



Portadown Flood Alleviation Scheme
Environmental Statement Addendum
Appendix B Preliminary Ecological Appraisal



Preliminary Ecological Appraisal

Baltylum Meadows, Portadown

Document Control Sheet

	Portadown Flood Alleviation Scheme - Baltylum Meadows		
	Preliminary Ecological Appraisal Report		
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Executive Summary

This report presents the findings of a preliminary ecological survey associated with the proposed flood defence at Baltylum Meadows in Portadown, as part of the Portadown Flood Alleviation Scheme.

The proposed development comprises the construction of a floodwall between Ballybay River and properties at Baltylum Meadows. The purpose of this scheme is to reduce the risk of flooding from the Ballybay watercourse on the residents at 141 to 148 Baltylum Meadows and the pumping station.

This report has been prepared to inform the Department for Infrastructure (DfI) of any ecological constraints associated with the proposed development, inform the design process and outline appropriate mitigation and enhancement measures.

A desk study was undertaken in April 2023 in order to identify any existing information relating to the proposed development site and its surroundings. A Phase 1 habitat survey was undertaken in April 2023 to map the habitats present and to assess their potential to support protected species of plants and/or animals. In addition, the survey recorded incidental signs of protected species where observed.

There are no statutory or non-statutory designated sites within or adjacent to the proposed development. However, the following sites are situated within 2km of the scheme area:

- Selshion Area of Special Scientific Interest

Habitats recorded on site included improved grassland, amenity grassland, scrub and running water (Ballybay River).

These habitats have the potential to support the following protected or priority species:

- Bats
- Birds
- Otter
- Fish
- Badger

Bats have the potential to forage over the stream, roost in the trees along the field boundary, birds could potentially be found within the trees along the watercourse, and otter could move along the stream and potentially have holts along the banks of it.

The following recommendations have been made:

- Otter survey to determine if holts are present within the site extents
- Bat roost potential survey of the trees along the riverbank that may be affected by the works through removal.

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1. Introduction and Aims

1.1. Background

- 1.1.1 Amey Consulting was commissioned by the Department for Infrastructure (DfI) – Rivers to undertake a Preliminary Ecological Appraisal (PEA) for an additional site at Baltylum Meadows as part of the proposed flood alleviation scheme in Portadown, Co. Armagh. This site was included in the scheme post consultation of the Environmental Statement. In order to determine potential impacts on the biodiversity at the site, a phase 1 habitat survey was carried out.
- 1.1.2 This PEA report provides baseline information on habitats and ecological features at the project site along Baltylum Meadows gathered during a desktop study and site visit, in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (2017) (Ref 1.1). The objectives of the study are as follows.
- Identify the potential presence of legally protected and/or notable species and habitats and provide an appraisal of any potential effects that the proposed project works may have on these.
 - Provide recommendations for further surveys and/or mitigation measures (if required) in relation to identified ecological constraints.
 - Provide recommendations for ecological enhancement measures to help inform the detailed design of the project and its contribution to local biodiversity.

1.2. Site Location

- 1.2.1 The scheme is located at Baltylum Meadows, Portadown as shown in Figure 1 Site Extents.
- 1.2.2 The site at Baltylum Meadows lies on the eastern bank of the Ballybay River, in a residential area north of Loughgall Road. There is an embankment along the western side of the access road and small dwarf wall at the hammerhead to the west of 141 Baltylum Meadows.
- 1.2.3 To the west of the site and the Ballybay River, there is rolling farmland, consisting of small to medium sized fields separated by hedgerow, which is used primarily for grazing cattle. To the east of the site, there are numerous semi-detached residential properties located along Baltylum Meadows, as part of a housing development.

1.3. Details of the Proposed Development

- 1.3.1 The objective of the scheme at Baltylum is to provide flood protection to properties at 141-148 Baltylum Meadows and the pumping station which are at risk of flooding from the Ballybay River. The proposed scheme will require the construction of a sheet piled wall along the top of the existing Ballybay River bank.
- 1.3.2 The construction of the proposed defence may include:
- felling or cutting back a number of semi-mature trees;
 - installation of sheet piles;
 - construction of flood wall;
 - tying into existing earth bund.
- 1.3.3 The proposed flood defence wall will be clad in a suitable finish to integrate with the existing housing development.
- 1.3.4 Due to the proximity of the defence to the Ballybay River, embedded mitigation as set out in the Construction Environmental Management Plan (CEMP) in **Appendix 6.2, Volume 3 of the ES** will be in

place. This will include, but is not limited to, adherence to pollution prevention measures, implementation of spillage response plan, dust and noise management.

1.4. Planning Policy and Legislation

1.4.1 The following planning policy documents are relevant to the proposed development.

Department of Agriculture, Environment and Rural Affairs (DAERA) Standing Advice

1.4.2 This standing advice explains actions required by an applicant to meet legislative and policy requirements to enable them to prepare good quality planning applications. Further, it can be used by planning authorities to inform decision making and is a material consideration.

1.4.3 Relevant standing advice documents:

- DAERA Standing Advice – Badgers
- DAERA Standing Advice – Invasive Alien Plant Species
- DAREA Standing Advice – Priority Habitats
- DAERA Standing Advice – Priority Species
- DAERA Standing Advice – Wild Birds

1.4.4 All standing advice documents outline survey requirement criteria including when to carry out the survey and also the potential impacts arising from the development.

A Biodiversity Strategy for Northern Ireland to 2020

1.4.5 For the purpose of the Northern Ireland Biodiversity Strategy (Ref 1.2) the mission will be: "To make progress towards halting overall biodiversity loss, establish an ecosystem approach and help business and society in general have a greater understanding of the benefits that nature can bring to everyday life in Northern Ireland."

1.4.6 The ecosystem approach is "A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way".

1.4.7 Appropriate habitat management can reduce biodiversity loss, and key to this is the establishment of ecological networks such as core areas of high biodiversity value, wildlife corridors and buffer zones.

Regional Development Strategy (RDS) 2035

1.4.8 The Regional Development Strategy (RDS) is a plan for the future development of Northern Ireland to 2035, addressing economic, social and environmental issues aimed at achieving sustainable development and social cohesion. This document is an overarching strategic planning framework to facilitate and guide the public and private sectors. The RDS sets out Regional Guidance 11 (RG11) 'Conserve, protect and, where possible, enhance our built heritage and our natural environment'.

1.4.9 In relation to ecology, relevant objectives under RG11 include:

- Sustain and enhance biodiversity
- Identify, establish, protect and manage ecological networks
- Recognise and promote the conservation of local identity and distinctive landscape character
- Protect designated areas of countryside from inappropriate development (either directly or indirectly) and continue to assess areas for designation.

Relevant Legislation

1.4.10 Many species of animal and plant receive some degree of legal protection. For this report, legal protection primarily refers (but may not be limited) to:

- Species included under The Wildlife (Northern Ireland) Order 1985 and amendments.
- Species included within The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (and amendments). Species included on Schedules 2 and 5.
- Species included within the Wildlife and Natural Environment Act (Northern Ireland) 2011.
- The Environment (Northern Ireland) Order 2002.

