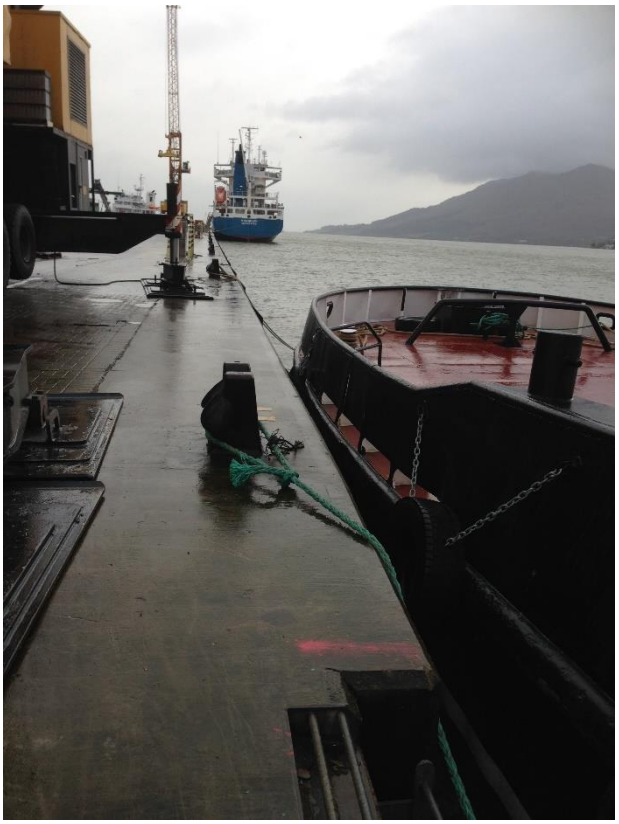
Eolas Ecology

Habitats Regulation Assessment (HRA)



Warrenpoint Harbour Repairs to Dolphins & Quay 6

Prepared for:

Warrenpoint Harbour Authority

Prepared by:

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Job no: EE/2021/028

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1 INTRODUCTION

1.1 Remit

Eolas Ecology was commissioned by Warrenpoint Harbour Authority, to undertake a Habitats Regulation Assessment for proposed maintenance and repair works to the Dolphins and Quay 6 located within Warrenpoint Harbour, Newry, Co. Down.

Due to the close proximity of the site to protected areas, a Habitat Regulation Assessment (HRA), under Regulation 43 (1) of the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 is required to determine if there could be any significant effects on the conservation objectives/features and hence integrity of any Natura 2000 (N2K) sites.

1.2 Requirement for a Habitat Regulations Assessment (HRA)

1.2.1 Purpose of the Report

This assessment is undertaken on behalf of Warrenpoint Harbour Authority (as the Competent Authority) to inform their determination of whether their proposals can be undertaken without any adverse impacts on any European sites.

The objective of this assessment is to identify likely impacts arising from the proposal that could have a significant effect on any Natura 2000 sites or their qualifying features, either in isolation or in combination with other plans and projects, and to advise on appropriate mitigation measures where such effects are identified.

1.2.2 Legislative Context

European Directive 92/43/EEC on the 'Conservation of natural habitats and of wild fauna and flora', commonly known as the 'Habitats Directive' provides legal protection for habitats and species of European importance. The Habitats Directive is transposed into law in in Northern Ireland by the Conservation (Natural Habitats, etc.,) Regulations (Northern Ireland) 1995 (as amended).

The aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. Article 6 of the Habitats Directive (enforced nationally by the Habitats Regulations), establishes the requirement that any plan or project likely to have a significant effect on the conservation objectives of any Natura 2000 site shall first be subjected to an Appropriate Assessment (AA) of the implications for the site.

Article 6(3) of the Directive states:

> *'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public'.*

Natura 2000 is a network of areas designated (or in the latter stages of designation) to ensure the long-term survival of Europe's most valuable and threatened species and habitats. Specifically:

- Special Areas of Conservation (SAC) designated under the EU Habitats Directive for their habitats and/or species of European importance;
- Special Protection Areas (SPA) designated under the EU Birds Directive for rare, vulnerable and regularly occurring migratory bird species and internally important wetlands;
- Candidate and proposed sites (cSAC and pSPA) submitted to the EC but not yet formally adopted; and
- Sites of Community Importance (SCI) adopted by the EC but not yet formally designated by the Member State.

As a matter of government policy (PPS2[1]) Ramsar sites listed under the 1971 Ramsar Convention on Wetlands of International Importance also receive the same protection as designated SPAs and SACs. The Habitats Directive requires competent authorities to carry out a 'Habitats Directive Assessment' of plans and projects that are likely to have a significant effect on Natura 2000 sites, either individually or in combination with other plans or projects.

1.3 Statement of Authority

This HRA has been undertaken by Catherine Reilly BSc (Hons), MCIEEM who is Owner and Principal Ecological Consultant with Eolas Ecology. Catherine has over 14 years' experience in working within the environmental consultancy industry as a professional ecologist. She has over 14 years' experience conducting and leading ecological surveys to include habitat and protected species surveys throughout Northern Ireland, Ireland and Scotland. She has experience in undertaking Ecological Impact Assessments (EcIA), Habitat Regulation Assessments (HRA) and production of site specific mitigation proposals for a range of developments throughout Northern Ireland. Catherine is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), an organisation requiring peer review and a high standard of professional conduct. Catherine is a committee member of the Northern Ireland Bat Group (NIBG) and is a registered bat carer with BCT, NIEA and CEDaR.

1.4 Sources of Information

The data detailed within this report was sourced from the following sources:

- Design ID – Warrenpoint Port Redevelopment, Quay Wall Survey (18348-DID-ZZ-ZZ-RP-S-0001);
- Doran Consulting – DC-ZZ-ZZ-GA-C-101: Lifting Dolphin 1 Defects Survey;
- Doran Consulting – DC-ZZ-ZZ-GA-C-102: Lifting Dolphin 2 Defects Survey;
- Doran Consulting – DC-ZZ-ZZ-GA-C-103: Dolphin 1 Defects Survey;
- Doran Consulting – DC-ZZ-ZZ-GA-C-104: Dolphin 2 Defects Survey;
- Doran Consulting – DC-ZZ-ZZ-GA-C-105: Dolphin 3 Defects Survey;
- Doran Consulting – DC-ZZ-ZZ-GA-C-106: Dolphin 4 Defects Survey;
- Doran Consulting – DC-ZZ-ZZ-GA-C-107: Dolphin 5 Defects Survey;
- Doran Consulting – DC-ZZ-ZZ-GA-C-111: Proposed repairs, lifting dolphins/dolphins 1, 2 & 3;
- Doran Consulting – DC-ZZ-ZZ-GA-C-112: Proposed repairs, Dolphins 4 & 5;
- Sorensen Civil Engineering – Environmental Management Plan (July 2021);
- Sorensen Civil Engineering – Method Statement, Birth 6 Quay wall repairs;
- Sorensen Civil Engineering – Method Statement, Birth 7 Dolphin pile repairs;
- AmmLee Group – Method statement for Hydro-demolition;
- Joint Nature Conservation Committee (JNCC): www.jncc.gov.uk;

[1] Planning Policy Statement 2: Planning and Nature Conservation (DOE Planning Service, 1997)

- National Parks and Wildlife Service (NPWS): www.npws.ie;
- National Biodiversity Data Centre (NBDC): https://maps.biodiversityireland.ie/;
- Department of the Environment (DOE): www.doeni.gov.uk; and
- Northern Ireland Environment Agency (NIEA): maps.ehsni.gov.uk/naturalheritage/

2 ASSESSMENT: METHODOLOGY

2.1 Stages in HRA

Stages of the assessments pursuant to Article 6(3) of the Habitats Directive are set out in the European Commission Guidance within the following documents:

- 'Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provision of Article 6(3) and (4) of the Habitats Directive 92/43/EEC'[2]; and
- 'Managing Natura 2000 Sites, The provisions of Article 6 of the 'Habitats Directive 92/43/EEC'[3].

