from 2.0m at the south abutment to 1.5m over the central pier, keeping a constant depth of 1.5m along the north span. The bridge shows no skew at any of its three supports.

The south abutment will be integral, connecting monolithically the abutment, the south tower and the deck. The bridge will have a construction joint at the intermediate pier and at the end of the north abutment, as required to allow the opening of the north span.

Plate 2: Photomontage of Proposed Narrow Water Bridge from southern side

Plate 3: Photomontage of Proposed Narrow Water Bridge in open position

The deck will be an orthotropic steel deck supported from the steel-concrete composite towers.

A more comprehensive description of the scheme is available in Chapter 3 of the Environmental Impact Statement / Environmental Statement.

4.0 The Ecological Impact Assessment

The approach and methodology to the Ecological Impact Assessment for this Natura Impact Statement has been undertaken with due regard to the Environmental protection Agency (EPA) Advice Notes on Current Practice (2003); EPA 'Guidelines on the information to be contained in Environmental Impact Statements' (2002). The impacts were evaluated following the National Roads Authority 'Guidelines for the Assessment of Ecological Impacts of National Road Schemes' (2009) with reference to the NRA 'Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes'.

The ecological characteristics of the Natura 2000 sites are described in Section 6 of this statement, followed by Assessment of Likely Effects, Mitigation and Residual Impacts in Sections 7, 8 and 9 respectively. Conclusions are set out in Section 10.

4.1 Introduction

A summary of the survey methods and baseline environment is detailed here. Only those elements of the baseline environment which are pertinent to the designated sites are presented. For a more comprehensive description of the surveys undertaken and the results obtained reference should be made to the detailed methodologies, survey results and impact assessment contained in the following sections of the EIS / ES:

- Section 7.2 Terrestrial Ecology
- Section 7.3 Aquatic Ecology

4.2 Survey Methods

Habitat and flora surveys were undertaken in July 2008. The surveys of wintering and breeding birds in the Narrow Water area were carried out during the period January to May 2008. Further bird surveys were undertaken in January and February 2009 to establish bird movements along this stretch of the Newry River Estuary.

The habitat survey was undertaken in July 2008 when it was seasonally appropriate to fully assess the nature and range of each habitat and vegetation type as well as investigate the site for rare flora. Particular attention was paid to the plant species, habitats and vegetation occurring within the footprint of the bridge and associated access roads. An inventory of the major vegetation types was made, together with an assessment of their conservation value. Habitats were categorised using the system given in Fossitt (2000).

For the Northern Ireland portion of the study area, the Phase 1 Habitat Categories proposed and used extensively by the Joint Nature Conservation Committee of the United Kingdom (Anon 2007) are presented.

4.3 Baseline Environment

4.3.1 Habitats

Table 1, below summarises the habitats present. Table 1 should in conjunction with reference to **Figure 5**.

Table 1: Habitats Present

No. as on Map Fig. 5 (1-28 Co. Louth, 29-33 Co. Down)	Habitats, Vegetation & Flora	Fossitt Code (*JNCC Phase 1 Code*)	Conservation Value
1	Dry meadow with gorse, *Ulex europaeus* invading, dominated by sweet vernal grass, *Anthoxanthum odoratum*, curled dock, *Rumex crispus*, and greater bird's foot trefoil, *Lotus uliginosus*.	GS2 (B2.1)	None
2	Cut meadow (improved) with perennial rye grass, *Lolium perenne*, white clover, *Trifolium repens*, cocksfoot, *Dactylis glomerata* and dandelion, *Taraxacum officinale*.	GA1 (B4)	None
3	Fence and line of ash, *Fraxinus excelsior* with staggered shrubs of blackthorn, *Prunus spinosa* and blackberry, *Rubus fruticosus*.	WL2/WS1 (J2.3/A2)	None
4	Lower salt marsh in mosaic with brackish marsh dominated by creeping bent, *Agrostis stolonifera*, scutch, *Elymus repens*, the oraches, *Atriplex patula, A. littoralis*, with very vigorous sea purslane *Halimione portulacoides* and common salt-marsh grass, *Puccinellia maritima*.	CM1/CM2 (H2.6/H2.4)	Low value as cover sporadic and lacking good structure. Very heavily grazed and poached and not in extensive stands

No. as on Map Fig. 5 (1-28 Co. Louth, 29-33 Co. Down)	Habitats, Vegetation & Flora	Fossitt Code (*JNCC Phase 1 Code*)	Conservation Value
5	Lower –middle salt marsh closer to the estuary with sea aster, *Aster tripolium*, red fescue, *Festuca rubra*, sea arrowgrass, *Triglochin maritima*, lax-flowered sea-lavender, *Limonium humile*. More open areas carry common cord grass, *Spartina maritima* and annual sea blite, *Suaeda maritima*.	CM1 (H2.6)	Low value as cover sporadic and lacking good structure. Less heavily grazed and good diversity though restricted in area
6	Rocky foreshore with knotted wrack, *Ascophyllum nodosum* and bladder wrack, *Fucus vesiculosus* with stands of glasswort *Salicornia europaea* behind	LR3 (H1.3)	Low.
7	Bracken, *Pteridium aquilinum* dominated area.	GA1 (B4/C.1)	None
8	Tall ash along west boundary Of 7	WD5 (A3.1)	Specimen
9	Raised area dominated by shrubs with gorse, hawthorn, *Crataegus monogyna*, blackthorn and ash. Area has been reclaimed and embanked And the dominant herb is perennial sow thistle, *Sonchus arvensis*	WS1 (A2)	None
10	Stands of sea club rush, *Scirpus maritimus* with reed canary grass, *Phalaris arundinacea* behind and along W side of boundary with water dropwort, *Oenanthe crocata* and yellow iris, *Iris pseudacorus*.	FS1/CW2 (F1/G2.6)	Low. Heavily trampled, poached and grazed by cattle
11	Embankment dominated by Yorkshire fog, *Holcus lanatus*, false-oat grass, *Arrhenatherum elatius*, sorrel, *Rumex acetosa* and hogweed, *Heracleum sphondylium*.	GS2 (B2.1)	None
12	Mixed broadleaved woodland of ash, sycamore, *Acer pseudoplatanus*, beech, *Fagus sylvatica*, alder, *Alnus glutinosa* with hawthorn and blackberry.	WD1 (A3.1)	Small plantation on the border of the footprint.
13	Top of field disturbed and now with scrub of gorse and broom. *Cytisus scoparius* with soft rush, *Juncus effusus,* knapweed, *Centaurea nigra* and curled dock.	WS1 (A2)	None
14	By old railway bridge very rough grassland dominated by bracken	GA1 (B4/C.1)	None
15	Hedgerow S of 14 has ash and grey willow, *Salix atrocinerea*	WL1 (J2.1)	None

No. as on Map Fig. 5 (1-28 Co. Louth, 29-33 Co. Down)	Habitats, Vegetation & Flora	Fossitt Code (*JNCC Phase 1 Code*)	Conservation Value
16	Above gate on S side has hedge of gorse, blackthorn and ivy, *Hedera helix*. N side has rowan, *Sorbus aucuparia*, sessile oak, *Quercus petraea* and whitebeam, *Sorbus aria* agg.	WL1/WS1 (J2.1/A2) WL2 (J2.3)	Good collection of trees on N boundary.
17	Cut meadow of common bent, *Agrostis capillaris*, red clover, *Trifolium pratense,* cat's ear, *Hypochoeris radicata* with upper areas very poor and dominated by rough-stalked meadow grass, *Poa trivialis*.	GS2 (B2.1)	None
18	Original hedge of gorse and hawthorn has been levelled. Rough track E of this is very weedy with smooth hawk's beard, *Crepis capillaris*, perennial rye grass, and pineapple weed, *Matricaria matricarioides*.	WL1 (J2.2) ED3 (J1.3)	None
19	Re-colonising bare ground very like track in 18	ED3 (J1.3)	None
20	Hedgerow on S side of lane consisting of hawthorn and ivy with some gorse and specimen tree of sessile oak.	WL1 (J2.1)	Good example of specimen oak
21	Area of wet grassland though disturbed. The main species are soft rush and Yorkshire fog which had been cut. Some meadowsweet, *Filipendula ulmaria* and purple loosestrife, *Lythrum salicaria*. Rough embankment along edge has ragwort, *Senecio jacobaea*, gorse and blackberry.	GS4 (B5)	Low as very disturbed.
22	S side of 21 has trimmed hedgerow of hawthorn with yarrow, *Achillea millefolium* and sneezewort, *Achillea millefolium*	WL1 (J2.1)	None
23	Re-seeded pasture dominated by perennial rye grass with some sorrel and ragwort. A ruin occurs on the E side with a track to it from the main road.	GA1 (B4)	None
24	Trimmed hedgerow of hawthorn by main road	WL1 (J2.1)	None
25	Ploughed field for crops	BC1/BC3 (J1.1)	None
26	Trimmed hedgerow of blackthorn, gorse and wild rose, *Rosa* spp. which has been burnt.	WL1 (J2.1)	None
27	Hedgerow of gorse, blackthorn and ash.	WL1 (J2.1)	None
28	Treeline of Sitka spruce, *Picea sitchenisis*, Scot's pine, *Pinus sylvestris*, sycamore and ash.	WL2 (J2.3)	Low as contains 3 alien trees.
29	Area adjacent to roundabout W of Warrenpoint. Embankment on S side of road, adjacent to Amenity Area and opposite the tower borders the mudflats. It contains a	Elements of H2.4/H2.6 (CM1/CM2)	None