2. Methodology

2.1. Desk Study

- 2.1.1 A desk top study was undertaken to gain baseline information on any sites designated for nature conservation and to identify any records of priority habitats or species in the study area.
- 2.1.2 The study area for the desk study was taken to be 2km from the proposed scheme to identify any designated sites. This allowed for the identification of any European Designated Sites within this area in accordance with the guidance in the Design Manual for Roads and Bridges (DMRB) LA115 Habitats Regulations Assessment. This study area was widened to consider if the project is located upstream of or downstream of a watercourse which is designated in part or wholly as a Special Protection Area or Special Area of Conservation, or if an effect pathway exists between the project location and a designated site (e.g., lands outside an SPA boundary but which are used by the qualifying bird species for foraging).
- 2.1.3 A study area of 500m from the scheme extents was taken to search for records of any priority or protected species.
- 2.1.4 The desk study involved a search of publicly available websites, such as:
- Northern Ireland Environment Agency (NIEA) website (Ref 2.1).
 - National Biodiversity Network (NBN) Atlas (Ref 2.2).
 - NIEA Water Information Request Viewer (Ref 2.3).
- 2.1.5 A review was also undertaken of the surveys previously carried out for the wider Portadown flood alleviation scheme, the results of which are contained within Volumes 2 and 3 of the Portadown Flood Alleviation Scheme Environmental Statement (Ref 2.4).
- 2.1.6 The aim was to identify any designated sites within 2km of the proposed flood defence (Figure 2) as well as any priority habitats and species.

2.2. Field Survey

Phase 1 Habitat Survey

- 2.2.1 The Phase 1 habitat survey was undertaken on 25 April 2023 by a suitably qualified and experienced Amey Ecologist, Helen Craig, Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and Emily Paul, Environmental Consultant. The weather conditions at the time of the survey were dry and sunny with a temperature of 8°C.
- 2.2.2 This comprised a walkover survey to map habitats present within 100m of the proposed flood defence following the standard Phase 1 survey methodology (JNCC, 2010). The survey also determined the suitability for any protected species. Dominant plant species were noted, as were any uncommon species or species indicative of particular habitat types, but there was no attempt to compile exhaustive species lists.
- 2.2.3 The habitats were assessed for their potential to support protected/notable species of plants and/or animals and observation was made of any incidental signs of protected/notable species, including invasive species. The outputs of the surveys included a Phase 1 habitat plan and a set of Target Notes (TNs) which are illustrated on the phase 1 habitat map as Figure 3.

2.3. Limitations

- 2.3.1 Records searches which result in a lack of species records within an area may not reflect an actual absence of that species but could simply be a function of limited recording/survey effort in that area, or records being unavailable for commercial use.
- 2.3.2 The survey was conducted under suitable weather conditions and no significant limitations were noted.

- 2.3.3 The survey was undertaken in April, at a time when some floral species would not be in flower and as such may be more difficult to identify. However, it is acknowledged that the survey does not intend to provide an exhaustive list of species. It is considered that the habitats present within the site could be appropriately identified and a suitable conservation value assigned at this time of year.
- 2.3.4 The conclusions and recommendations in this report are valid for a period of 18 months in accordance with CIEEM (2019) guidance and are specific to the current project proposals. If the project site boundary or scope of works changes significantly then an updated PEA will be required.

3. Desk Study Results

3.1. Designated Sites

3.1.1 The results of the desk study are described below, with sites or features of nature conservation interest detailed as appropriate.

Statutory Designated Sites

3.1.2 There is one statutory designated site within 2km of the proposed development as listed in Table 3.1 below and shown on Figure 2.

Table 3-1: Statutory designated sites within 2km of scheme.

Site Name	Distance from Scheme (km)	Reason for Designation
Selshion Area of Special Scientific Interest (ASSI)	0.70	Extensive wetland communities and associated flora and fauna. Selshion consists of a series of flooded peat cuttings, with a complex mosaic of open water, swamp and acid fen communities, in addition to occasional drier areas of heath. The ASSI is hydrologically connected to the Ballybay River through the Selshion stream, however the site at Baltylum Meadows is downstream of the ASSI.

3.1.3 There are no Special Areas of Conservation (SAC), Special Protection Areas (SPAs) or Ramsar sites within 2km of the proposed development.

Non-Statutory Designated Sites

3.1.4 There are no non-statutory designated sites within 2km of the proposed development site.

3.2. Habitats and Plants/Flora

Habitats

3.2.1 The Northern Ireland Biodiversity Strategy identifies 8 key ecosystems within Northern Ireland:

- Mountains, moors and heaths
- Woodlands
- Grasslands
- Enclosed farmland
- Open waters and wetlands
- Urban
- Coastal margins
- Marine.

3.2.2 Of these, the following are located within or near the scheme extents: grasslands, enclosed farmland, open waters, and urban.

3.2.3 NIEA protected sites web viewer indicates that Selshion Bog is a priority fen habitat, located approximately 0.7km northwest of the scheme.

3.2.4 An area of priority peatland is located approximately 0.69km northwest of the scheme and partially overlaps with the Selshion ASSI.

3.2.5 The study area consists of improved grassland, scrub and scattered semi-mature and mature trees.

3.2.6 The habitat which borders the west riverbank is improved grassland. The habitat along the east riverbank consists of semi-mature trees and scrub, as well as amenity grassland approximately 10m east of the bank. The habitat along the west bank on the north side of the scheme consists of semi-mature trees and scrub.

Running Water

3.2.7 Ballybay River is located within the scheme extents and flows adjacent to the road and is situated approximately 3.5m west of the Baltylum Meadows at the closest point. Ballybay River is a tributary which feeds into the River Bann and has Moderate ecological status as per the latest Watercourse Framework Directive (WFD) classification (2021).

Protected Plant Species

3.2.8 A review of the NBN Atlas had no records of protected plant species within 500m of the scheme.

Invasive Plant Species

3.2.9 A review of the NBN Atlas had no records of invasive plant species within 500m of the scheme.

3.3. Protected Fauna and/or Species of Conservation Concern

3.3.1 A review of the NBN atlas was undertaken to determine if any records were available for protected or priority species within 500m of the scheme. All records referred to in this report are available under an Open Government Licence (OGL) licence.

Bats

3.3.2 A review of the NBN Atlas had records of Daubenton's bat (*Myotis daubentonii*) and brown long eared bat (*Plecotus auritus*) in the study area. The Daubenton's bat species forage over open water, such as rivers and streams and use trees, tunnels and caves for roosting. The brown long eared bat preferred foraging habitat is open woodland, parkland and orchards, feeding on insects and spiders. Summer roosts are generally in old buildings, barns, churches or trees.

Otters

3.3.3 A review of the NBN Atlas had no records of Eurasian Otter (*Lutra lutra*) within the 500m study area, however, there are records of otter approximately 1km downstream of the study area, along the River Bann.

Birds

3.3.4 Semi-mature trees, scrub and hedges along the field boundary and river provide potential for nesting sites for birds. The NIEA map viewer did not identify any areas of habitat suitable for priority species such as breeding waders. The two closest areas suitable for breeding waders are located approximately 0.62km east of the study area within the town of Portadown (wet grassland fields in the River Bann floodplain), and approximately 1.1km north west of the study area near Selshion Bog.