In accordance with European Commission guidance, a stage by stage approach is followed for a HRA. The result obtained upon the completion of each stage determines the requirement for and scope of any subsequent stage. The stages are as follows:

i. **Stage 1: Screening or Test of Likely Significance (TOLS) –** identifies if the plan or project is directly connected with, or necessary to the management of the Natura 2000 site. This stage also identifies the likely impacts of a plan or project upon the Natura 2000 site, either alone or in combination with other plans or projects and assesses whether the impact is likely to be significant.
ii. **Stage 2: Appropriate Assessment (AA) –** the consideration of the impact on the integrity of the Natura 2000 site of the plan or project, either alone or in combination with other plans or projects with respect to the site's structure and function and it conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.
iii. **Stage 3: Assessment of Alternative Solutions –** examines alternative ways of achieving the objectives of the plan or project that avoid significant effects on the integrity of the Natura 2000 site identified at stage 2.
iv. **Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain –** an assessment of compensatory measures where, in light of an assessment of imperative reasons of overriding public interest, it is deemed that the plan or project should proceed. This stage is also known as the 'derogation stage' and projects only reach this stage where it is determined that the development is of a critical nature for social or economic reasons.

In accordance with the obligations set out in Articles 6(3) and following the guidelines detailed previously, this HRA has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 site(s) close to the proposed development;
- Identification and description of any individual and cumulative impacts on the Natura 2000 site(s) likely to result from the project;
- Assessment of the significance of the impacts identified on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects; and
- Description of proven mitigation measures.

[2] Available from: http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf
[3] Available from: http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/provision_of_art6_en.pdf

3 PROJECT DESCRIPTION

3.1 Site Location and Description

Warrenpoint is a small town with a working harbour located at the head of Carlingford Lough, a sea inlet which forms the border at this location between Northern Ireland (namely County Down) along the northern shore and the Republic of Ireland (County Louth) along the southern shore.

The original port was constructed in the late 1770's and has been substantially enlarged over the years to create a modern port facility.

Maintenance works are proposed to the Dolphins and Quay 6 located to the south (area of Dolphins) and southeast (Quay 6) of Warrenpoint Harbour. The location of the site is illustrated in Figure 1. Habitats within the site comprise mainly of bare ground and running water associated with the Newry River.

Surveys undertaken of the Dolphins indicated holes in the sheet pile walls and loss of fill due to washout. The survey also identified the landward (northern) side upper and lower cylindrical fender missing from Dolphin 4 and landward side fender chains missing from Dolphin 5. Doran Consulting drawings DC-ZZ-ZZ-GA-C-101 to DC-ZZ-ZZ-GA-107 provides the detail from the surveys and includes some photographs of damage to the structures.

A survey of the Quay 6 wall identified the following structural defects:

- Located at Berth 1 – concrete loss due to possible impact on cheek wall at outfall, void with associated cracks on LH cheek wall, Possible impact damage to outfall at soffit/cheek wall intersection, vertical crack on face of deck nosing, fender and ladder damage, displaced concrete, concrete damage to cheek wall and concrete damage to headwall;
- Located at Berth 2 & 3 – anode depleted at intertidal UTs, build up of mussels and membrane exposed 2m up along sheet piles;
- Located at Berth 4 – bolts missing on rubbing strip of bottom fender, broken anode bracket, anode depletion, large area of concrete loss and exposed rebar and 0.6m void between sheet piles and concrete from below deck to channel bottom;
- Located at Berth 5 – all fenders have impact damage, damage to ladder, cracked and displaced concrete along cheek wall, concrete loss at cheek wall/soffit, concrete loss at soffit of deck at head wall, fender bracket loose and cold joint visible 0.5m below soffit of deck; and
- Located at Berth 6 – indications of the presence of Microbial induced corrosion, widespread and sever delamination of Rendex piles and 100% section loss noted on several piles, fender off plumb, possible microbial induced corrosion to out pan and side pan and ladder loss and missing bolts.

3.2 Proposed Development

The proposed works includes maintenance and repairs to the existing Dolphins (located at Berth 7) and Quay 6 wall. Figure 2 illustrates the location of each of the Dolphins (as outlined below) and Figure 3 illustrates the location of Quay 6 wall.

Proposed repairs to the Dolphins include:

- Plate repairs to patch all holes and reinforce all thinned and weakened areas on the sheet piles. Methodology for these works include:
    1. Pre-works survey (above and below water) to confirm the number, type and length of sheet pile repair plates required;

2. Fabrication of repair plates (fabrication to be completed offsite);
3. Mobilise barge (or workboat) that will be tugged to the dolphins each day and tugged back to be moored in location to be agreed by Warrenpoint Harbour;
4. Areas to receive repair plate to be cleaned of all marine growth by high pressure water jet and prepared for weld. Water jets to utilise high pressure water only, no chemicals will be added to the water;
5. Diver to weld captive lugs below the hole and a lug above the highest point of plate repair. The repair plate will then be lowered from the pontoon using a down line;
6. Installation of repair plates by welding to sound steel;
7. When welding is complete, the diver will remove all weld slag and splatter; and
8. Inspection/testing of welds.

- Installation of aluminium flush mounted galvanic (sacrificial) anodes on sheet piles to prevent the progression of further corrosion damage and protect against Accelerated Low Water Corrosion (ALWC). Methodology for these works include:
    1. Mobilise Barge (or workboat) that will be tugged to the dolphins each day and tugged back to be moored in location to be agreed by Warrenpoint Harbour;
    2. Divers to identify locations for anodes on sheet pile in-pans around 1.0m below MHWS;
    3. Areas to receive anode brackets to be cleaned and prepared for welding by Divers;
    4. Divers will weld on anode support brackets to sheet piles. Anodes need to be positioned around 1.0m below MLWS to function properly so underwater welding will be required. These works will be undertaken in accordance with approved welding procedure following the requirements of AWS D3.6M:2010. The weld procedure shall be prepared by an underwater welding specialist. The welder/diver will be in the water without any mechanical barrier between the water and the welding arc.
    5. Divers will install anodes by bolting to support brackets; and
    6. Inspection of anode installation and measurements to confirm electrical continuity.
- Grouting of Voids caused by washout to restore the original structural stability of the dolphins. This can only be carried out after plate repairs have been completed to prevent loss of grout. Methodology for these works include:
    1. Mobilise a light weight drill rig (4Tonne or similar) and lift on the top of the respective dolphins;
    2. Drill small diameter casing (120-170mm diameter) in a grid pattern depending on location and size of voids;
    3. Carry out 'End of Casing' grouting using a fluid sand/cement grout mix to fill voids; and
    4. Upon reaching a predetermined volume of grout injected or until no further grout can be injected at the predetermine pressure, the casing would be extracted by a depth of 1-2m and the procedure repeated until all voids are filled.

Proposed repairs to the Berth 6 – Quay Wall include:

- Concrete Repairs at three identified areas along the quay wall. The methodology for this includes:
    1. Install temporary working platform to provide access. It is proposed to provide support to the platform from the quay. Temporary platforms will be fabricated off site and assembled on site at each location utilising a crane and work boat;
    2. Remove all delaminated, loose, damaged and spalled concrete. Concreate will be saw cut and the reinforcement exposed;
    3. Inspection to determine extent of additional break-out;
    4. Break out defective concrete using hydro-demolition, this involves removing defective concrete utilising high pressure water jets;
    5. Clean all existing exposed reinforcement to SA 2.5 standard by abrasive grit blasting;
    6. Install discrete sacrificial anodes (PatchGuard or equivalent);
    7. Reinstate broken out concrete using C40/50 concrete;
    8. Apply curing compound; and
    9. Platform will be removed once concrete has cured.
- Ladder replacement. The methodology for this includes:

1. Remove existing ladder using small crane positioned on top of the quay and workboat for access from water;
2. New ladder will be fabricated off site;
3. Install post-installed anchors to fix new ladder to concrete caisson;
4. Install new ladder using small crane positioned on top of the quay and workboat for access from water; and
5. Grab rail will then be installed at berth level.