No. as on Map Fig. 5 (1-28 Co. Louth, 29-33 Co. Down)	Habitats, Vegetation & Flora	Fossitt Code (*JNCC Phase 1 Code*)	Conservation Value
	number of salt marsh plants scattered along it principally sea purslane below with sea plantain, *Plantago maritima*, sea beet, *Beta maritima*, common salt-marsh grass, sea aster in the middle and scutch at the highest level.		
30	Area of disturbed, waste ground E of this consists of rough grassland dominated by scutch , gorse and broom with elder, *Sambucus nigra,* butterfly bush, *Buddleja davidii* and Japanese rose, *Rosa rugosa*.	J1.3/A2 (ED3/A2)	None
31	Rectangular area of mudflat defined by embankments of rock on top of which there is disturbed ground of teasel, *Dipsacus fullonum*, kidney vetch, *Anthyllis vulneraria*, wild carrot, *Daucus carota*, with a mixture of broom, ragwort, sea mayweed, *Matricaria maritima* and spear thistle, *Cirsium vulgare*. Common cudweed, *Filago vulgaris* occurred in the more open areas.	J1.3/J3.5 (ED3/CC1)	None
32	Slopes of embankment abutting mud-flats have salt marsh species occurring mostly of sea purslane, lax-flowered sea lavender, sea aster and sea beet.	J3.5/G2.6/H1.1/H2.4 (CC1/CW2/LS4/CM1)	Low. Salt-marsh species Have invaded artificial structure.
	Fringe of salt marsh occurs on the inside of this embankment - dominated by sea purslane with red fescue, sea aster and scurvy grass, *Cochlearia officinalis*.	H2.4/G2.6/J.3.5/H1.1) CM1/CW2/CC1/Ls4	Low. Salt-marsh species Have invaded artificial structure.

4.3.2 Birds

The bird survey results are summarised and interpreted in Section 6.3.2 for the purpose of examining the potential impact on Carlingford Lough SPA and are therefore not repeated here.

A significant review of existing survey data was completed and substantial survey effort was expended in assessing the importance of the Narrow Water study area to wetland birds and the degree of bird movement through this area. Detailed results are provided in EIS / ES Section 7.2 and the associated appendices 7.1 – 7.4.

5.0 Natura 2000 Sites

5.1 Designated Sites in the Vicinity of the Project

Section 3.2.3 of the Guidance for Planning Authorities states that the approach to screening can be different for plans and projects, depending on scale and on the likely effects. For the purpose of this screening exercise the likely zone of impact of the project is considered as being contained locally within Carlingford Lough. The upland habitats for which Carlingford Mountain (Site Code 000453) is selected as a SAC will not be impacted by the construction or operation of the bridge, and this is

also the case for Rostrevor Wood SAC in County Down. Dundalk Bay SPA and the associated species of conservation interest are separated from the proposed site by the mountains of Cooley Peninsula and an approximate distance of 20km.

Forming the international border between the jurisdictions of Northern Ireland and the Republic of Ireland, Carlingford Lough contains a relatively high number of nature conservation designations:

- *Republic of Ireland sites*

  Carlingford Shore Special Area of Conservation (site code 002306)

  Carlingford Lough Special Protection Area (site code 004078)
  Carlingford Lough proposed Natural Heritage Area (site code 000452)

- *Northern Ireland sites*

  Carlingford Lough Special Protection Area

  Carlingford Lough RAMSAR site

  Carlingford Lough Area of Special Scientific Interest

The designated sites within Carlingford Lough are shown on **Plate 4, below** while **Figure 6** shows the sites in proximity to Narrow Water.

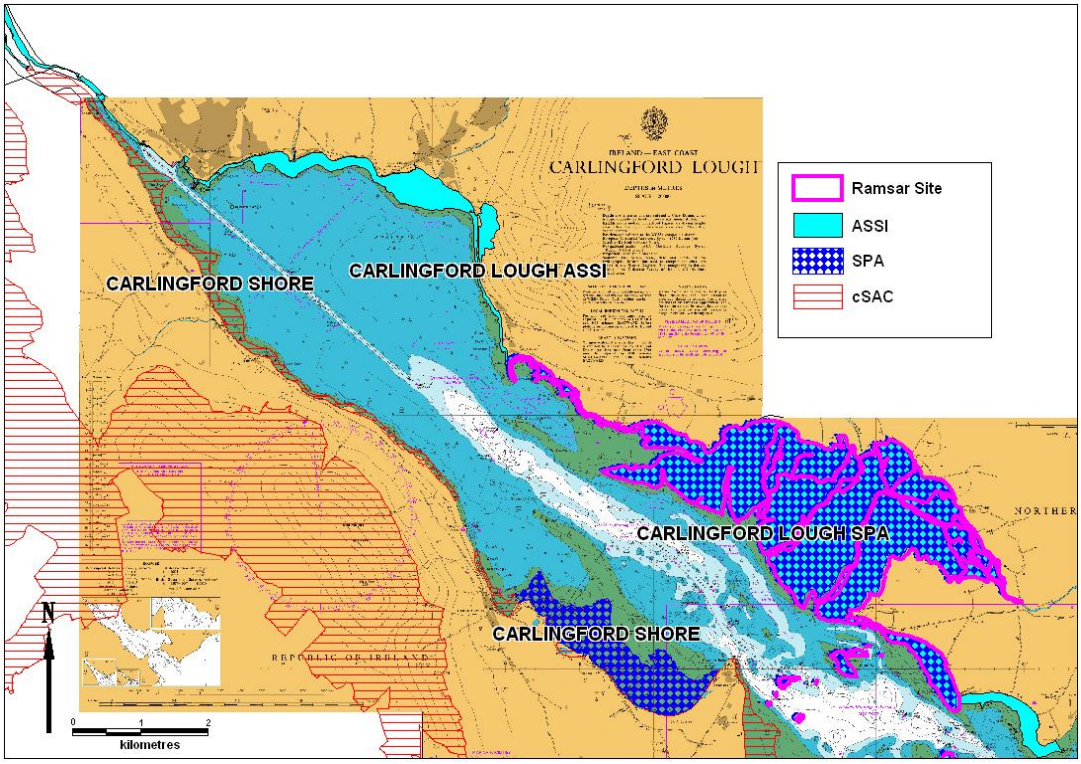


Plate 4: Designated sites within Carlingford Lough

5.2 Characteristics of the Designated Sites

Republic of Ireland Sites

Carlingford Shore SAC

This site stretches continuously along the southern shore of Carlingford Lough, from the Newry River estuary to just east of Cooley Point. The outer boundary is generally the low tide limit while the landward boundary is usually just above the shoreline. The site is selected as a SAC due to the presence of two habitats listed on Annex I of the E.U. Habitats Directive. These qualifying habitats are:

- Perennial vegetation of stony banks (Natura code 1220); and
- Annual vegetation of drift lines (Natura code 1210)

The stony banks or shingle found along much of the site varies in width from less than a metre to approximately 50m south of Ballagan Point. The two Annex I habitats are best developed in the area of Ballagan Point, towards the mouth of Carlingford Lough (the eastern limits of the Lough where it meets the Irish Sea).

The legally protected (Flora Protection Order 1999) species, Oyster plant *Mertensia maritime*, is found on the stony bank vegetation.