3.3.5 A review of NBN atlas identified 18 records of the following priority species within 1km of the study area:

Table 3.2: priority bird species in the study area

Priority bird species
Skylark, <i>Alauda arvensis</i>
Kingfisher, <i>Alcedo atthis</i>
Meadow Pipit, <i>Anthus pratensis</i>
Swift (Breeding), <i>Apus apus</i>
Lesser Redpoll, <i>Acanthis cabaret</i>
Black-headed Gull (Breeding & Wintering), <i>Chroicocephalus ridibundus</i>
Cuckoo (Breeding), <i>Cuculus canorus</i>
Kestrel, <i>Falco tinnunculus</i>
Grasshopper Warbler, <i>Locustella naevia</i>
Linnet, <i>Linaria cannabina</i>
Curlew (Breeding & Wintering), <i>Numenius arquata</i>
House Sparrow, <i>Passer domesticus</i>
Bullfinch, <i>Pyrrhula pyrrhula</i>
Whinchat, <i>Saxicola rubetra</i>
Redshank (Breeding & Wintering), <i>Tringa totanus</i>
Song Thrush, <i>Turdus philomelos</i>
Lapwing (Breeding & Wintering), <i>Vanellus vanellus</i>
Mistle Thrush, <i>Turdus viscivorus</i>

Fish

3.3.6 A review of NBN atlas identified no records of fish or other aquatic species within the study area.

3.3.7 A review of the fisheries and aquatic ecology impact assessment as part of the Environmental Statement (ES) for the proposed Portadown Flood Alleviation Scheme (FAS) (Ref 2.4) identified potential salmonoid habitat, potential trout spawning habitat and adult trout in the upper and lower reaches of Ballybay River.

Invasive Fauna

3.3.8 A review of NBN atlas identified no records of invasive fauna within the study area.

4. Field Study Results

4.1. Phase 1 habitat survey

4.1.1 The habitats mapped in the survey area consist of improved grassland (B4), amenity grassland (J1.2), scrub (A2.1), species poor hedgerows (J2.3.2), and scattered trees.

4.1.2 Photographs showing the existing environment are presented in the following sections. The habitat map is shown in Figure 3 and Figure 4 shows the location of the photographs taken on the day of the site visit.

Improved grassland

4.1.3 Improved grasslands are those meadows and pastures which have been so affected by heavy grazing, drainage, or the application of herbicides, inorganic fertilisers, slurry or high doses of manure that they have lost many of the species which one could expect to find in an unimproved sward (Ref 4.1). They have only a very limited range of grasses and a few common forbs, mainly those demanding of nutrients and resistant to grazing.

4.1.4 This habitat was present bordering the west and northwest riverbank of the Ballybay River as shown in photographs 1a and 1b and presented on Figure 3. The fields are predominantly comprised of perennial ryegrass *Lolium perenne*.



Photograph 1a and b. Improved grassland habitat bordering the east riverbank of the Ballybay River.

Amenity grassland

4.1.5 This habitat was present between the Baltylum Meadows and the Ballybay riverbank as shown on photograph 2. The habitat comprised a regularly managed embankment and roadside verge. The grass is kept short and is predominantly perennial ryegrass with dandelion and broad leaved dock.



Photograph 2. Amenity grassland adjacent to the Baltylum Meadows road (south side) and along the artificial riverbank.



Photograph 3a and b. Amenity grassland adjacent to the Baltylum Meadows road (north side) and along artificial riverbank.

Species Poor Hedge with Trees

- 4.1.6 A species poor hedge with trees habitat was present along the west riverbank. Tree species included blackthorn *Prunus spinosa*, ash *Fraxinus excelsior* and hawthorn *Crataegus monogyna*.



Photograph 4a and b. Trees and scrub along the west riverbank.

Hedgerow with trees

4.1.7 This habitat was present along the west, east and south field boundary. Scattered trees ranged from semi-mature to mature and mainly consisted of blackthorn, ash, and hawthorn.



Photograph 5. West field boundary hedge (species poor) with scattered mature and semi-mature trees.



Photograph 6. South field boundary hedge (species poor) with semi-mature scattered trees.

Dense continuous scrub

- 4.1.8 This habitat was present in sections along the east and west banks of the river as shown on photographs 7 and 8. Scrub comprised of brambles *Rubus fruticosus* with gorse *Ulex europaeus* and dog rose *Rosa canina*. The artificial bank had nettles *Urtica dioica*, wild turnip *Brassica rapa*, dock, dandelion, rosebay willowherb *Chamaenerion angustifolium*, cleavers *Galium aparine*, thistle *Cirsium vulgare*, vetch *Vicia* spp., and horsetail *Equisetum arvense*.



Photograph 7. Dense continuous scrub along the east riverbank.



Photograph 8. Bramble along the west riverbank.



Photograph 9. Dense continuous scrub along the west riverbank.

Protected Plant Species

4.1.9 There were no protected plant species identified within the study area during the habitat assessment.

Invasive Plant Species

4.1.10 There were no invasive plant species identified within the study area during the habitat assessment, however the survey was undertaken in April before some invasive species are in flower for identification, such as Himalayan balsam *Impatiens glandulifera*.

Running water

4.1.11 Ballybay River (photograph 10) is situated within the scheme extents and flows in a northerly direction before flowing into the River Bann in Portadown. On the day of the survey the flow of Ballybay River was slow. The stream bed substrate is a mixture of silty and gravelly areas with riffle and run habitats suitable for fish.



Photograph 10. Ballybay River.

4.2. Protected Fauna and/or Species of Conservation Concern

Bats

- 4.2.1 The mature trees located along the western field boundary hedge approximately 23m from the scheme have low bat roost potential (TN 3, 4 and 5 on Figure 3).
- 4.2.2 From the walkover, the trees along the field hedgerow to the south and along the river bank are semi-mature with limited roost features such as cracks or holes in the trunk and branches. These trees could have bat roost potential.
- 4.2.3 There is potential for bats to use the Ballybay River for commuting and foraging.

Otters

- 4.2.4 There is some potential for otter holts to be found along the riverbank. The west riverbank is mainly exposed, except for approximately 100m of continuous scrub located on the north end of the scheme. The east riverbank consists of a few patches of continuous scrub and amenity grassland. Overall, the close proximity to houses at Baltylum Meadows, and surrounding grassland habitat to the west would make the habitat generally sub-optimal for holts. There is potential for otters to commute along the river and their presence was recorded along the Annagh River and River Bann during the ES ecology surveys. However no signs of their presence, such as spraint, was recorded on the day of the survey at Baltylum Meadows.

Birds

- 4.2.5 The trees situated along the riverbank are immature or semi-mature. On the day of the site visit there was no evidence of any nests.
- 4.2.6 The trees and dense continuous scrub that are along the riverbank and within proximity to Baltylum Meadows (photographs 7, 9, 10) are considered to be suitable for nesting birds.
- 4.2.7 The field hedgerows (photographs 6 and 7) bordering the field adjacent to the site are dense in places and provide suitable habitat for small common birds. The mature trees located along the field hedge (photograph 7) are considered to be optimal for nesting birds as well.
- 4.2.8 Nesting birds may also be found in the gardens of the houses along Baltylum Meadows or in the eaves of the houses.
- 4.2.9 The improved grassland habitat adjacent to the stream is considered unsuitable for ground nesting birds due to the fields being used for grazing livestock.

4.2.10 Incidental species recorded at the time of the extended Phase 1 Habitat survey included:

- Chaffinch *Fringilla coelebs*
- Chiffchaff *Phylloscopus collybita*
- Wren *Troglodytes troglodytes*
- Dunnock *Prunella modularis*
- Willow warbler *Phylloscopus trochilus*
- Crow *Corvus corone*
- House sparrow *Passer domesticus*
- Wood pigeon *Columba palumbus*
- Great tit *Parus major*
- Starling *Sturnus vulgaris*
- Blackbird *Turdus merula*

Badger

4.2.11 The surrounding farmland and field boundary hedgerows provides suitable foraging habitat for badgers. No signs of badgers were noted during the survey, either on the site or in the wider survey area.