- Fender (timber fender) replacement. There are five timber piles to be replaced and one timber pile to be removed. The methodology for this includes:
    1. Agree location for replacement/additional fendering;
    2. Pre-works dive survey at proposed fender locations to check for obstructions on seabed;
    3. Mobilise crane and piling hammer on top of quay (any load restrictions on top of quay to be checked to ensure compliance);
    4. Existing piles to be loosened and lifted out of position by crane;
    5. Install piling gate/guide at proposed pile location;
    6. Use crane to pitch pile into the piling gate;
    7. Use piling hammer to drive the pile to the specified toe level;
    8. Repeat steps 4 to 7 at all pile locations;
    9. Install brackets to capping beam to restraint piles laterally; and
    10. Install UHMW PE facing panel to all piles.

4 IDENTIFICATION OF NATURA 2000 SITES

This section of the report identifies the Natura 2000 sites that may be impacted by the site proposal and upon which this assessment is based.

As detailed previously, Natura 2000 sites are those that have been designated (or in the process of being designated) as either a Special Protection Area (SPA) or a Special Area of Conservation (SAC), with Ramsar sites also receiving the same level of protection.

Carlingford Lough contains a number of international designations, namely:

- Northern Ireland Designations:
    1. Carlingford Lough SPA (UK9020161); and
    2. Carlingford Lough Ramsar site (UK12004).
- Republic of Ireland Designations:
    1. Carlingford Shore SAC (Site code 002306); and
    2. Carlingford Lough SPA (Site code 004078).

These sites were identified as potentially implicated in terms of adverse impacts resulting from site proposals as they are located within 15km of the application site.

The application site is not situated within any Natura 2000 site. However, it is hydrologically linked to the Natura 2000 designations of Carlingford Lough via the Newry River. Figure 4 illustrates the location of the Natura 2000 sites in relation to the application site[4]. The SPA and Ramsar site on the northern border share the same site boundary and are located 6.81km southeast. Carlingford Shore SAC within the Republic of Ireland is located 0.115km to the south/southwest. The boundary of Carlingford Lough SPA within the Republic of Ireland is located 9.1km to the southeast. It is therefore likely that, should the site proposals give rise to sources of adverse environmental impact, there is the potential for these to give rise to indirect impacts on the identified Natura 2000 sites.

Carlingford Lough ASSI is located immediately adjacent to the southern boundary of the site.

In order to assess the impact on the Natura 2000 sites, a standard source-pathway-receptor model is utilised. Therefore, in order for an impact to be established, all three of these elements must be present. Where mitigation measures are put in place to ensure that one or all of these elements are removed, the potential impact is deemed to be no relevant or significant.

Additional Natura 2000 sites are present within the area (15km) surrounding the harbour, namely:

- Rostrevor wood SAC (UK0030268) located 5.54km east/southeast;
- Derryleckagh SAC (UK0016620) located 5km north/northwest;
- Carlingford Mountain SAC (site code 000453) located 1.3km west (at its closest point);
- Dundalk Bay SPA (site code 004026) located 10.9km south; and
- Dundalk Bay SAC (site code 000455) located 10.9km south.

It is concluded that the source-pathway-receptor mechanism cannot be established for these sites as they are deemed either distant from or not hydrologically or ecologically connected to the application site.

[4] Data from the designated areas adjacent to Warrenpoint held by the National Biodiversity Data Centre www.biodiversityireland.ie, (0).

Therefore, the Natura 2000 sites that are potentially affected by indirect impacts of the site proposals are those associated with Carlingford Lough.

The Natura 2000 sites (located downstream) that are hydrologically connected to the site (via the Newry River) and are potentially affected by indirect impacts of the site proposals are those associated with Carlingford Lough.

4.1 Characteristics of the Designated Areas

4.1.1 Carlingford Lough SPA (UK9020161)

Carlingford Lough SPA is located between Killowen Point and Soldier Point on the northern shore of Carlingford Lough. Carlingford Lough was designated as a SPA in March 1998. The SPA (within the UK border) covers an area of 830.51ha. The SPA habitat is dominated by tidal rivers, estuaries, mud flats, sand flats and lagoons. The site qualifies under Article 4.1 of the Birds Directive by regularly supporting (during the breeding season) populations of the following Annex I species:

- Common Tern (*Sterna hirundo*); and
- Sandwich Tern (*Sterna sandvicensis*).

The qualifying features of the site are deemed vulnerable from influencing factors such as disturbance, predation, reduction in suitable breeding sites. Populations could also be affected by changes food availability, winter mortality and shifts in breeding populations outside the site.

The conservation objective of the SPA is to '*maintain each feature in favourable condition.*' With the SPA selection feature objectives identified as:

- To maintain or enhance the population of the qualifying species;
- Fledging success sufficient to maintain or enhance population;
- To maintain or enhance the range of habitats utilised by the qualifying species;
- To ensure that the integrity of the site is maintained;
- To ensure there is no significant disturbance of the species; and
- To ensure that the following are maintained in the long term:
    1. Population of the species as a viable component of the site;
    2. Distribution of the species within the site;
    3. Distribution and extent of habitats supporting the species;
    4. Structure, function and supporting processes of habitats supporting the species.

4.1.2 Carlingford Lough Ramsar Site (UK12004)

Carlingford Lough Ramsar site was designated on 9th March 1998. The site covers an area of 827.12ha. The Ramsar site boundary is entirely coincident with that of the SPA boundary detailed above. The Ramsar site includes all lands and intertidal areas seawards to the limits of territorial waters. Marine areas below mean low water are not included.

The Ramsar site qualifies under Criterion 3c for supporting internationally important breeding populations of Sandwich tern and Criterion 2a for supporting an important assemblage of vulnerable and endangered Irish Red Data Book bird species. It is also known for supporting nationally important breeding populations of Common, Roseate and Artic terns.

The Ramsar site forms part of an extended cross-border site which qualifies under Criterion 3c for regularly supporting internationally important numbers of overwintering light-bellied Brent geese.

4.1.3 Carlingford Shore SAC (Site code 002306)

Carlingford Shore SAC covers an area of 526.28ha and comprises the entire southern shoreline of the Lough within the Republic of Ireland from the Newry River estuary to just east of Cooley Point. The main conservation interests are associated with the presence of two habitats listed on Annex I of the EU Habitats Directive, namely:

- Perennial vegetation of stony banks; and
- Annual vegetation of drift lines.

The shingle and drift lines extend from Greenore to west of Cooley Point and occur in strips of varying width. The perennial vegetation of the upper beach of the shingle banks is widely ranging, well developed and often stable.

These two habitats are best developed in the area of Ballagan Point which is located towards the mouth of the Lough (along the eastern limits where it meets the Irish Sea). The site also comprises of intertidal sand and mudflats, patches of saltmarsh, some areas of dry grassland and an area of mixed deciduous woodland, habitats which support internationally important number of birds, including the Pale-bellied Brent Geese, and the presence of a population of the Annex II species the Grey Seal.

The conservation objectives of Carlingford Shore SAC are to '*maintain the favourable conservation condition Perennial vegetation of stony banks/Annual vegetation of drift lines in Carlingford Shore SAC.'*

4.1.4 Carlingford Lough SPA (Site code 004078)

Carlingford Lough SPA was designated in October 1996. The site covers an area of 595.37ha and comprises part of the southern sector of Carlingford Lough within the Republic of Ireland, extending from Greenore Point to the harbour at Carlingford. The SPA includes all of the intertidal sand and mudflats to the low tide mark. It is noted within the Natura 2000 data form that most of the shoreline is already artificially embanked.

The site supports part of a nationally important population of wintering Cormorant and a range of other wetland birds, notably Brent Goose, Oystercatcher, Dunlin, Bar-tailed Godwit (Annex I of the EU Birds Directive), Redshank and Turnstone.

The conservation objectives for the SPA are '*to maintain the favourable conservation condition of Light-bellied Brent Goose in Carlingford Lough SPA.'*

5 ASSESSMENT OF LIKELY EFFECTS ON NATURA 2000 SITES (STAGE 1)

This section details the screening stage of the assessment which determines if the proposal will give rise to potential impacts and whether or not they are likely to be significant.