The site is also important for the extensive area of mud and sand flats which support internationally important numbers of birds, including the Pale-bellied Brent Geese, and the presence of a population of the Annex II species the Grey Seal.

Conservation Objectives

The conservation objectives for Carlingford Shore SAC were received from NPWS in draft form on 17th September 2010. It should be noted that as they are in draft form they may be subject to amendment.

The draft conservation objectives state:

"European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status areas designated as a Special Areas of Conservation. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites."

According to the EU Habitats Directive, favourable conservation status of a habitat is achieved when:

- *Its natural range and the area it covers within that range is stable or increasing; and*
- *The ecological factors that are necessary for its long term maintenance exist and are likely to continue to exist for the foreseeable future; and*
- *The conservation status of its typical species is favourable as defined below.*

The favourable conservation status of a species is achieved when:

- *Population data on the species concerned indicate that it is maintaining itself;*
- *The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future; and*
- *There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.*

Conservation Objective:

To maintain the Annex 1 habitats for which the SAC has been selected at favourable conservation status: Annual vegetation of driftlines; Perennial vegetation of stony banks.

Carlingford Lough SPA

This SPA is relatively restricted in area extending from the harbour at Carlingford to Greenore Point, over 8km south east of the proposed Narrow Water Bridge crossing point. It includes all of the intertidal sand and mud flats to the low tide mark. The site

supports a nationally important population of wintering Cormorant and a range of other wetland birds, notably Brent Goose, Oystercatcher, Dunlin, Bar-tailed Godwit, Redshank and Turnstone. The presence of Bar-tailed Godwit is of particular note as this species is listed on Annex I of the EU Birds Directive.

Conservation Objectives

The conservation objectives for SPA 004078 were received in draft form from NPWS on 17th September 2010. It should be noted that as they are in draft form they may be subject to amendment.

The draft conservation objectives state:

"Site is selected for:

Great Crested Grebe
Cormorant
Light-bellied Brent Goose
Scaup
Goldeneye
Redshank

Additional Special Conservation Interests:

Shelduck
Oystercatcher
Ringed Plover
Dunlin
Wetland and Waterbirds

Conservation Objective:

To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

The favourable conservation status of a species is achieved when:

- *Population data on the species concerned indicate that it is maintaining itself;*
- *The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future; and*
- *There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis."*

Carlingford Lough proposed Natural Heritage Area (pNHA)

Carlingford Lough is also a proposed Natural Heritage Area – the boundary on the landward side is similar to that of the SAC site but on the seaward side the pNHA boundary extends out into the lough to the international boundary. No further information has been published for the pNHA.

Northern Ireland Sites

Carlingford Lough SPA

This SPA lies between Killowen Point and Soldiers Point on the northern shores of Carlingford Lough and is approximately 8km south east of the proposed Narrow Water bridge crossing point.

The site qualifies under Article 4.1 of the Birds Directive by supporting internationally important populations of Sandwich Tern and under Article 4.2 for supporting nationally important breeding populations of Common Tern.

The site, in association with the neighbouring SPA in the Republic of Ireland, also supports internationally important numbers of Light-bellied Brent Geese. The extended site also supports nationally important numbers of Oystercatcher, Ringed Plover, Grey Plover, Dunlin and Redshank.

Conservation Objectives

The conservation objectives were requested from the Northern Ireland Environment Agency but had not been received at time of writing.

The site is likely to be selected for: Sandwich Tern

Additional species of conservation interest may include: (Nationally important population of migratory birds not listed on Annex 1 of the Birds Directive, as per Article 4.2 of same) Common Tern, Light-bellied Brent Geese, Oystercatcher, Dunlin, Redshank, Ringed Plover and Grey Plover.

The primary conservation objective will be to maintain or restore the special conservation interests for this SPA at favourable conservation status.
The favourable conservation status of a species is achieved when:

- Population data on the species concerned indicate that it is maintaining itself;
- The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.

Carlingford Lough RAMSAR Site

'Ramsar' refers to an international convention in relation to wetland sites. The Convention has its roots in the protection of wetland wildfowl. The Ramsar site is entirely coincident with the SPA and is selected for the same interests.

Carlingford Lough Area of Special Scientific Interest (ASSI No. 0103)

Areas of Special Scientific Interest (ASSI) are areas of land in Northern Ireland which are considered as being of high nature conservation value. The law relating to ASSIs is contained in the Environment (Northern Ireland) Order 2002. When an ASSI is designated the citation document lists a schedule of notifiable operations which are considered potentially damaging and for which consent is required from the Department of the Environment (NI). With respect to planning applications, this consent is deemed granted upon receipt of planning permission under the Planning (NI) Order 1991.

Carlingford Lough ASSI is a large site extending along the entire northern shore of Carlingford Lough, from the deep mudflats of the Newry River estuary to Cranfield Point at the lough mouth. It includes all habitats from the upper shoreline to the mean low water mark. The citation document highlights the following features as being important to the nature conservation value of the site:

- Coastal salt marsh
- Mudflats
- Invertebrate assemblage

- Great Crested Grebe
- Light-bellied Brent Geese
- Shelduck
- Scaup
- Red-breasted Merganser
- Oystercatcher
- Dunlin
- Redshank
- Sandwich Tern
- Common Tern
- Arctic Tern
- Pleistocene geology
- Carboniferous stratigraphy

6.0 Assessment of Likely Effects on Natura 2000 sites

6.1 Consideration of Significance

In terms of significance, the NPWS Guidance quotes an EC definition "*any element of a plan or project that has the potential to affect the conservation objectives of a Natura 2000 site, including its structure and function, should be considered significant (EC, 2006)".*

In order to assess the likely impacts and ascertain whether a significant impact on the integrity of the Natura 2000 sites is likely to occur as a result of the proposed development it is necessary to consider what constitutes the integrity of a site as referred to in Article 6 (3) of the Habitats Directive. The document *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC* gives clear guidance in this regard and states:

"*The integrity of the site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."*

In general, and for the basis of this assessment, significance indicators may include:

- Impact on Annex 1 Habitat within the SAC;
- Fragmentation of habitat or population;
- Disturbance; and
- Effect on species populations (direct or indirect damage to population size, breeding patterns).

6.2 Field Surveys

Habitat and flora surveys were undertaken in July 2008. The surveys of wintering and breeding birds in the Narrow Water area were carried out during the period January to May 2008. Further bird surveys were undertaken in January and February 2009 to establish bird movements along this stretch of the Newry River Estuary.

This assessment is based upon these surveys and the impact assessment detailed in Section 7.2 of the Environmental Impact Statement/Environmental Statement. The detailed survey results are available for review in Section 7.2 and the associated appendices of the EIS/ES.

6.3 Potential Impacts on Natura 2000 Sites

6.3.1 Carlingford Shore SAC

Qualifying Habitat

The proposed development will have no impact on the qualifying habitats of Carlingford Shore SAC. Neither perennial vegetation of stony banks (Natura code 1220) nor Annual vegetation of drift lines (Natura code 1210) is present on the area of foreshore which will be impacted by the construction of the bridge abutment, the new navigation beacon or the roost site. In addition, the works will have only a very local impact on the water circulation patterns within the Newry River Estuary (refer Section 7.3 of EIS). The bridge will therefore have no impact on the tidal movements or currents within Carlingford Lough which are essential for the maintenance of these habitats.

Qualifying Species

Carlingford Shore SAC is not selected for any Annex II species.

Non-qualifying / Unlisted Annex habitats within the SAC

Two small patches of salt marsh vegetation are present on the foreshore in the vicinity of the southern bridge abutment (refer to 'Areas 4 and 5' in Table 1 and Figure 5; it should be noted that the small salt marsh island, which is currently used as a high tide roost, located to the south east of area 5 will not be impacted).

Both of these small fragmented areas of salt marsh are classed as being of low nature conservation value as the salt marsh vegetation present is sporadic and lacking in structure as a result of grazing and heavy poaching by livestock.

Whilst the two salt marsh areas are assessed as being of low quality and insufficiently developed to be considered as salt marsh habitat, if allowed to develop without disturbance it is considered that they could equate to one of the salt marsh habitats assigned Annex 1 status in the Habitats Directive.

The loss of these small areas of salt marsh vegetation will be mitigated by the provision and creation of suitable habitat using the existing material and turves of the existing vegetation – refer to the Mitigation Measures specified in Section 7.0.