Fish and aquatic species

4.2.12 Fish habitat potential surveys were carried out on the Ballybay River at sites upstream and downstream of Baltylum Meadows as part of the original ES. Upstream surveys were undertaken at Corcullentragh Road (upstream) and at Corcrain Mews (downstream) of the site at Baltylum. The surveys concluded that the Ballybay River in these locations provide suitable nursery habitat for juvenile salmonids. Trout were observed in the river during the surveys. It is therefore assumed that the section of the Ballybay River at Baltylum is also suitable to support fish.

5. Evaluation of Ecological Features and Potential Impacts

5.1. Introduction

- 5.1.1 The desk study and field survey revealed the following ecological features of some value to nature conservation.

5.2. Designated Sites

Statutory Designated Sites

- 5.2.1 Selshion ASSI is located approximately 0.7km northwest of the scheme boundary and is situated upstream of the proposed works as seen in Figure 2. The ASSI is designated for its extensive wetland communities and associated flora and fauna and is of national importance. Selshion ASSI consists of a series of flooded peat cuttings, with a complex mosaic of open water, swamp and acid fen communities, in addition to occasional drier areas of heath.
- 5.2.2 The site at Baltylum Meadows is located downstream of the confluence of the Selshion stream and the Ballybay River, therefore any impacts on the Ballybay River at Baltylum will not impact the ASSI. The fen and heath habitats at Selshion ASSI are vulnerable to air pollution and nitrogen inputs. Emissions from construction machinery could result in localised increases in air pollutants. However the distance between the ASSI habitats and the proposed works at Baltylum Meadows (0.7km) would result in a negligible or imperceptible effect on the habitats. No impact is determined on the ASSI from the scheme.

Non-Statutory Designated Sites

- 5.2.3 No non-statutory designated sites are located within 2km of the study area.

5.3. Habitats and Plants/Flora

Improved grassland

- 5.3.1 Improved grassland is of low value to wildlife and there will be no loss of improved grassland as this habitat is not located within the red line boundary of the proposed scheme. Therefore, the works are assessed to have no impact on the improved grassland habitat.

Amenity grassland

- 5.3.2 Amenity grassland is of low value to wildlife. There will be loss of grass verges and amenity grassland to accommodate the proposed flood defence, which is estimated to be approximately 343m² of grassland. Overall this loss is assessed to have a negligible effect on the habitat as a whole.

Hedgerow with trees

- 5.3.3 The boundary hedges have a low species diversity and are therefore of local importance. There will be no loss of field boundary hedgerow or trees within the hedgerow given that it is not within the redline boundary of the scheme.

Dense continuous scrub

- 5.3.4 The scrub is comprised mainly of bramble and has low species diversity, and is of local importance. There may be loss of some dense continuous scrub (as seen in photograph 9) as a result of clearance for the construction of the flood defence within the red line boundary. There will be no loss of dense continuous scrub located to the south (photograph 7) as it falls outside the red line boundary. The loss of dense continuous scrub is assessed to have a negligible effect on the habitat as a whole in the wider area.

Running Water

- 5.3.5 The Ballybay River is of local importance at a catchment scale and is of medium sensitivity. The proposed flood wall will likely be a sheet piled wall constructed at the top of the bank. Currently no in-river works are

anticipated, however this may change at detailed design following geotechnical investigations. There is potential that during construction there will be minor adverse impact on water quality from sediment runoff during vegetation clearance and pollution from leaking machinery or refuelling spillages. The mitigation measures as outlined within the ES and CEMP will be applied to this site, and with water pollution prevention measures in place, the significance of effect on water quality will be slight.

- 5.3.6 There will be no impact on the hydromorphology of the Ballybay River during operation, as the flood defence will be constructed on the top of the bank around the pumping station.

Protected Plant Species

- 5.3.7 No impacts anticipated as no protected species were identified from the desktop study or site visit.

Invasive Plant Species

- 5.3.8 No impacts anticipated as no invasive species were identified from the desktop study or site visit.

5.4. Protected Fauna and/or Species of Conservation Concern

Bats

- 5.4.1 Bats are European protected species and of high importance. The Ballybay River provides suitable foraging habitat for the local bat population. Potential impacts on bats as a result of the construction of the flood alleviation scheme include loss or degradation of foraging and commuting habitat (e.g. tree lines or hedgerows which are important at a local scale for commuting bats). Bare ground and amenity grassland does not provide suitable foraging habitat for bats but running water and improved grasslands provide foraging opportunities for bats. At this stage it is not known how many trees are likely to be removed as a result of the scheme. Trees along the field hedgerows outside of the scheme and along the riverbank may support roosting bats.
- 5.4.2 There is potential for disruption to foraging and commuting routes through temporary lighting. Given the location of the scheme adjacent to Ballylum Meadows and residential properties, and with mitigation applied with respect to any night time lighting, it is not anticipated that there will be a significant effect from lighting on foraging bats within the area. In addition, there are already existing street lights along the access road to Ballylum Meadows.
- 5.4.3 Additional surveys are required to determine if potential bat roosts are present in the trees within the study area that may be affected during construction.
- 5.4.4 Mitigation measures as set out in Chapter 11 of the ES with respect to bats will be applied at this additional site at Ballylum.

Otters

- 5.4.5 Otters are European protected species and of high importance. There is some potential for otters to be found foraging and commuting within and along the Ballybay River. The destruction, damage or obstruction of a place of shelter or protection such as a holt from construction activities can result in significant effects to otters. The riverbank along the northern extents of the scheme boundary is exposed with limited trees along the bank that would provide suitable habitat for holts, and the proximity to houses and Ballylum Meadows would make the habitat sub-optimal for otters.
- 5.4.6 There is potential for short term, temporary disturbance to otter foraging habitat during the flood defence works from increased human activity and an increase in noise/vibration from the sheet piling activities during construction. However, the works are anticipated to be short term and temporary in duration.
- 5.4.7 Further surveys are required to ascertain if holts are present along the riverbank and to fully determine impacts on otters.

Birds

- 5.4.8 Given the semi-urban and residential nature of the environment at Baltylum Meadows, common garden or farmland birds will be found in the area. There may be some loss of suitable nesting habitat around the red line boundary where amenity grassland, and dense continuous scrub and trees may be removed. Only a minimal section of dense continuous scrub and trees fall within the red line boundary and may result in short term adverse impacts on local birds by reducing the amount of nesting and foraging habitat. The most suitable nesting habitat will be retained around the boundary. Given the alternative habitat in the wider area, significant effects on nesting birds are not anticipated. Also, post construction, the vegetation will be replanted where possible. Over time this will provide replacement habitat for birds.
- 5.4.9 There is also potential for construction disturbance through increased noise and vibration which could cause bird species foraging or nesting in the area to be temporarily displaced. However, the works are anticipated to be short term and for a temporary duration. Long term, there will be no significant effects on the local bird population.
- 5.4.10 Mitigation as set out in Chapter 11 of the ES will be applied during construction, with scrub and vegetation removal undertaken outside of bird nesting season. With mitigation in place, no significant effects on birds are determined and further assessment for birds is scoped out.
- 5.4.11 There are no significant operational effects expected for birds as vegetation will re-colonise post construction.