Screening is the first stage of the assessment process, whereby the potential impacts are examined to determine whether or not the plan or project, either alone or in combination with other plans or projects, is likely to give rise to significant impacts on the Natura 2000 sites. The results of screening are provided as a matrix in Table 1 below.

The proposal is not necessary for or connected with the management of the Natura 2000 site(s).

Table 1: Stage 1 ToLS – Carlingford Lough SPA & Ramsar site and Carlingford Shore SAC

Brief description of the project/plan	The proposed works includes maintenance and repairs to the existing Dolphins (located at Berth 7) and Quay 6 wall. See section 3.2 above for detailed description of repairs required
Description of designated sites	• Carlingford Lough SPA • Carlingford Lough Ramsar Site • Carlingford Shore SAC Descriptions of each of the sites provided in Section 4.1 above
Description of likely impacts on designated sites	The proposed works are within close proximity to Carlingford Shore SAC (located 0.11km). All elements of the construction phase present risks of adverse impacts on the Natura 2000 site. The works are at a distance from Carlingford Lough SPA/Ramsar Site (6.81km) and works on site are unlikely to directly impact the qualifying features of the SPA.
Likely impacts (direct, indirect or secondary) of the project (either alone or in combination with other plans or projects) on the Natura 2000 site	
Size and scale	The works are localised within the area of the dolphins and quay wall. There will be no effect on the Natura 2000 sites as a result of size and scale
Land-take	Works are proposed within the existing dolphins and quay wall. There will be no land-take from the Natura 2000 sites
Distance from designations or key features of the site	Carlingford shore SAC is located 0.11km to the south/southwest and Carlingford Lough SPA/Ramsar site is located 6.8km to the southeast. Works will be undertaken both within and immediately adjacent to the Newry River which acts as a hydrological pathway to the Natura 2000 sites. Primary disturbance likely to occur during the works (repairs) phase.
Resource	No resources are required from within the SAC/SPA/Ramsar site
Emissions	The site is hydrologically connected to the Natura 2000 sites. As such, repair works (such as grouting, welding etc.) present risks of contamination to the aquatic environment which could in turn pose a risk to the habitats within the SAC or the habitats that the qualifying features of the SPA/Ramsar site rely upon for feeding.
Excavation	No excavation is required within the SAC/SPA/Ramsar site
Transportation	All transportation requirements will be achieved using existing public roads. A barge will be utilised within the Newry River which will be tugged to the Dolphins each day. The proposal does not present any potential for significant adverse effects on the site integrity as a result of transportation.
Duration/timing	The duration of the repairs will take approximately 16 weeks to complete with an estimate start date of early August 2021 and completion date of end of November 2021.

Describe any likely changes to the site arising as a result of:	
Habitat loss/reduction	The proposal will not result in the reduction of habitat within the SAC/SPA/Ramsar site or areas of supporting natural and semi-natural habitat will occur.
Fragmentation	Fragmentation of habitat and/or species is unlikely to occur as a result of the proposals on site.
Species loss/reduction	Features of the SPA may be present within the adjacent ASSI. Displacement of foraging waterfowl may be likely, however, this would be temporary during the works.
Species disturbance	Temporary disturbance of waterfowl may occur within the adjacent ASSI during the period of works. Construction noise and movement of people/vehicles/machinery at inappropriate times of the day and/or year, may result in minor disturbances to the SPA/Ramsar features. Disturbance due to the works are short term and unlikely to be significant.
Describe any likely impacts on the Natura 2000 site as a whole in terms of changes in key indicators of conservation value (water quality etc.) and/or interference with the key relationships that define the structure and function of the site	
The key indicators of conservation value that are at risk of significant adverse impact are; water quality, the local density, diversity and patters of movement/behaviour of feature species.	
Provide indicators of significance as a result of the identification of effects set out above in terms of:	
Loss	The proposed works will not result in the permanent loss of semi-natural habitat from within the SAC/SPA/Ramsar site – insignificant
Fragmentation	No fragmentation of habitat will occur – insignificant
Disruption	Temporary disruption may occur to foraging waterfowl which are the designating features of the SPA (present within the adjacent ASSI). Disruption is likely, particularly if works are carried out at inappropriate times of the day/year. Disruption is likely to be localised around the area of the Dolphins and quay wall only and will only be for the duration of the works (16 weeks) – potentially significant
Disturbance	Proposals may result in temporary disturbance to the qualifying features of the SPA/Ramsar site which may be located within the adjacent ASSI. Disturbance will be localised around the area of the Dolphins and quay wall – potentially significant
Key elements of the site	Increased nutrient loading from accidental pollution of the Newry River has the potential to cause disruption to the community structure of the SAC and the feature species which rely on the qualifying habitat features – potentially significant
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known	
Works on site will be undertaken immediately adjacent to the Newry River ASSI. This area may contain species listed as qualifying features of Carlingford Lough SPA and Ramsar Site which are utilising the River for foraging/commuting. There are no habitats on site which qualify as the designated features of the SAC, however, activities on site such as pollution/siltation have the potential to impact adjacent habitats. Elevated sediment inputs or increased nutrient loading into the river via accidental pollution and uncontrolled drainage on site has the potential to cause disruption to the community structure of the SAC and the feature species which rely on the maintenance of ecological quality within the area of the SPA and Ramsar site. Noise impacts caused by site machinery such as hydro-demolition of the quay walls, welding, piling and general site traffic may cause temporary disturbance and displacement of feature species of the SPA and Ramsar site. The construction period will be short (16 weeks) but the works may present heightened risks of contamination/pollution and disturbances to feature species if implemented at inappropriate times of the day/year.	

5.1 Conclusion of HRA Stage 1 (ToLS) & Requirement for Stage 2 Appropriate Assessment (AA)

The stage 1 screening has indicated elements of the proposed development where there is the likelihood of adverse impacts on the Natura 2000 sites. Such effects on the nearby Carlingford Lough SPA, SAC and Ramsar site cannot be excluded at this stage. Therefore, based on the precautionary approach a Stage 2 Appropriate Assessment is required.

6 HABITAT REGULATION ASSESSMENT (HRA) – STAGE 2: APPROPRIATE ASSESSMENT (AA)

Appropriate Assessment is the second stage within the HRA process, whereby the overall effect on the integrity of the Natura 2000 sites of the likely significant impacts (identified above) expected to arise as a result of the proposal are examined.

Where adverse impacts are expected or where uncertainty remains, an assessment of the mitigation measures is carried out to determine their effectiveness.

Initially, a consideration of the potential for cumulative and in-combination effects to arise as a result of the proposals in conjunction with other plans and proposals and on-going activities within the area of Warrenpoint Harbour, followed by an assessment of the mitigation measures envisioned.

6.1 Analysis of Impact Mechanisms & Significance

The key indicators of conservation value that are at risk of significant adverse impact are; ecological, water, sediment and habitat quality within Carlingford Shore, the local density/diversity and patterns of movement/behaviour of feature species and the naturalness of faunal assemblages and vegetation communities.

The SPA/SAC/Ramsar feature of interest considered to be at risk as a result of the proposed works are:

- Breeding bird assemblage (including Common tern, Sandwich tern, Roseate tern and Artic tern);
- Migratory/Wintering assemblage (including Cormorant, Brent geese, Oystercatcher, Dunlin, Bar tailed godwit, Redshank and Turnstone); and
- Habitat assemblage (including Perennial vegetation of stony banks and annual vegetation of drift lines).

The main issues to be addressed in relation to environmental and ecological protection are:

- Contamination of the aquatic and sedimentary environments with cementitious material (during breakout of the wall and cement repairs), fuels, oil and other construction materials;
- Disturbance to natural/semi-natural terrestrial, littoral and aquatic habitats during proposed works; and
- Disturbances to breeding/wintering birds through construction activities.

6.1.1 Habitats – Contamination, Environmental Pollution & Disturbance

The release of cementitious material, fuels, oil and other construction materials during the proposed works are identified as potentially significant causes of adverse impacts and are likely to result in habitat degradation and fragmentation and foraging resource. Where these pathways can be eliminated through good working practices and adherence to standard pollution prevention guidelines, significant adverse impacts on the integrity of the Natura 2000 sites will not arise.