In addition, the construction of fencing in the vicinity of the bridge and the approach road which is required to ensure the safety of road users and pedestrians will have the knock on effect of removing grazing from the foreshore. This will allow the salt marsh habitat to develop and expand in this area of sheltered foreshore without the limiting physical disturbance which currently occurs as a result of heavy poaching.

On the basis of the above it is concluded that there will be no net loss of salt marsh vegetation and over the longer term it is considered likely that there will be a net gain of this potential habitat type.

Non-qualifying / Unlisted Annex II Species

Otters are present in Carlingford Lough and it is considered highly likely that at times they pass along the shorelines at the bridge location. However no otter holts or field signs were identified within the land take of the project and no holts were located in the immediate vicinity.

Otter movements along the foreshore may be subject to some disturbance during the construction phase. However this will be temporary in nature and will not prevent otters from moving along the shoreline during the night when they are most active. When the bridge is in operation, otters will still be able to pass along the shoreline and will adapt quickly to the presence of traffic above. As such it is considered that there will be no impact on the otter population utilising Carlingford Lough / Newry River Estuary.

6.3.2 Carlingford Lough SPA

The SPA designations in the two jurisdictions are complimentary occurring on the opposite shorelines approximately 8km south east of the bridge crossing point. In both instances the designation primarily covers the exposed intertidal mudflats within Carlingford Lough. This mudflat habitat is critical in the maintenance of the populations of wetland bird species which occur in the Lough. As the two designations are complimentary of one another they are, for the basis of this report, treated as one site.

In addition to the SPA, the Newry River Estuary, upstream (north west) of the Narrow Water study area, contains an expansive area of intertidal mudflat which is also utilised by wintering waterbirds. This area is contained within the ASSI designation.

Wetland Bird Surveys and Impact Assessment

A review of the substantial historic information on wetland birds in the study area was supported by considerable survey effort in the study of the populations, distribution and movement of the wetland bird species in the vicinity of the proposed crossing point. The methods used can be reviewed in Section 7.2.4 and the detailed results are available in Section 7.2.6 and Appendices 7.1 – 7.4 of the EIS/ES.

The surveys were carried out during the period January to May 2008. Further bird surveys were undertaken in January and February 2009 to establish bird movements along this stretch of the Newry River Estuary.

In order to assess the importance of the Narrow Water area to feeding and roosting waterbirds, the number of birds present in the vicinity of the proposed bridge crossing point were reviewed against the total number of birds using the Newry River Estuary (considered as being from Newry City to Omeath/Warrenpoint) and the Carlingford Lough totals.

A summary of the survey findings is outlined below.

Waterbirds feeding in the Narrow Water Study Area

In all, 17 waterbird species were recorded in the Narrow Water Study Area. The most numerous and most frequent of these were Black-headed Gull (max. 71, average 27.5), Oystercatcher (max. 51, average 21.4), Redshank (max. 64, average 12.4), Teal (max. 24, average 6.8) and Shelduck (max. 18, average 6.4).

No waterbird species was recorded in the Narrow Water Study Area in internationally or nationally important numbers. Nor were any recorded in significant numbers in relation to the overall numbers recorded during the WeBS counts in the Newry River Estuary and Carlingford Lough.

Waterbirds roosting in Narrow Water Study Area

A small saltmarsh island and a man made spit on the southern shore are regularly used by c.300 waterbirds during the high tide period. The bird species recorded using the island as a roosting site were Grey Heron, Light-bellied Brent Goose, Shelduck, Teal, Mallard, Oystercatcher, Lapwing, Dunlin, Curlew, Redshank, Greenshank, Turnstone, Mediterranean Gull, Black-headed Gull, Common Gull, Herring Gull and Great Black-backed Gull. The spit is used mainly by Oystercatcher and Redshank.

Importance of the Narrow Water study area

The survey results identified that the Newry River Estuary is particularly important for Shelduck, Teal, Dunlin, Redshank and Black-headed Gull.

With respect to these species the numbers present at Narrow Water was relatively small - Shelduck (18), Teal (24), Lapwing (39), Dunlin (0), Curlew (17), Redshank (64), Black-headed Gull (71).
Therefore, in the context of the wintering waterbird population of the Newry River Estuary, the Narrow Water area is considered to be of only minor importance as a feeding and roosting site.

Waterbird movements through the Narrow Water Study Area

The surveys identified that the great majority of waterbirds using the expansive intertidal areas of the Newry River Estuary upstream of Narrow Water remain there during the high tide period, instead of flying up and down between their feeding areas and roosting sites. This was confirmed by discussions with a local ornithologist (Mr Frank Carroll) who carries out monthly waterbird counts between September and March each year for the Wetland Bird Survey (Northern Ireland) and the Irish Wetland Bird Survey (Republic of Ireland).

Shelduck and Teal, being swimming ducks, tended to swim/float on the water when high tides covered their main feeding areas on the extensive mudflats upstream of Narrow Water. The non-swimming wader species – Curlew, Redshank, etc. – generally roosted at high tide on the stone embankments and saltmarsh fringes of the estuary, close to their main feeding grounds on the mudflats. Like the ducks, the gulls tended to float on the water at high tide close to their feeding areas.

Only Dunlin appear to be displaced by the rising tide from the upper Newry River Estuary, flying down to roost in Carlingford Lough. These birds were observed flying back up the Newry River as soon as the expansive mudflats were exposed by the falling tide. It was noted that Dunlin always flew very close to the water.

Dawn/dusk flighting movements were also recorded with Black-headed gulls and Curlew being recorded as showing this temporal behaviour. Black-headed gulls made up the vast majority of these movements, moving between their roost sites within Carlingford Lough up to their feeding sites further up the Newry River or on inland fields.

Importance of Narrow Water Study Area for Species of Special Conservation Interest

(i) Annex 1 Waterbird species (EU Birds Directive)

Red-throated Diver
Little Egret
Bar-tailed Godwit
Mediterranean Gull
Kingfisher

These five waterbird species are included in Annex 1 of the EU Birds Directive as species of conservation concern in the European Union. Three of them – Red-throated Diver, Little Egret and Mediterranean Gull – were recorded in the Narrow Water Study Area in 2008/09 but only single birds. Bar-tailed Godwit and Kingfisher have been recorded in the Newry River Estuary, the former not during the 2008 counts but on two occasions (totals of 10 and 15) during the WeBS counts; the latter on two occasions during 2008 and the WeBS counts but always singly.

In addition to the above, seven other Annex 1 waterbird species – Black-throated Diver (1), Great Northern Diver (26), Slavonian Grebe (1), Golden Plover (400), Sandwich Tern, Common Tern and Arctic Tern – have been recorded in Carlingford Lough, but not in the Newry River Estuary (Crowe 2005).
It is concluded that the Narrow Water Study Area is not of importance for any Annex 1 listed species.

(ii) Internationally Important waterbird species

Light-bellied Brent Goose

This species occurs in Carlingford Lough in Internationally Important numbers but very few appear to enter the Newry River Estuary. During the WeBS counts the maximum counted there was 44 birds, while in the early 2008 series of counts, the maximum number of birds recorded was 16. Therefore the Narrow Water Study Area is considered to be of very little importance for Brent Geese.

(iii) Nationally Important populations of waterbird species

Great Crested Grebe
Great Cormorant
Shelduck
Scaup
Goldeneye
Red-breasted Merganser
Oystercatcher
Dunlin
Redshank

The WeBS data confirm that the above nine waterbird species occur in Carlingford Lough in Nationally Important numbers. While they have been recorded in the Narrow Water Study Area, the numbers found here are low, especially in the context of the wider Carlingford Lough / Newry River Estuary population numbers. As such it is concluded that the Narrow Water Study area is only of minor importance to these species. Ringed Plover also occurs in

Carlingford Lough in Nationally Important numbers, but has not been recorded in the Narrow Water Estuary.

Potential Impact on SPA Qualifying and Listed Species of Interest

Potential impacts on the bird populations of an SPA relate to:

- Habitat loss and degradation
- Fragmentation of habitat or population
- Disturbance (construction noise, lighting, increased human activity)
- Effect on species populations (direct or indirect damage to population size, breeding patterns).