Badger

- 5.4.12 Badgers are protected under the Wildlife Order and are of local importance. The habitat within the red line boundary provides sub-optimal habitat for badger setts, given that it mainly consists of running water, scrub, and amenity grassland. No badger setts or activity was observed on the day of the habitat assessment. There may be minimal loss of dense continuous scrub from the works. There is potential for more suitable badger habitat within the wider area considering the field boundary hedges and improved grassland on the western bank of the Ballybay River.
- 5.4.13 The most suitable habitat for badgers on the western side of the Ballybay River will be unaffected by the works. On the day of the survey no setts or signs of activity were recorded along the riverbank on the eastern side of the river, where the flood defence is proposed. It is therefore unlikely that badgers will be affected by the construction or operation of the flood defence. However, given the mobile nature of badgers, this site will be included within the programme of pre-construction surveys to ensure no sett creation has occurred in the interim period.
- 5.4.14 No significant effects are anticipated on badgers from the construction works and they are therefore scoped out of further assessment.
- 5.4.15 There are no operational effects anticipated for badgers.

Fish

- 5.4.16 The Ballybay River has potential to support salmon, trout, and potentially coarse fish species and the fish population is likely to be of local importance. As the watercourse falls within the red line boundary, there is potential for minor adverse impacts to fish through a potential pollution/sedimentation event or direct habitat disturbance to the watercourse channel during the works. However, it is likely that the works will be limited to the top of the existing Ballybay River bank and that there will be no in channel works.
- 5.4.17 Mitigation measures as set out in Chapter 12 of the ES with respect to fish and aquatic species will be applied at this additional site at Baltylum. With mitigation applied to prevent water pollution, it is not anticipated that there will be a significant effect on fish and aquatic species within the area.

6. Conclusions

6.1.1 The desktop study and field surveys have confirmed the presence or potential presence of the following ecological features within the study area:

- Bat – foraging/commuting habitat
- Bird – nesting/foraging habitat
- Otter – foraging habitat
- Badger – commuting/foraging habitat
- Fish – nursery habitat

6.1.2 The proposed development has potential to lead to the loss of habitat especially along the verges of Ballylum Meadows and east bank of Ballybay River, the main losses will be amenity grassland, and dense continuous scrub and some trees.

6.1.3 The proposed development has the potential to lead to disturbance and loss of habitat for bats due to the removal of dense continuous scrub and trees. Disturbance to commuting/foraging bats may result through artificial lighting during construction. Further surveys are required to determine if bat roosts will be affected by site clearance.

6.1.4 There is potential for otters to commute and forage along the stream. The construction works may have a potential impact on otters if the construction works result in the destruction, damage, or obstruction to otter holts along the riverbank. Also, there is potential for short term, temporary disturbance to foraging otters within the river due to noise/vibration from increased human activity and sheet piling activities during construction. Further surveys are required to ascertain if holts are present along the riverbank and to fully determine impacts on otters.

6.1.5 No impacts are anticipated on badgers given the potential for more suitable habitat within the wider area outside the scheme boundary.

6.1.6 No impacts are anticipated on fish and aquatic species given that there will be no in channel works and with mitigation measures in place.

6.1.7 No significant effects are anticipated on nesting birds with mitigation in place and post construction replanting.

6.1.8 In the long term, no significant effects on biodiversity are considered likely with mitigation measures set out in Chapters 11 and 12 of the ES in place.

7. Recommendations for Further Surveys, General Mitigation and Possible Enhancements

7.1. Further Surveys

- 7.1.1 Further ecological surveys will be required to fully establish baseline conditions within the proposed development site and inform the assessment of impacts. This information will be used to further refine the recommendations for mitigation and enhancement.
- 7.1.2 It is recommended that the trees within the red line boundary be subject to a preliminary bat roost assessment.
- 7.1.3 Given the likelihood of otters to use the Ballybay River, it is recommended that an otter survey be carried out to determine if any otter mitigation measures need to be considered in the design of the flood defence.

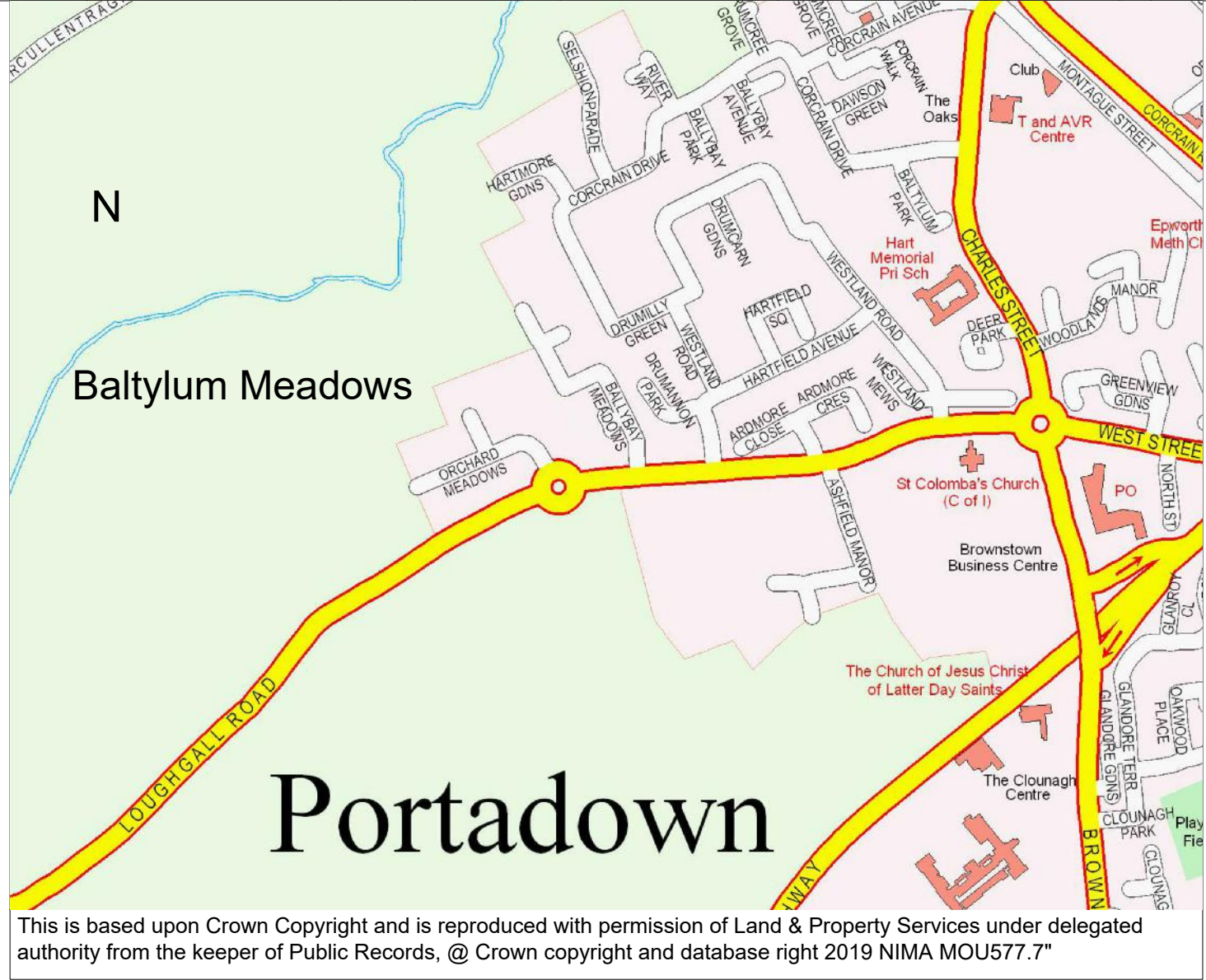
7.2. General Mitigation

- 7.2.1 The recommendations outlined below have been provided to minimise the ecological effects of the proposed development. Mitigation measures are detailed in Chapter 11 and 12 of the ES with respect to birds, bats, otter, fish and aquatic species and will be applied at this additional Baltylum site.
- 7.2.2 To avoid disturbance to foraging and commuting bats there should be no night working at the proposed development site. Additional measures will be required if further surveys confirm the presence of bat roosts and/or the site is found to be of value to foraging or commuting bats.
- 7.2.3 Whilst no signs of badger or suitable habitat was recorded within the proposed flood defence development site, there is the potential for badgers to cross the site therefore any excavations should be covered at night or a soil ramp or wooden plank installed to ensure that any animals can escape.
- 7.2.4 Where tree or scrub removal is necessary this will be undertaken outside of the breeding bird season (that is, not between 1st March and 31st August inclusive). Where construction works within this season are unavoidable, the relevant habitats should be surveyed by a suitably experienced ecologist prior to vegetation clearance, to confirm the absence of nesting birds. Should nesting birds be present then construction works would need to cease in a suitable exclusion zone established around the nest (usually 5m, to be confirmed by the site ecologist) until the chicks have fledged.
- 7.2.5 If invasive plants are encountered, biosecurity measures will have to be implemented by the contractor.