6.1.2 Birds – Disturbance

Disturbance and displacement to breeding and wintering birds are identified as potentially significant and may result in temporary, local displacements, reductions in species density, reduced reproductive success and fragmentation. Although the SPA and Ramsar site are at a distance from the Harbour, the adjacent

Newry River is a known location for the qualifying features of the SPA and has therefore been designated as an ASSI. It is therefore highly likely that the species of breeding and wintering birds will be present within the area of the River. Disturbance pathways can be eliminated by scheduling the works outwith the main breeding and wintering period for bird/waterfowl populations noted as qualifying features of the Natura site.

Late summer or early winter is the ideal time to commence operations on site for the repairs to the dolphins and quay wall.

6.2 Cumulative & In-Combination Effects

Cumulative effects with other projects or plans within the area are only likely to occur during the time of works when other active developments might affect the same transitional, littoral areas and open water within the area of Warrenpoint Harbour and the Newry River.

A review of the online planning portal[5] for applications received within the last 5 years was undertaken

- Narrow Water Bridge Project: The Natura Impact Statement (NIS) for this proposal was reviewed. The outcome of the NIS and ecological impact assessment for the proposal was that there would be no adverse effect on the integrity of the SAC or SPA(s) and that there would be no potential for significant effects on the Natura 2000 sites. Therefore, it is considered that there would be no in-combination effects on the Natura 2000 sites between the Narrow Water bridge project and the Nippon Gases proposal.
- Sea front at Marina Car Park Marine Parade: A Pre-application notice has been submitted for a 200 berth boat marina with floating pontoons. The PAN was submitted in June 2018 and no further documentation is available on the planning portal. No decision has been made and no ecological reports have been submitted. It is unlikely this project will occur in conjunction with the proposed repairs at Warrenpoint harbour. Therefore, it is considered that there would be no in-combination effects on the Natura 2000 sites.
- Extension and refurbishment of existing harbour office: Application granted planning approval in June 2019. A consultation response received from SES states that 'provided the following mitigation is conditioned in any planning approval, the proposal will not have an adverse effect on site integrity of any European site'. Therefore, it is considered that there would be no in-combination effects on the Natura 2000 sites.
- Lanes along Warrepoint front shore, adjacent to Marine Parade: Project is a public realm improvement scheme comprising of resurfacing, new kerbs, installation of street furniture, sea wall repairs. Planning for this proposal is yet to be granted. It is unlikely this project will occur in conjunction with the proposed repairs at Warrenpoint harbour. Therefore, it is considered that there would be no in-combination effects on the Natura 2000 sites.
- Erection of a new distribution warehouse: An application has been submitted for the demolition of existing storage premises and construction of a replacement light industrial building along the Newry Road to the north of the Harbour. The status of the application is that 'consultations have been issued' and no determination has been made on the proposal as yet. NIEA in their consultation response requested a contamination report and clarification on the proposed method of foul sewage disposal. A contamination report produced for the site identified made ground, however, no obvious visual or olfactory evidence of contamination was identified. Analysis of soil samples indicated no obvious impact from these and gas monitoring undertaken at the site has classified the site as very low risk. Information is currently unavailable whether the WWTW in the area is able to cope with the additional load, and clarification of the proposed method of foul sewage has been requested. Rivers Agency have also requested a Flood Risk and Drainage assessment. Once the information has been received Shared Environmental Services (SES) will undertake a HRA for the proposal. Any negative impacts

[5] https://epicplublic.planningni.gov.uk/publicaccess/

predicted on the Lough will lead to refusal of the application. Planning approval will only be grated if it is demonstrated that there will be no negative impact on the Natura 2000 sites. Therefore, it is considered that there would be no in-combination effects on the Natura 2000 sites between the proposed warehouse application and the Nippon Gases proposal.

- Greencastle Ferry Terminal: The HRA for the proposed ferry terminal at Greencastle was reviewed. The outcome of the HRA and ecological impact assessed for the proposal was that there would be no significant effect on the integrity of the Natura 2000 sites. Therefore, it is considered that there would be no in-combination effects on the Natura 2000 sites between the proposals at Greencastle and the Nippon Gases proposal.
- Surrounding residential plans: Several applications have been submitted for the surrounding area for housing renovations and internal works to properties which are all physically and ecologically separated from the site and served by existing roads, drainage and sewage infrastructure. These applications do not include significant land take or development. It is therefore considered that there would be no in-combination effects on the Natura 2000 sites between these proposals and the Nippon Gases proposal.

6.3 Mitigation Measures

An Environmental Management Plan has been produced for the proposed works which details the mitigation measures to be incorporated in order to ensure adverse impacts are avoided. The following measures are listed within the Management Plan.

6.3.1 Measures for the Protection of Water Quality

- A detailed Construction Phase Plan and Environmental Management Plan will be produced prior to commencement of works. Communication and consultations will be undertaken with Harbour Authority on pollution prevention measures as well the overall approach and emergency procedures for all construction stages;
- Works will comply with Inland Fisheries Ireland: Requirements for the protection of fisheries and habitats during construction and development works at river sites (Murphy 2005), in order to ensure that water bodies are adequately protected from construction work;
- When concrete is being poured during works, all works will be done in a controlled manner and under the supervision of competent workers;
- Silt Curtains will be installed if large volume of sediment is disturbed during construction.
- No direct discharges will be made to waters where there is potential for cement or residues in discharges;
- A separate designated impermeable cement washout area will be provided;
- Silt Traps will not be constructed immediately adjacent to natural watercourses. A buffer zone will remain between the silt trap and the watercourse with natural vegetation left intact; Alternatively, imported material such as terram, straw bales, coarse to fine gravel will be used either separately or in combination as appropriate to remove suspended matter from discharges;
- Particular attention shall be paid to gradient and ground conditions which could increase the risk of discharge to waters;
- Any stockpiles of earthworks and site clearance material shall be stored on impermeable surfaces and covered using black plastic ;
- Good housekeeping (daily site clean-ups, use of disposal bins etc.) will be implemented on the scheme during construction including the proper use, storage and disposal of substances and their containers;
- For all activities involving the use of potential pollutants or hazardous materials, there is a requirement that material such as concrete, fuels, lubricants and hydraulic fluids are carefully handled and stored to avoid spillages. Potential pollutants shall be adequately secured against vandalism and will be provided with proper containment according to codes of practice. Any spillages will be immediately contained, and contaminated soil removed from the scheme and properly disposed of;

- Fuels, oils, greases and hydraulic fluids will be stored in bunded compounds a minimum of 10m from the watercourses. Refuelling of Equipment will be carried out in ramped containment areas away from sensitive areas. Refuelling of Equipment will not be permitted within 10m of the watercourses;
- Works will be suspended during severe flood events or when such events are forecast. This makes all activities and measures easier to implement and manage and limits the potential for generation of sediment and mobilization of both sediment and pollutant downstream;
- Sorensen will ensure that the nearby SAC/sites are protected from any adverse impacts as a result of the works;
- Cement mixing/preparation works will be contained, and the contractor will avoid contamination of the waters with cement which is toxic in the aquatic environment;
- Spill kits will be present on plant, equipment and machinery and will be checked as part of audits and inspections;
- Any areas of loose cement created during the initial works will be removed by hand. The contractor will make use of a crash deck to catch any debris and prevent it from falling into the river. This will also be in place during the hydro-demolition to ensure that concrete does not enter the watercourse; and
- Works on site which have the potential to generate dust (such as use of grit blasting) will be mitigated against through the use of appropriate screening and suitable vacuum attachments to equipment.