However before assessing the potential impact on the SPA(s) against these factors it is worth reviewing the detailed wetland bird survey results (refer to EIS/ES Section 7.2 and associated appendices) and highlighting the key findings:

- The SPA(s) are located approximately 8km to the south east of the proposed bridge crossing point;
- While a number of the bird species present are listed as species of Special Conservation Interests of the SPA the numbers utilising the Narrow Water study area are very low in the context of the total populations present within the Newry River Estuary and Carlingford Lough;
- Of the SPA qualifying and listed bird species, only Dunlin are recorded as moving regularly through the Narrow Water study area and this species was recorded as flying low over the water;
- A small high tide roost will be lost, as a consequence of disturbance, and this will have a significant impact on the local waterbird populations (those occurring in the Narrow Water study area). However this will be effectively mitigated through the provision of an alternative roost site;
- By up-lighting the bridge structure and cables at night and painting the entire structure off white the potential for collision risk is considered as being reduced to a negligible level.

Habitat Loss and Degradation

As a consequence of the distance of the proposed bridge crossing site from the SPA boundary there will be no loss of or impact on any habitat element contained within the SPA.

Outside the confines of the SPA, the construction of the bridge will result in the direct loss of a small area of mudflat located under the northern bridge embankment. In the context of the Newry River Estuary and Carlingford Lough total mudflat area this loss is negligible and it is considered as having no impact on the extent of habitat available to the SPA species.

On the southern shore the construction of the southern bridge embankment will remove a small high tide roost site. This will result in the displacement of the birds which use this roost site. The detailed surveys have shown that the individuals which utilise this roost site are those which feed within the Narrow Water study area. It is therefore considered that the loss of this roost site will not have a significant impact on the populations of the SPA qualifying and listed species of special conservation interest. Further, the loss of this roost site is to be mitigated through the construction of an equivalent replacement high tide roost (refer to Section 7.0 and EIS/ES Section 7.2.8).

With respect to water quality it was also considered that heavy sediment loading during construction could locally impact the invertebrates on which the bird species feed. However the construction method (refer to EIS/ES Chapter 11) includes for the installation of temporary coffer dams around the sites of the anchorage abutments on both shores. This ensures that the sediment release during construction is minimal and temporary and as such it is not considered significant. Similarly, the hydrodynamic modelling (refer EIS/ES Chapters 4 and 7.2) undertaken has shown that during the operational phase there will only be an initial limited, local and very temporary mobilisation of sediment which it is considered to have a negligible impact on water quality.

Fragmentation of Habitat or Population

There will be no loss or fragmentation of the available habitat or the populations contained within the confines of the SPA's mapped limits.

Despite this, as all the qualifying and species of conservation interest are not physically restricted to the SPA it was considered necessary, with respect to fragmentation of population and habitat availability, to review the bird movements along the Narrow Water study area and in the broader Newry River Estuary as it was considered feasible that the proposed bridge could act as a barrier to bird movement and thus the natural range in the context of the wider Carlingford Lough / Newry River Estuary area.

The surveys of bird movements identified that there is actually very little regular movement of the qualifying and listed bird species between Carlingford Lough and the Newry River Estuary with only Dunlin apparently displaced by the rising tide having been recorded returning from the Estuary mudflats to roost within Carlingford Lough. As Dunlin were recorded flying low over the water and would be expected to fly under the bridge, it is considered that the proposed structure will not have any significant impact in terms of habitat or population fragmentation.

Disturbance

Disturbance during construction

During the bridge construction phase (which will be over an approximate 18 month period) it is anticipated that construction activities and presence of workers will cause local disturbance to those birds which feed and roost at Narrow Water. As the disturbance will be temporary and the number of qualifying and listed bird species present has been shown to be very low in the context of the Newry River Estuary and Carlingford Lough populations, this impact is not considered to be significant. In order to minimise this disturbance the construction of the northern and southern abutments, which will require direct access on to the foreshore, shall be completed outside of the main overwintering period. It should also be noted that the replacement roost will be completed prior to the bridge construction programme specifically so that it is available and in use before the temporary disturbance occurs.

Disturbance during operation

The proposed bridge at Narrow Water is not predicted to carry as much traffic as the A2 road at the northern edge of the Newry River Estuary. Waterbirds using the estuary at Narrow Water are accustomed to this level and proximity of traffic and continue feeding undisturbed. Therefore it is considered unlikely that traffic crossing the proposed bridge at Narrow Water will disturb the birds, particularly as the vehicles will be partly screened from view by the bridge parapets.

Similarly, waterbirds in this area are accustomed to bright road lights at night, so the bridge architectural up-lighting should have no adverse impacts on the birds.

Effect on Species Populations

The population numbers of the SPA qualifying and listed species could be impacted by the project reducing the extent or availability of feeding habitat, reducing the number or availability of roost sites and at completion through direct mortality as result of collision.

The assessment as outlined above has shown that the proposed bridge will have no impact on the extent or availability of feeding habitat, either within or outside the SPA boundary nor will there be any permanent impact on the number of available roost sites.

With respect to mortality as a result of collision with the bridge structure it must be noted in the first instance that there are no regular movements of flocks of the SPA qualifying and listed species through the Narrow Water study area. However the risk of collision cannot be ruled out with the larger species such as Cormorant, Shelduck and Brent Geese at most risk as they generally fly fast and direct and have relatively poor manoeuvrability. Of these only Cormorant was recorded as moving routinely through the study area.

It is expected, based on experience and observations elsewhere, that in normal circumstances where waterbirds are flying in daylight, with good visibility, they will avoid the structure by flying low under the bridge or high above it. However, at night and in foggy conditions, the risk of collision cannot be disregarded. This risk has been reduced to what is considered a negligible level as a consequence of the bridge structure being up-lit at night and by being painted off-white in colour (refer to EIS/ES Section 7.2.8).

Assessment of Impact against SPA Conservation Objectives

The species listed as qualifying species and as species of special conservation interest for Carlingford Lough SPA are:

Republic of Ireland	**Northern Ireland**
Great Crested Grebe	Sandwich Tern
Cormorant	Common Tern
Light-bellied Brent Geese	Light-bellied Brent Geese
Scaup	Oystercatcher
Goldeneye	Dunlin
Redshank	Redshank
Shelduck	Ringed Plover
Oystercatcher	Grey Plover
Ringed Plover	
Wetland and Waterbirds	

The primary conservation objective is '*To maintain or restore the special conservation interests for the SPA at favourable conservation status'*.

The favourable conservation status of a species is achieved when:

- Population data on the species concerned indicate that it is maintaining itself;
- The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis."

The survey data collected and the above assessment against the potential impacts which could be experienced by the SPA populations of qualifying species and species of special conservation interest has clearly shown that the proposed Narrow Water Bridge will not impact the natural range of any of any of the species nor have any impact on the extent or availability of the necessary habitat. As such it is concluded that the Narrow Water Bridge Project will have no impact on the populations of the qualifying and listed species and therefore has no impact on the objective to maintain these populations at favourable conservation status.

6.3.3 Cumulative Impacts

The Habitats Directive requires that the potential cumulative impacts on Natura 2000 sites be assessed in combination with other significant projects in the vicinity.

The only significant project that is currently under consideration in the vicinity is the Newry Southern Relief Road. This is a longer term strategic project under consideration by the Roads Service Northern Ireland which will link the A2 Warrenpoint Road to the south of Newry with the A1/M1 Dublin to Belfast motorway.

A Feasibility Report for this project was published in September 2009, however the scheme has not been included within the Investment Delivery Plan for Roads and there is therefore no commitment given to the completion of the project.

As the project is unlikely to be brought forward with respect to route selection, bridge design and planning in the near future it is impossible at this point in time to consider the cumulative impact which may arise as a consequence of the completion of the two projects.

Despite this it should be noted that the options considered in the Feasibility Report all require bridge crossings of the Newry River Estuary immediately adjacent to Newry and would thus have no impact on the conservation objectives for Carlingford Shore SAC and would have no direct/physical impact on Carlingford Lough SPA.

7.0 Mitigation Measures

Section 7.2.8 of the EIS / ES provides a comprehensive suite of ecological mitigation measures. These include the requirement to appoint a project ecologist and monitor the effectiveness of mitigation measures. The measures detailed below are specific to the SAC and SPA only.

Carlingford Shore SAC

The assessment has concluded that there will be no impact on the selection features of the SAC. As a consequence no specific mitigation measures are required.

Non-annexed salt marsh habitat

While the salt marsh at this site is of low quality and is not a qualifying habitat of Carlingford Shore SAC, salt marsh is an Annex I habitat and therefore care is required to minimise loss and disturbance.

At the commencement of construction, the area required for the works will be identified and marked (by robust fencing) so that incursions by machinery or storage of materials on adjoining areas does not happen.