8. References

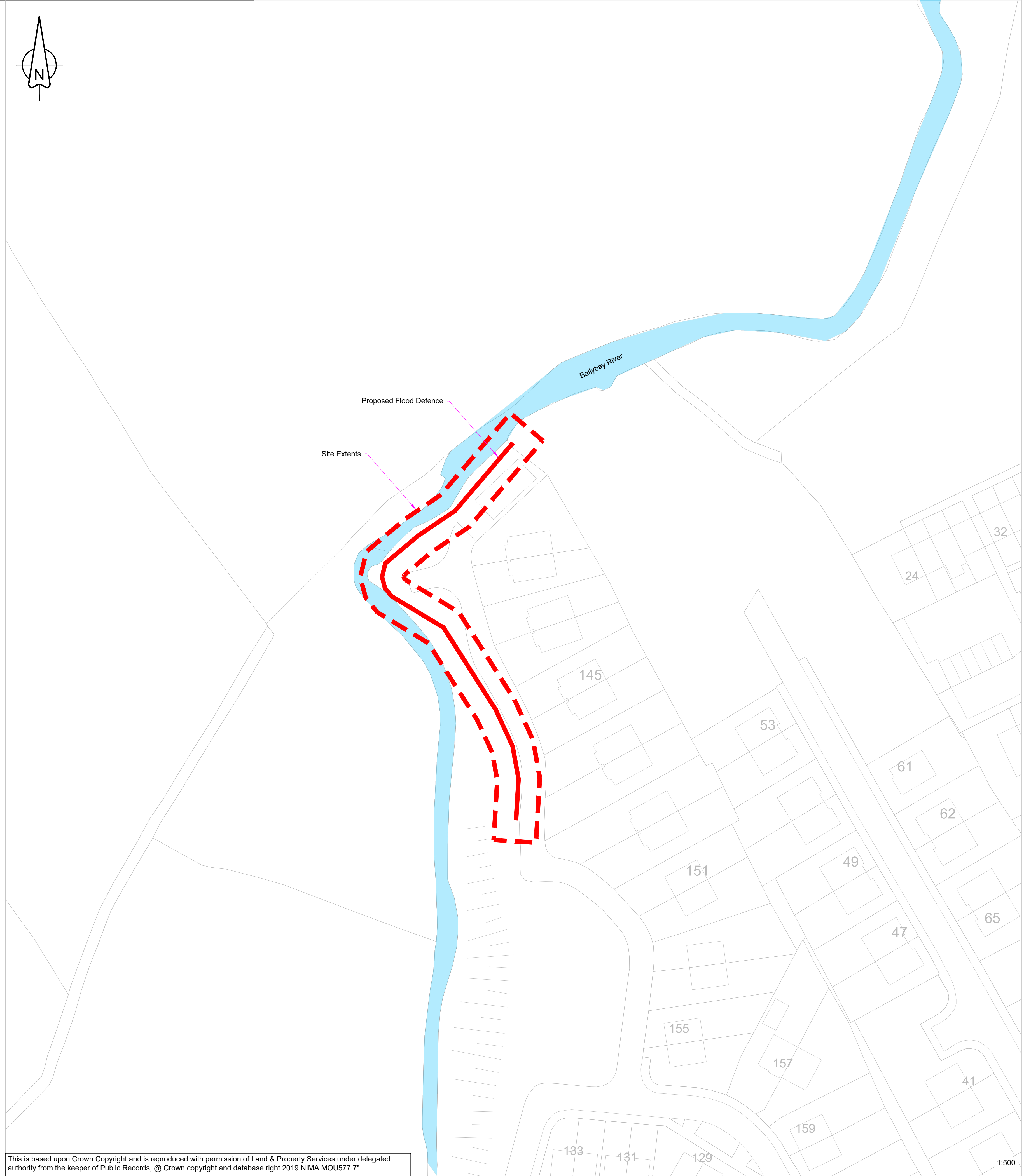
- 1.1 CIEEM, (2017). *Guidelines for Preliminary Ecological Appraisal*, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester [[online](#)]
- 1.2 DEPARTMENT OF THE ENVIRONMENT (2015). Valuing Nature. A Biodiversity Strategy for Northern Ireland to 2020.
- 2.1 Northern Ireland Environment Agency. Protected Areas web viewer. Available at <https://gis.daera-ni.gov.uk/arcgis/apps/webappviewer/index.html?id=bb721449cb8949e7a4f90c722bd2d80b>
- 2.2 NBN Atlas (2023) <https://nbnatlas.org/> .
- 2.3 Northern Ireland Environment Agency Water information request viewer. Available to view at: [NIEA Water Information Request Viewer \(daera-ni.gov.uk\)](#)
- 2.4 Portadown Flood Alleviation Scheme Environmental Statement (2023). Volume 2 and Volume 3 available to view at <https://www.infrastructure-ni.gov.uk/articles/portadown-flood-alleviation-scheme>
- 4.1 JNCC Handbook for Phase 1 habitat survey <https://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf>