6.3.2 Measures for the Reduction of Noise and Vibration

The control of noise and vibration is highly important throughout the works. Works are considered unlikely to result in a significant disturbance, however the contractor will implement the following mitigation measures:

- Noise impacts will be reduced due to the use of silencing or other mitigation measures. Noise monitoring is of vital importance and will be discussed at the monthly meetings;
- In accordance with best practice, noise aspects during the construction phase will be managed in accordance with BS 5228-1 and 2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Noise and vibration and the European Communities (Noise Emission by
- Equipment for Use Outdoors) Regulations, 2001 (EC, 2001);
- The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item will be selected where possible;
- Unnecessary revving of engines will be avoided and equipment will be switched off when not required;
- Plant and vehicles shall be started sequentially rather than all together;
- Generators will be located away from sensitive receivers;
- When required, improved sound reduction methods; e.g. enclosures shall be used;
- Regular and effective maintenance by trained personnel shall be carried out to reduce noise and/or
- vibration from plant and machinery;
- Where activities with the potential to breach the construction noise limits are to be carried out for longer periods such as extensive rock breaking or extended concrete pours, Sorensen will erect noise barriers between the noise source areas and nearby residential properties/sensitive habitats to assist in reducing noise emissions;
- Machines in intermittent use must be shut down when not being used or throttled down to a minimum.

6.3.3 Measures for the Control of Emissions

The proposed remedial works will include piling activities. Disposal materials will either be reinstated at the site or removed from site in accordance with Waste Legislation. Grouting works may result in the temporary generation of dust in the locality of the works area. Emissions during construction will consist of light, dust, and fumes which may cause a nuisance to people and wildlife nearby.

The site will be generally unlit at night. Security lighting may be required, suitable lighting will be assessed and agreed with client and residents prior to install. As above security lights shall operate on Infra-red sensor activation. In poor light conditions during normal working hours and if out of hours (night time) working is required, temporary lighting units powered by silenced portable generators will be used where necessary to ensure safe working and/or site security. They will be positioned pointing downwards and in such a way as to minimize glare to residents, motorists and animals. Inevitably a certain amount of dust will be produced during dry weather conditions. However, every effort will be made to keep this to a minimum. Water will be sprayed onto the surface to dampen the surface and thereby reduce dust generation.

Sorensen will implement the following control measures:

- All roads will be kept clean
- Management of dust
- Covering of stockpiles
- Covering Skips
- Netting of Scaffolding
- Control of vehicle speeds, speed restrictions and vehicle access
- Damping and sweeping of hard surface roads and pavements
- Use of water spraying to suppress dust
- Generators will be located away from sensitive receptors
- Stockpiles will be located as far as possible from sensitive receptors and covered and/ or dampened during dry weather
- Employee awareness is also an important way that dust may be controlled on any site. Staff training and the management of operations will ensure that all dust suppression methods are implemented and continuously inspected
- Transport of materials with the potential to generate dust will be undertaken in tarpaulin covered

6.3.4 Measures for Demolition Management

The contractor will ensure that the surrounding environment is protected during all hydro-demolition activities. All materials generated from demolition activities will be utilised elsewhere in the works where possible or will be sent to designated recycling centres. Sorensen will submit the following to the Project Manager for acceptance prior to the commencement of any demolition works;

Sorensen will carry out demolition work in such a manner as to cause the minimum inconvenience to the public.

Sorensen will provide a method statement and risk assessment for the demolition works which will include a clear terminology to enable the completion of works in a safe and efficient manner. Works will only commence when the method statement has been approved and any required permits have been put in place.

Sorensen will carry out the following actions before commencing any demolition works:

- Desk study and site survey.
- Condition surveys of adjoining premises and for dilapidation.
- Reports and dissemination of knowledge.
- The review of any prior reports on the decommissioning or mothballing of the building, structure or its contents.
- The following effects of time lag between taking a facility or part of a facility out of service and its demolition or partial demolition should be taken into account.
- The Following protective measures will be put in place during demolition works:

Air Emissions: Sorensen will ensure that all demolition works are in strict compliance with Air quality standards applicable to the assessment of local impacts upon human health and vegetation are set out in various directives.

To minimise the emissions of dust during demolition works, Sorensen will implement the following protective measures:

- Provide misting water sprays sufficient to reduce airborne dusting from demolition work;
- Apply additional water dust suppression during dry weather; and
- Avoid dust-generating work on high wind days.
- Securely cover skips and minimise drop heights
- Cutting equipment will use water as suppressant or suitable local exhaust ventilation systems
- Bag and remove any biological debris or damp down before demolition.

Water Protection: During the hydo demolition works structures will be dampened down during warm weather to avoid air pollution. Water used to dampen down any buildings on site will not be released back into waterways, it will be stored & disposed of in a safe manner. Noise attenuation will be used to minimise noise levels.

Noise Protection: Sorensen will implement the following protective measures to ensure noise &vibrations emissions are kept to a minimum during the demolition phase.

- Use low impact demolition methods such as non-percussive plant where practicable
- Use rotary drills and 'bursters' activated by hydraulic or electrical power or chemically based expansion compounds to facilitate fragmentation and excavation of hard material.
- Remove larger sections by lifting them out and breaking them down in an area away from sensitive receptors or off site.

Table 2: Stage 2 Appropriate Assessment – Mitigation Measures

Mitigation measures to be introduced	How will the measures avoid adverse effects on the integrity of the site?	How will the measures reduce the adverse effects on the integrity of the site?	Provide evidence of how they will be implemented and by whom
Mitigation measures detailed above for the protection of the water quality	Implementation of best practice guidance to ensure that water bodies are adequately protected from proposed works on site during the duration of the contract. Measures will aim to ensure protection of the water quality of the Newry River which in turn will ensure protection of downstream SAC habitats and maintain a favourable foraging/commuting habitat for local waterfowl which are qualifying features of the nearby SPA/Ramsar Sites	Implementation of best practice guidance to ensure that water bodies are adequately protected from construction works	Contractor will be required to adhere to the management plan
	Provide evidence of the degree of confidence in their likely success	**Provide time-scale, relative to the project of plan, when they will be implemented**	**"Explain the proposed monitoring scheme and how any mitigation failure will be addressed**
	Mitigation measures detailed for pollution and noise control represent current best practice techniques for pollution prevention and follow relevant guidance for working in or near waterbodies	Implementation of mitigation measures to occur at commencement of project. Appropriate training will be provided to all site staff	Procedures to be managed by Principal Contractor covering main contractor and all sub-contractors. Issues identified will be subject to immediate corrective action
Noise and Vibration Control	Works on site will require a max. of 5/6 timber piles to be fitted to the Quay wall. It is envisaged that it will take one day per timber pile. Therefore, total piling works will be over the course of 5 or 6 days. Timing of works will avoid the breeding season and the area of the SPA is at a distance from the site. Impacts from piling operations are considered low. Mitigation measures have been included to ensure that nosey aspects of the works will be mitigated such as the use of silencing equipment, timing of site operations and regular maintenance of machinery	Implementation of best practice guidance	Contractor to monitor noise activities on site
	Provide evidence of the degree of confidence in their likely success	**Provide time-scale, relative to the project of plan, when they will be implemented**	**"Explain the proposed monitoring scheme and how any mitigation failure will be addressed**
	Mitigation measures detailed for pollution and noise control represent current best practice techniques for pollution prevention and follow relevant guidance for working in or near waterbodies	Implementation of mitigation measures to occur at commencement of project. Appropriate training will be provided to all site staff	Procedures to be managed by Principal Contractor covering main contractor and all sub-contractors. Issues identified will be subject to immediate corrective action