If entry to the site is required over adjoining intact salt marsh, the salt marsh will be covered with appropriate matting to minimise damage to the surface vegetation.

The salt marsh beneath the footprint of the bridge foundations will be cut out in sods, stored, and later used, as necessary, to repair the disturbed edges of the remaining salt marsh habitat and to encourage salt marsh regeneration, for example as part of the planting scheme for the new high tide roost. Storage of the sods will be at a nearby location (at an appropriate tidal height) and with vegetation side up.

Salt marsh regeneration will be facilitated by the removal of the grazing which is currently resulting in heavy poaching.

Carlingford Lough SPA

The only potential impact with respect to the waterbird populations has been shown to be the loss of the roost site on the foreshore in County Louth. In order to mitigate for this loss an alternative, replacement high tide roost shall be constructed before bridge works commence. For further details as to location and construction method reference should be made to EIS/ES Section 7.2.8 and Figure 7.3, EIS / ES Volume 3.

8.0 Residual Impacts

Carlingford Shore SAC

No residual impacts on the qualifying habitats of Carlingford Shore SAC are anticipated.

Carlingford Lough SPA

Following successful construction of the replacement bird hide no residual impacts are anticipated on any of the SPA qualifying or listed species of conservation interest.

9.0 Conclusion

The potential impacts during the construction and operation of the proposed Narrow Water Bridge have been considered in the context of the Natura 2000 sites and their conservation objectives.

Carlingford Shore SAC

The proposed development will have no impact on the qualifying habitats of Carlingford Shore SAC: Perennial vegetation of stony banks (Natura code 1220) and Annual vegetation of drift lines (Natura code 1210) and the site is not selected for any Annex II species.

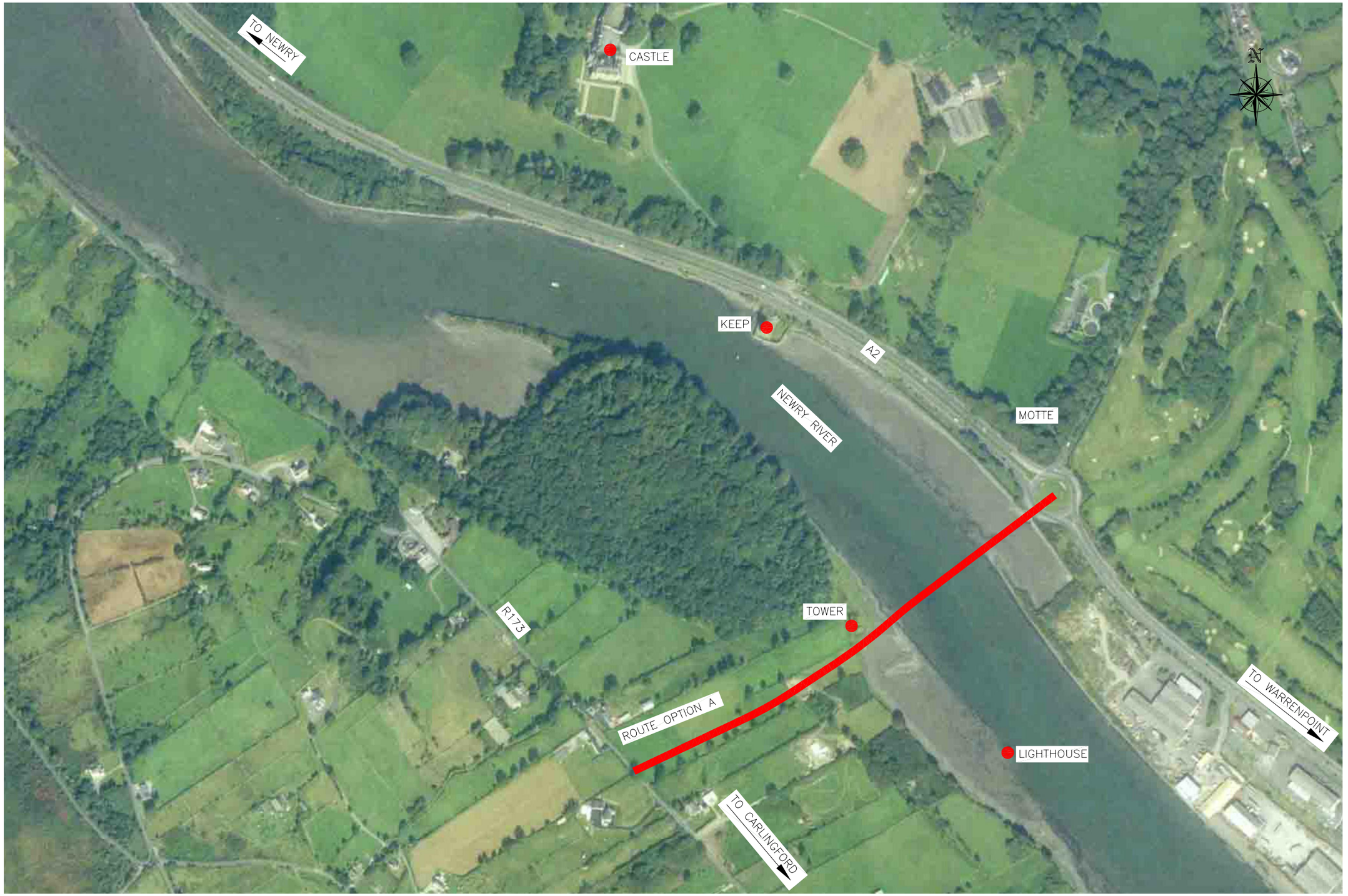
Therefore, as a result of the ecological impact assessment carried out it is considered that the conservation objectives for the Special Area of Conservation will not be compromised by the proposed development, nor will the proposed development have any significant impact on the designated site or the habitats and species for which it has been designated.

Carlingford Lough SPA

The assessment carried out has objectively concluded that the proposed development will have no significant impact on any of the species for which the site is designated and will have no impact on the integrity of the site itself. As such it is considered that the conservation objectives for the SPA(s) will not be compromised by the proposed development.

Conclusion

As a result of the ecological impact assessment carried out it is the considered view of the authors that the proposed development will have no adverse effect on the integrity of either the SAC or the SPA(s) and as such this report returns a conclusion that there is no potential for significant effects on the Natura 2000 sites.



LEGEND:

PREFERED ROUTE

PLAN

A1 SCALE 1:2500
A3 SCALE 1:5000

An Roinn Iompair Turasóireachta agus Spóirt
Department of Transport, Tourism and Sport

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Project
NARROW WATER BRIDGE PROJECT