Figures



- Key:
- Site Extents
 - Flood Defence
 - Ballybay River

DRAFT



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- ### General Notes
- The specification for the works is the Specification for Highway Works published in volume 1 of the Manual of Contract Documents for Highway Works (MCHW).
 - Setting out to be agreed on site with the Project Manager / Site Supervisor.
 - Access to commence / undertake works in the working areas is only granted once the requirements of Appendix 1/7 and further Appendices referred to within have been satisfied. The Contractor may not encroach beyond the limits of the working area without the prior written approval of the landowner and the Project Manager. The Contractor is to liaise and agree the methodologies with the Project Manager and landowner before works commence.
 - It is the Contractors responsibility for managing all risk associated with flooding during the construction phase.
 - It will be the Contractors responsibility to ensure that the spilling of sediment or other pollutants to the watercourse does not occur and associated methodologies should be included in the Contractor's Construction Phase Plan.
 - For details of the residual design hazards see pre-construction information.
 - This drawing should be read in conjunction with all drawings as listed in Appendix 0/4.
 - Details are shown thus-
This figure is on the drawings but not shown on this document.
 - All residential/private access routes to be maintained at all times. Further details are included in Appendix 1/7 and the associated Appendices referred to within.
 - The Contractor is responsible for the design, implementation and removal of all traffic management. Further details are included in Appendix 1/17.
 - The Contractor is responsible for locating all services prior to commencement of works. The Contractor shall include in his price for undertaking sufficient trial holes to confirm the locations, depth and characteristics of all apparatus and subsequent consultation with the service provider, prior to undertaking any works. Where services are impacted by the works, the contractor shall be responsible for the temporary support of these as required. All temporary supports shall be agreed with the service provider. Prior to commencement of any excavations the Contractor shall provide, in accordance with his quality procedure, a permit to dig and trial pit drawings. Refer to all existing service drawings as issued in site information pack.
 - The Contractor will be responsible for site security. In accordance with Clause 302.1 and 303.1 (Vol 1 MCHW - Series 300) Temporary fencing will be provided to all properties where fencing / hedges / walls have been removed to provide the works. Refer to Appendix 3/1 for the type of fence to be erected. The Contractor is to allow in their tender for removal and reinstatement of all fencing / hedges / walls required to facilitate the works. No fencing / hedges / walls should be removed until agreed with the property owner and Project Manager.
 - The normal site hours are limited to between 0800-1800 Monday to Friday. If the Contractor wishes to work outside these hours, prior agreement with the Project Manager is required, giving at least two weeks in notice. The working hours associated with traffic management or works within private lands will be subject to the associated agreements/permits in place.
 - Roads and footpaths to be kept clear of mud and debris at all times.
 - Under no circumstances should any tracked plant travel on a public road.
 - The Contractor must ensure protection to public roads during construction activities. Any damage resulting from construction activities must be rectified at the Contractors expense.
 - Any necessary trimming or felling of trees must be carried out by a specialist contractor (to the approval of the Project Manager) to BS 3998:2010 in accordance with clause 3.10 of the specification and Appendix 30/1 with reference to the Environmental Statement and any mitigation referred to within.
 - The Contractor shall reinstate the site to a condition agreed with the Project Manager, if different to the contractual drawings and specifications.
 - Temporary access roads to be removed on completion of the works and reinstated to original condition.
 - Refer to Specification for Highway Works, Series 600, Appendix 1/5 for details in relation to formation material, including details of validation testing requirements.
 - All grass areas to be reinstated with 150mm topsoil and seeding unless otherwise specified.

Designed: JC	Date: 27/02/2023
Drawn: BM	Date: 27/02/2023
Checked:	Date:
Approved: -	Date: -

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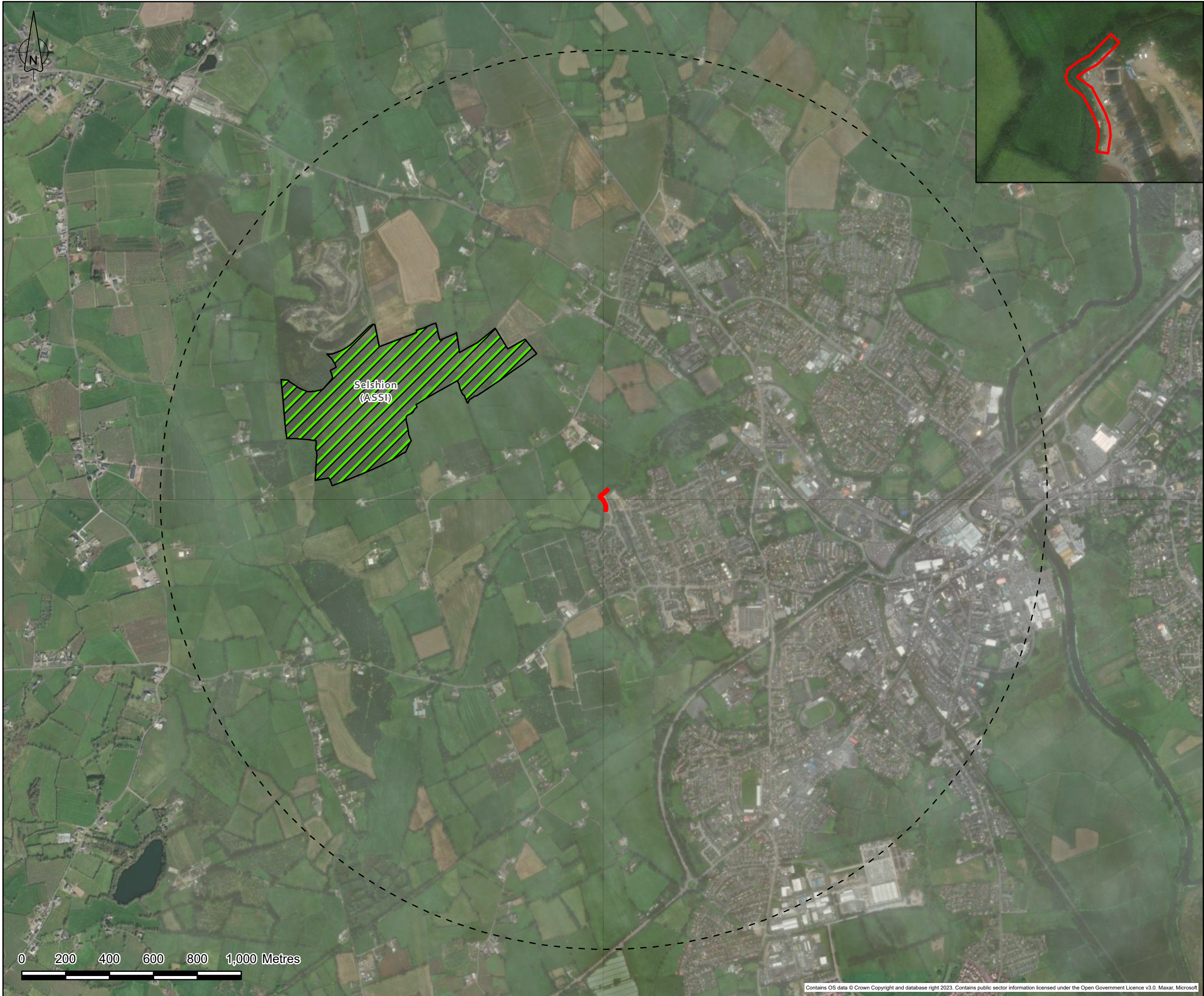
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**Portadown
Flood Alleviation Scheme**

Drawing Title
**Baltylum Meadows
Site Location**




Original Drawing Size : A1	Scale : As Shown
Dimensions : -	

Drawing Status WORK IN PROGRESS	Suitability S0
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Drawing No CO401635A-AMEY-T-XX-DR-C-0000-01	Rev P0
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Legend

-  Site Extent
-  2000m Buffer
-  Area of Special Scientific Interest (ASSI)

Rev	Revision details	Drwn	Chkd	Appd	Date
Drawn:	LB				Date: 14/08/2023
Reviewed:	HT				Date: 14/08/2023
Checked:	ACT				Date: 14/08/2023
Approved:	SS				Date: 14/08/2023

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 **Infrastructure**
By Name
Bonnegair
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Project Name :