Table 3: Stage 2 Appropriate Assessment

Describe the elements of the project or plan (alone or in combination) that are likely to give rise to significant effects on the site: **(from screening assessment)**	The proposed works includes maintenance and repairs to the existing Dolphins (located at Berth 7) and Quay 6 wall within the area of Warrenpoint Harbour. The proposed works are within close proximity to Carlingford Shore SAC (located 0.11km) and Carlingford Lough SPA/Ramsar Site (6.81km). All elements of the construction phase present risks of adverse impacts on the Natura 2000 site. Works on site will be undertaken immediately adjacent to the Newry River ASSI. This area may contain species listed as qualifying features of Carlingford Lough SPA and Ramsar Site which are utilising the River for foraging/commuting. There are no habitats on site which qualify as the designated features of the SAC, however, activities on site such as pollution/siltation have the potential to impact adjacent habitats. Elevated sediment inputs or increased nutrient loading into the river via accidental pollution and uncontrolled drainage on site has the potential to cause disruption to the community structure of the SAC and the feature species which rely on the maintenance of ecological quality within the area of the SPA and Ramsar site. The construction period will be short (16 weeks) but the works may present heightened risks of contamination/pollution and disturbances to feature species if implemented at inappropriate times of the day/year.
Conservation Objectives	**Carlingford Lough SPA (UK9020161) –** [Common tern, Sandwich tern] • To maintain or enhance the population of the qualifying species; • Fledging success sufficient to maintain or enhance population; • To maintain or enhance the range of habitats utilised by the qualifying species; • To ensure that the integrity of the site is maintained; • To ensure there is no significant disturbance of the species; and • To ensure that the following are maintained in the long term: 1. Population of the species as a viable component of the site; 2. Distribution of the species within the site; 3. Distribution and extent of habitats supporting the species; 4. Structure, function and supporting processes of habitats supporting the species. **Carlingford Lough SPA (Site code 002306)** • To maintain the favourable conservation condition of Light-bellied Brent Goose in Carlingford Lough SPA

	Carlingford Shore SAC (Site code 002306) – [Perennial vegetation of stony banks & Annual vegetation of drift lines] • To maintain the favourable conservation condition Perennial vegetation of stony banks/Annual vegetation of drift lines in Carlingford Shore SAC
Describe how the project or plan will affect key species and key habitats: (acknowledge uncertainties and any gaps in information)	The proposed works includes maintenance and repairs to the existing Dolphins (located at Berth 7) and Quay 6 wall within the area of Warrenpoint Harbour. The proposed works are within close proximity to Carlingford Shore SAC (located 0.11km) and Carlingford Lough SPA/Ramsar Site (6.81km). All elements of the construction phase present risks of adverse impacts on the Natura 2000 site. All significant risks to the integrity of the Natura 2000 sites are associated with the proposed works, specifically the breaking out of existing concrete walls, hydro-demolition activities, concrete repairs, use of oils/fuels and piling on site. Addition of sediments/cementitious materials or oils/fuels can have a significant adverse impact on water quality and nearby habitats and on the qualifying features (namely waterfowl) which rely on these. Disturbance from noise and vibration on site can disturb and cause displacement of breeding/wintering birds and can also cause a release of sediments into the water.
Describe how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project or plan: (acknowledge uncertainties and any gaps in information)	The integrity of a site refers to the coherence of its ecological structure and function, across the whole site area, that enables it to sustain the habitats and/or levels of populations of species for which it is classified. Overall, the main issues are surrounding pollution/siltation of the Newry River which is hydrologically linked to the Natura 2000 sites (and is also designated as an ASSI due to supporting the qualifying features of the SPA and Ramsar site) and displacement/fragmentation/disturbance of feature species due to noise and vibration on site
Describe what mitigation measures are to be introduced to avoid or reduce the adverse effects on the integrity of the site. (acknowledge uncertainties and any gaps in information)	All significant risks to the integrity of the Natura 2000 sites can be eliminated or minimised through scheduling and the adoption and implementation of good working practices. <u>Timing of Works</u> Works are to take place in late summer/early Autumn to avoid both the breeding and migratory/wintering seasons for birds <u>Environmental Management Plan</u> A detailed Environmental Management Plan will be produced prior to the commencement of works on site. This will ensure that all measures are taken to avoid contamination to the water environment during operations on site such as breaking of concrete (i.e. use of screens and decking to catch debris/dust), working with concrete and use of oils/fuels. All works will adhere to industry standard guidance and relevant pollution prevention guidelines. Piling operations on site will take place over a short period of time to minimise disturbance.

7 CONCLUSION

The Stage 2 assessment has detailed the mitigation measures to be incorporated into the development to ensure that the integrity of the Natura 2000 sites is not adversely affected by the site proposal. The mitigation measures incorporated aim to ensure that the water environment is protected during the during of the works on site and that any pollution/noise impacts to adjacent habitats and waterfowl are minimised.

The mitigation measures detailed above are common practice on most construction sites and are therefore deemed suitable and effective on protecting the receiving environment.

It is concluded, following Appropriate Assessment and cumulative/in-combination assessment, that significant adverse impacts on the Natura 2000 sites associated with Carlingford Lough are unlikely to arise.