NATURA IMPACT STATEMENT / HABITATS REGULATIONS ASSESSMENT

Title
PREFERRED ROUTE

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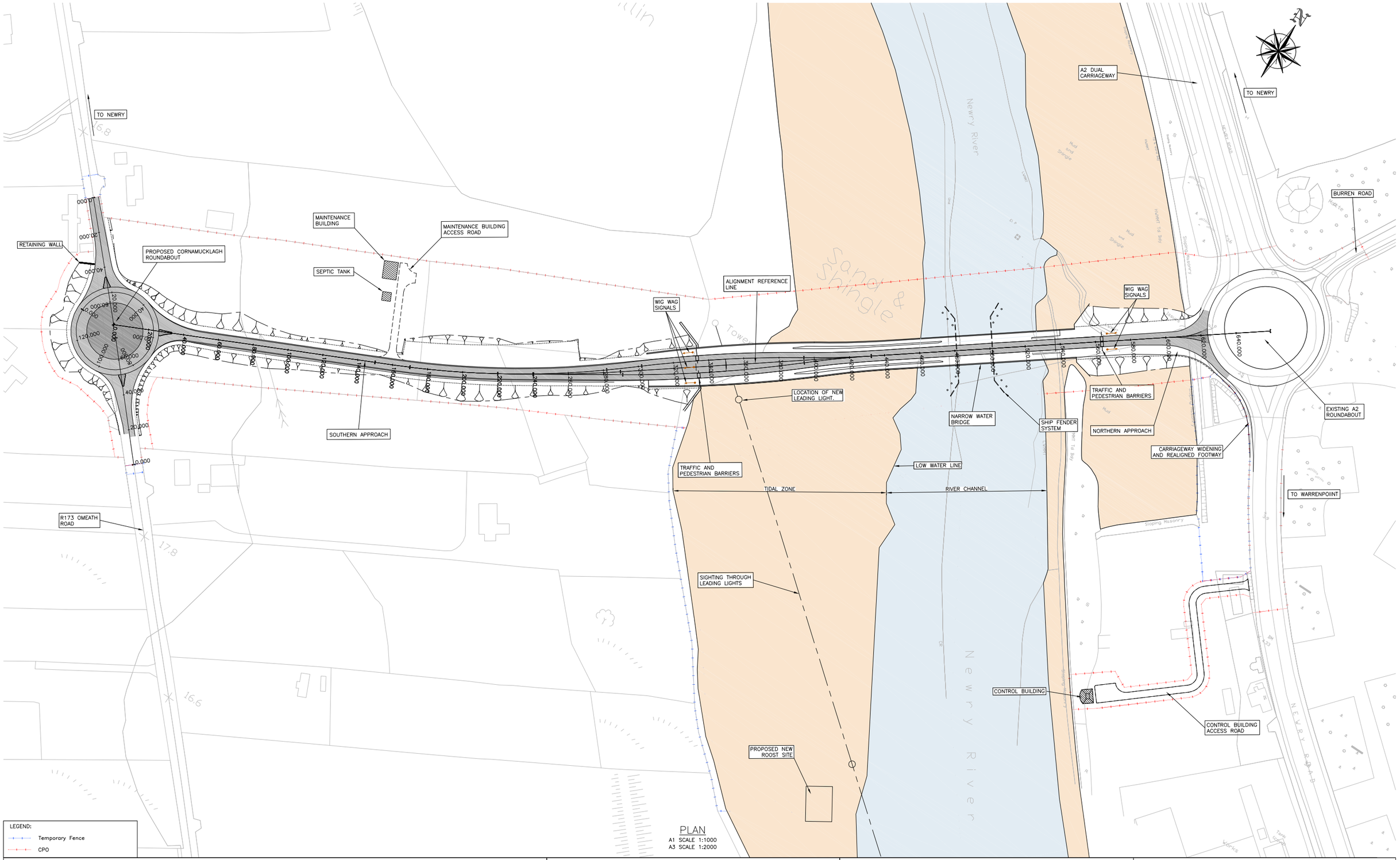
Checked:	BC	Scale:	AS SHOWN	Drawing No:	FIG 1
Approved:	TD	Date:	JAN 2012	Rev:	

Drawing Location: L:\acaddwg\2008\08119\Drawings\EIS\NIS - HRA\Fig 1.dwg

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



PLAN
A1 SCALE 1:1000
A3 SCALE 1:2000

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Department of Transport, Tourism and Sport

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Project
NARROW WATER BRIDGE PROJECT

NATURA IMPACT STATEMENT / HABITATS REGULATIONS ASSESSMENT

Title
PROPOSED ALIGNMENT PLAN

Designed:	RMR	CAD File:	08.119 EIS	Status:	NIS / HRA
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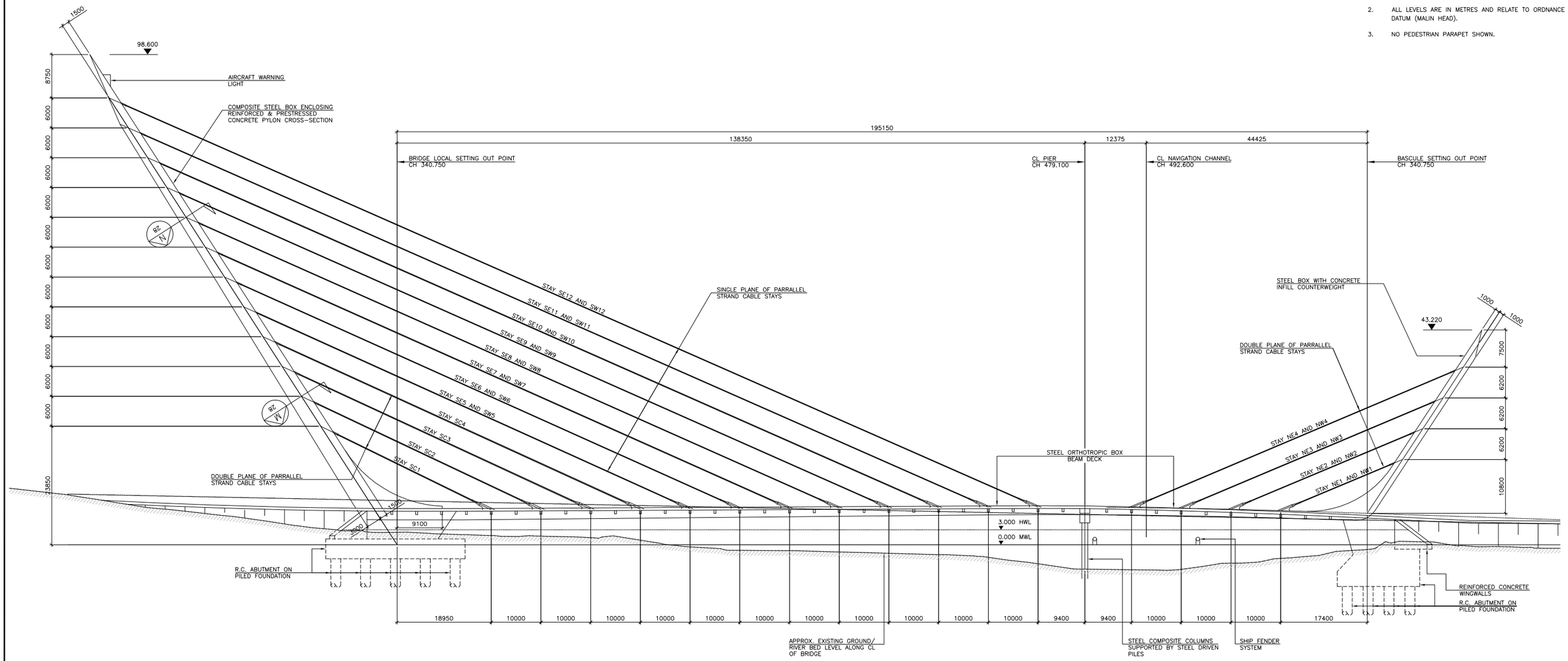
Checked:	BC	Scale:	AS SHOWN	Drawing No:	FIG 2
Approved:	TD	Date:	JAN 2012		Rev:

Drawing Location: L:\acaddwg\2008\08119\Drawings\EIS\NIS - HRA\Fig 2.dwg

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. ALL LEVELS ARE IN METRES AND RELATE TO ORDNANCE DATUM (MALIN HEAD).
3. NO PEDESTRIAN PARAPET SHOWN.



ELEVATION OF BRIDGE – OPEN FOR TRAFFIC
SCALE 1:400

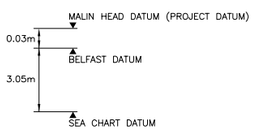


FIGURE 1
DATUM CONVERSION TABLE
(NOT TO SCALE)

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Department of Transport, Tourism and Sport

Roughan & O'Donovan
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Project
NARROW WATER BRIDGE PROJECT