Baltylum Meadows

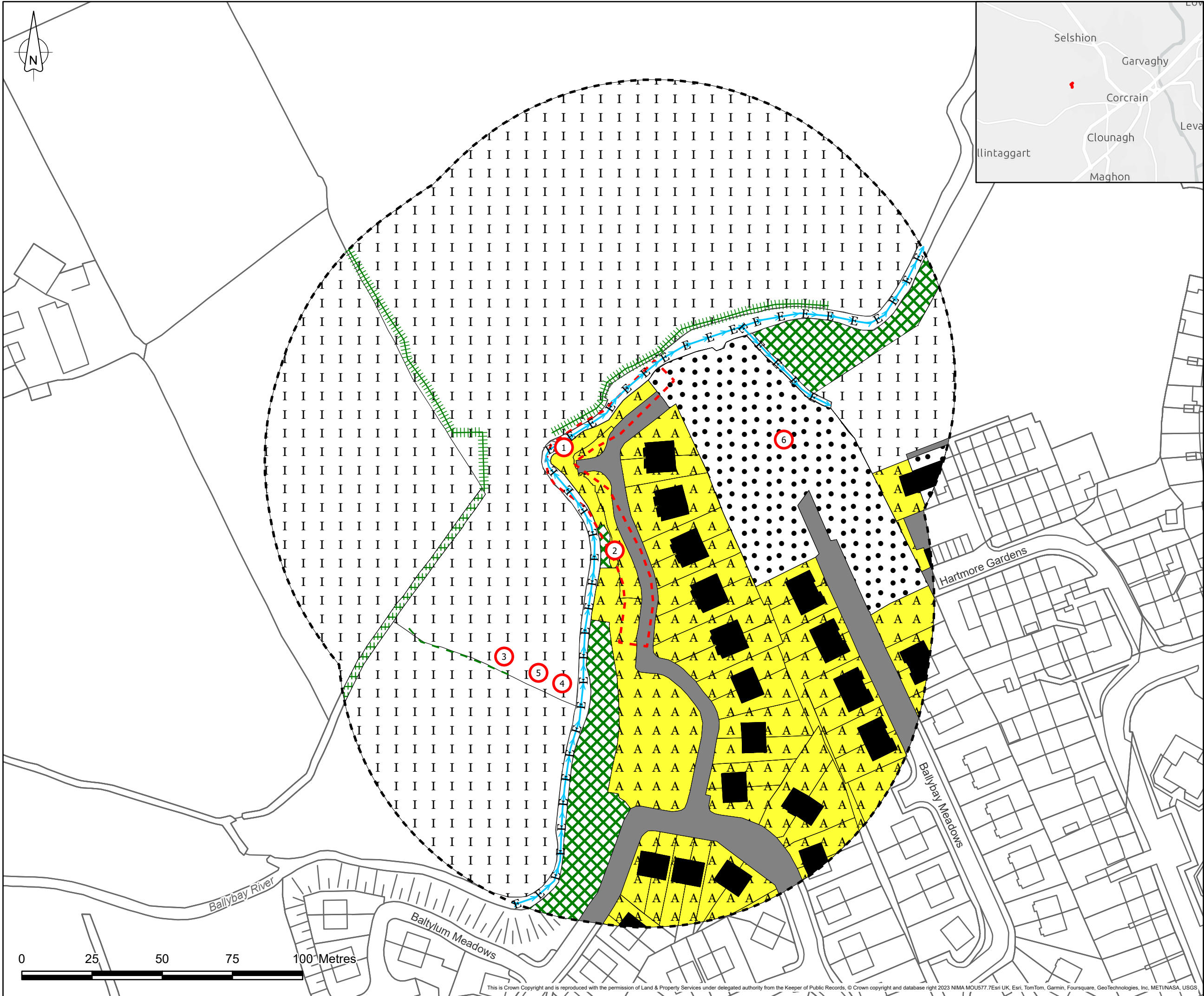
Drawing Title :

Designated Sites

Original Drawing Size : A3	Scale: 1:16,000
Dimensions : -	Page 1 of 1

Drawing Status	Suitability
Suitable for Stage Approval	S4

Figure No	Rev
Figure 2	P01



Legend

- Site Extent
- 100m Buffer

Phase 1 Habitats

- A2.1 Scrub Dense / Continuous
- B4 - Improved Grassland
- J1.2 - Cultivated / Disturbed Land - Amenity Grassland
- J2.3.2 - Hedge with Trees - Species Poor
- J3.6 - Buildings
- J4 - Bare Ground
- Hardstanding
- G2.1 - Running Water - Eutrophic
- J2.2.2 - Defunct Hedge - Species Poor
- J2.3.2 - Hedge with Trees - Species Poor
- Target Notes

P02	Habitat Amends	ES	HC	AW	28/03/24
P01	Initial Drawing	LB	ACT	SS	14/08/23
Rev	Revision details	Drwn	Chkd	Appd	Date

Drawn:	ES	Date:	27/03/2024
Reviewed:	ACT	Date:	27/03/2024
Checked:	HC	Date:	28/03/2024
Approved:	AW	Date:	28/03/2024

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Client :


Department for Infrastructure
By Name
Bonneagair
www.infrastructure.nhs.uk

Project Name :

Ballylum Meadows

Drawing Title :

Phase 1 Habitat Map

Original Drawing Size : A3	Scale: 1:1,250
Dimensions : -	Page 1 of 1

Drawing Status	Suitability
Suitable for Stage Approval	S4

Figure No	Rev
Figure 3	P02



- Legend**
- Site Extent
 - 100m Buffer
 - Photograph Locations

Rev	Revision details	Drwn	Chkd	Appd	Date
Drawn:	LB				Date: 14/08/2023
Reviewed:	HT				Date: 14/08/2023
Checked:	ACT				Date: 14/08/2023
Approved:	SS				Date: 14/08/2023

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Project Name :

Ballylum Meadows

Drawing Title :

Photograph Locations

Original Drawing Size : A3	Scale: 1:1,250
Dimensions : -	Page 1 of 1
Drawing Status	Suitability
Suitable for Stage Approval	S4
Figure No	Rev
Figure 4	P01

Appendix A: Wildlife Legislation

Ecological Feature	Summary of legislation
('Priority Habitats' or 'Priority Species')	Environment Order 2002 (as amended) is a national law that protects designated sites and species. Further the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995, provides a European level of protection to certain species and designated site.
European protected species (for example great crested newts, natterjack toad, sand lizard, smooth snake, bats, dormice, otters, sturgeon)	It is an offence under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) to deliberately injure, capture or kill a wild animal of a European protected species included in schedule II of the regulations. The Nature Conservation and Amenity Lands Order (Northern Ireland) order SI 1985/170 provides provisions both nationally and to a European standard, which are slightly more stringent.
Nesting birds	The Wildlife (Northern Ireland) Order 1985 (as amended) is the main piece of legislation that protects all wild birds in Northern Ireland. It is illegal to recklessly or intentionally injure or kill any wild bird, or to take, damage or destroy an active nest or its contents. 60 species are listed within Schedule 1 of the Wildlife Order, and these species are given additional protection.
Badgers	It is an offence under the Wildlife Order (Northern Ireland) 1985 as amended by the Wildlife and Natural Environment Act (Northern Ireland) 2011. It is a criminal offence to disturb or harm these animals, obstruct access to their place of refuge or damage or destroy anything which conceals or protects their place of refuge.
National Site Network (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar Sites)	<p>The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019, an assessment is required where a plan or project may give rise to significant effects upon sites within the 'National Site Network' (previously 'European Sites') including SACs, SPAs, and Ramsar sites. The process of assessing the implications of development on these Sites is known as Habitats Regulations Assessment (HRA).</p> <p>The initial stage of the HRA is Screening. This process initially identifies the likely impacts upon a Site of a project or plan, either alone or in combination with other projects or plans and considers whether these impacts may be significant.</p>

Appendix B: Phase 1 Habitat Survey Target Notes

Phase 1 Target Notes

Number	Description
Target Note 1	Otter potential along Ballybay River.
Target Note 2	Dense bramble scrub with holt potential.
Target Note 3	Mature tree with bat roost potential.
Target Note 4	Mature tree with bat roost potential.
Target Note 5	Mature tree with bat roost potential.
Target Note 6	Bare ground with on-going construction of houses.