8 FIGURES

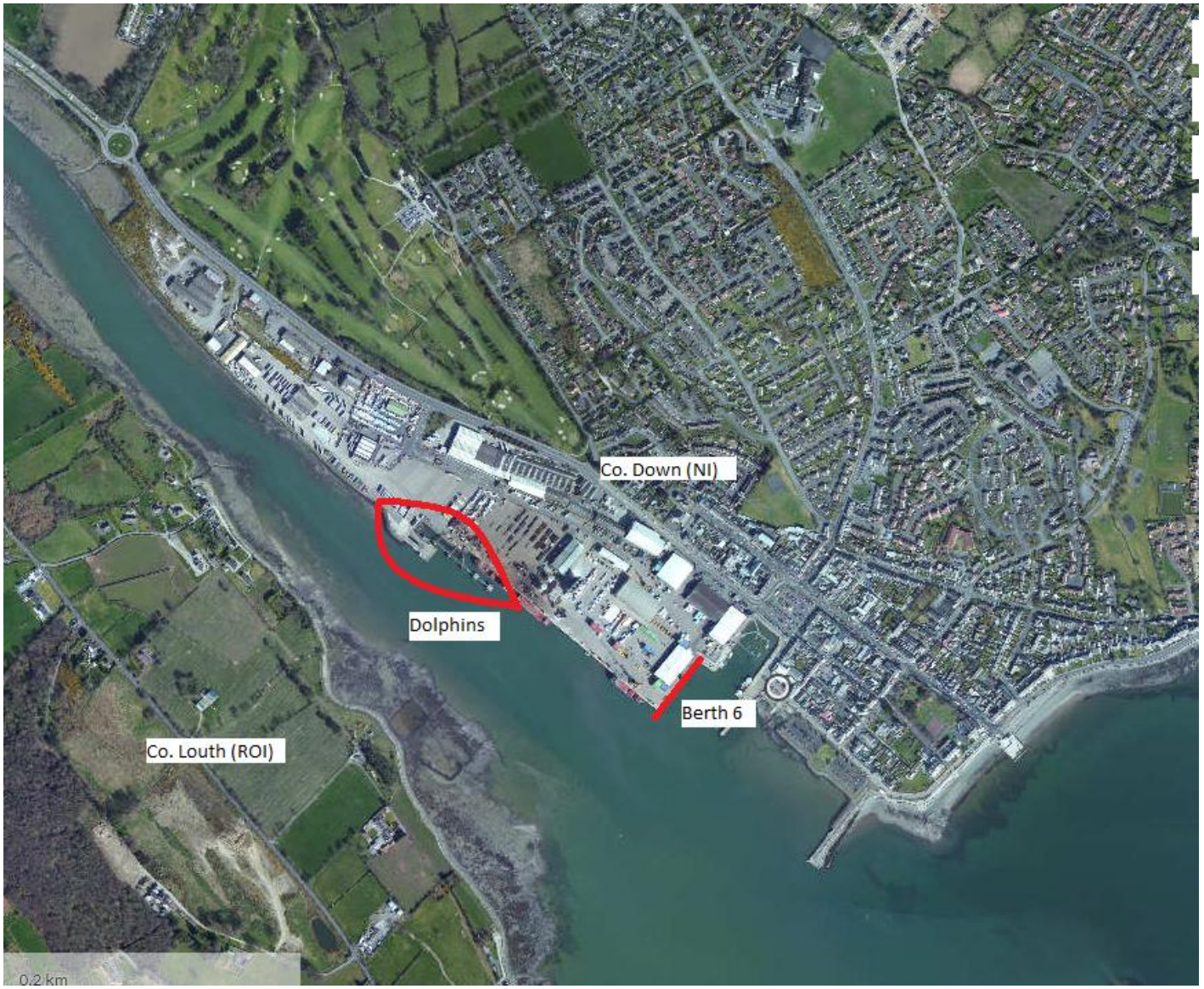

Figure 1: Site Location

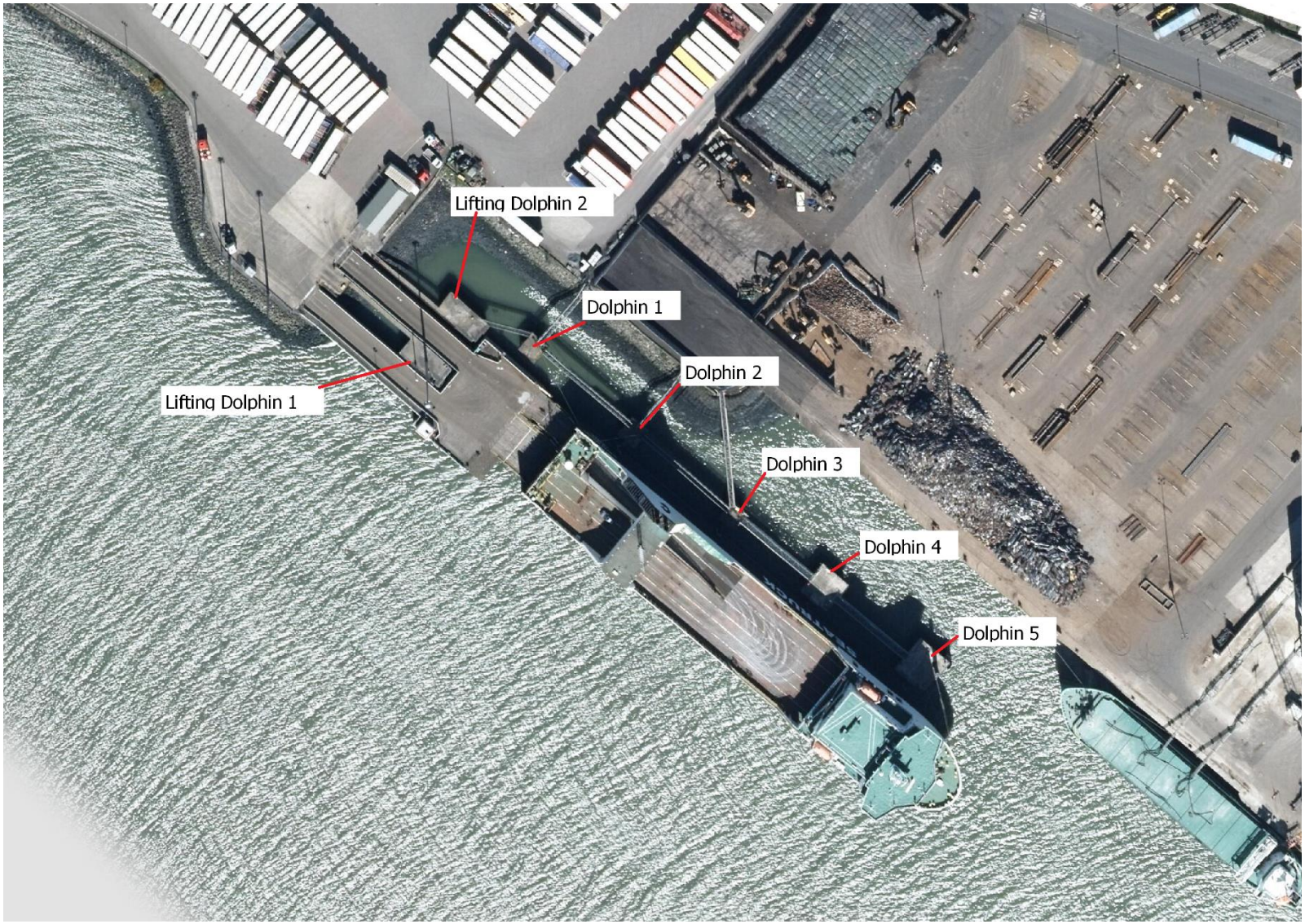

Figure 2: Location of Dolphins

Figure 3: Location of Quay 6 Wall

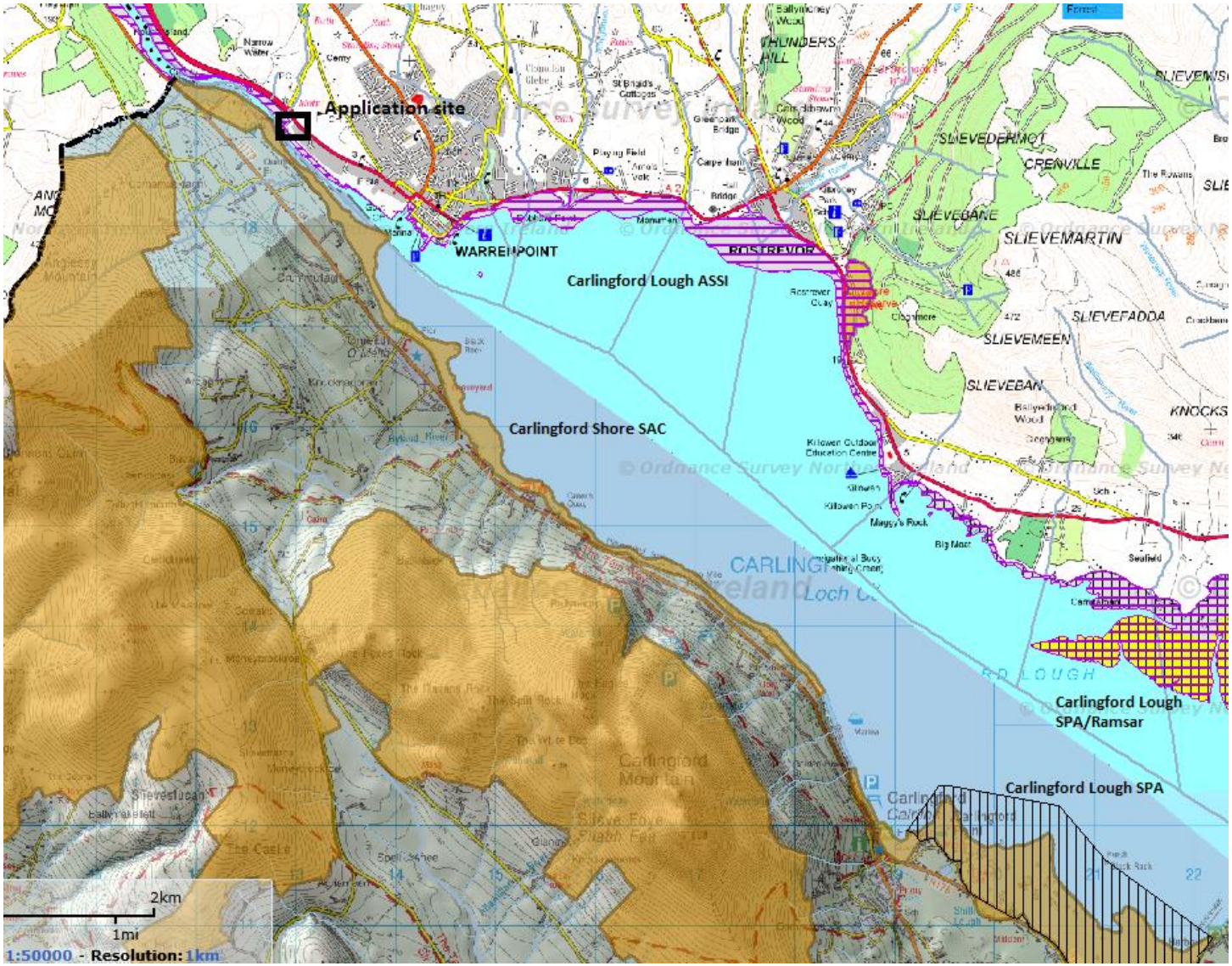

Figure 4: Designated areas in relation to application site