NATURA IMPACT STATEMENT / HABITATS REGULATIONS ASSESSMENT

Title
BRIDGE ELEVATION
SHEET 1

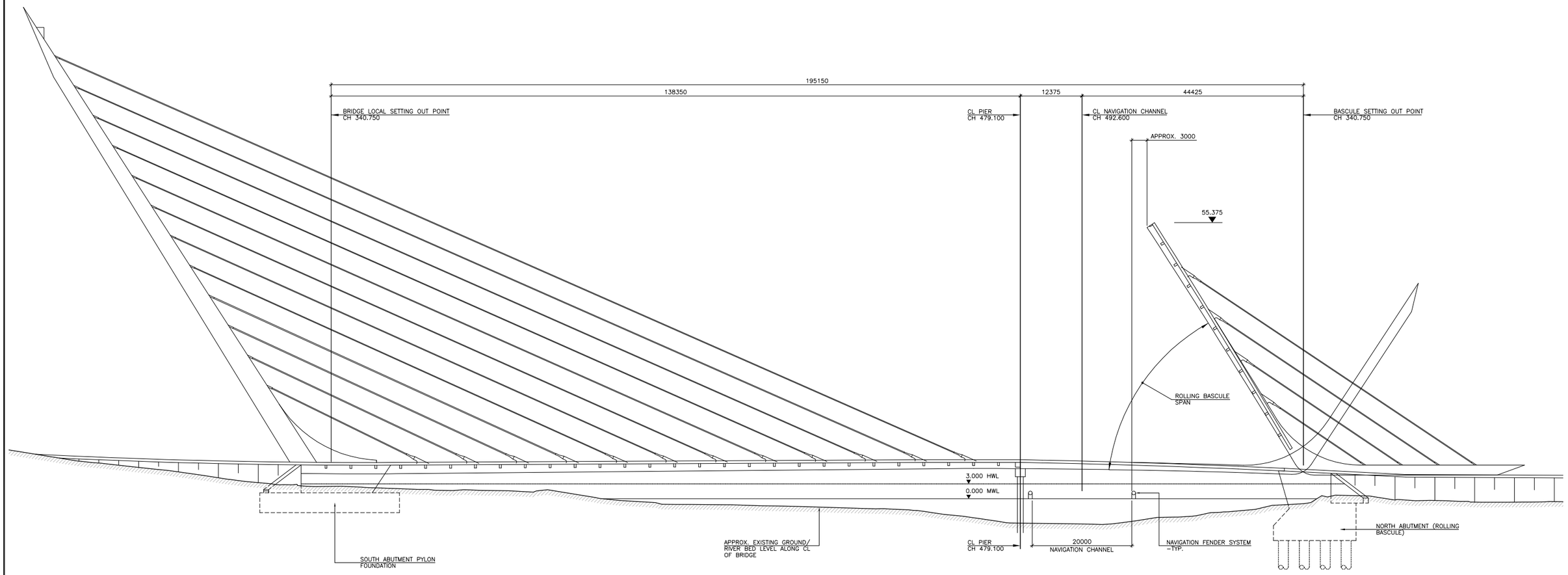
Designed:	RMR	CAD File:	08.119 EIS	Status:	NIS / HRA
Drawn:	RE	Job No:	08.119		
Checked:	BC	Scale:	AS SHOWN	Drawing No:	FIG 3
Approved:	TD	Date:	JAN 2012		Rev:

Drawing Location: L:\acaddwg\2008\08119\Drawings\EIS\NIS - HRA\Fig 3.dwg

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. ALL LEVELS ARE IN METRES AND RELATE TO ORDNANCE DATUM (MALIN HEAD).
3. NO PEDESTRIAN PARAPET SHOWN.



ELEVATION OF BRIDGE – OPEN FOR NAVIGATION
SCALE 1:400

An Roinn Iompair Turasóireachta agus Spóirt
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Project
NARROW WATER BRIDGE PROJECT

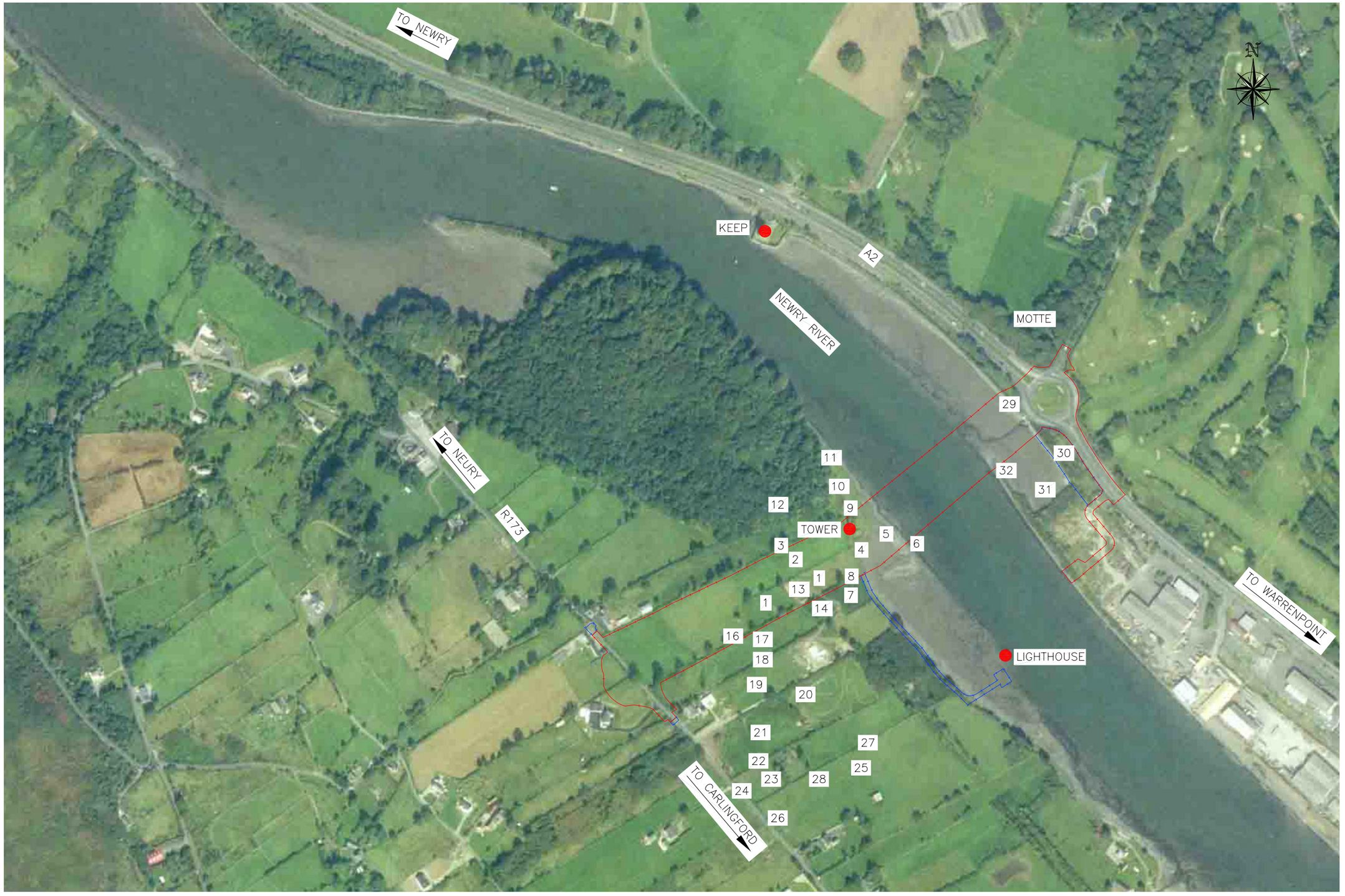
NATURA IMPACT STATEMENT / HABITATS REGULATIONS ASSESSMENT

Title
BRIDGE ELEVATION
SHEET 2

Designed:	RMR	CAD File:	08.119 EIS	Status:	NIS / HRA
Drawn:	RE	Job No:	08.119		
Checked:	BC	Scale:	AS SHOWN	Drawing No:	FIG 4
Approved:	TD	Date:	JAN 2012		Rev:

Drawing Location: L:\acaddwg\2008\08119\Drawings\EIS\NIS - HRA\Fig 4.dwg

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



KEY:

1 HABITAT SURVEY – TARGET NOTE (REFER TO TABLE 7.1)

Temporary Fence

CPO

PLAN

A1 SCALE 1:2500 A3 SCALE 1:5000

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NATURA IMPACT STATEMENT / HABITATS REGULATIONS ASSESSMENT

Title
HABITAT SURVEY

Designed:	RMR	CAD File:	08.119 EIS	Status:	NIS / HRA
Drawn:	RE	Job No:	08.119		
Checked:	BC	Scale:	AS SHOWN	Drawing No:	FIG 5
Approved:	TD	Date:	JAN 2012		Rev:

Drawing Location: L:\acaddwg\2008\08119\Drawings\EIS\NIS - HRA\Fig 5.dwg

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

LEGEND: DESIGNATIONS

- NHA
- SAC
- ASSI

PLAN
A1 SCALE 1:2500
A3 SCALE 1:5000

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Project
NARROW WATER BRIDGE PROJECT

NATURA IMPACT STATEMENT / HABITATS REGULATIONS ASSESSMENT

Title
NATURE CONSERVATION DESIGNATIONS

Designed:	RMR	CAD File:	08.119 EIS	Status:	NIS / HRA
Drawn:	RE	Job No:	08.119		
Checked:	BC	Scale:	AS SHOWN	Drawing No:	FIG 6
Approved:	TD	Date:	JAN 2012	Rev:	

Drawing Location: L:\acaddwg\2008\08119\Drawings\EIS\NIS - HRA\Fig 6.dwg

DO NOT SCALE USE FIGURED DIMENSIONS ONLY