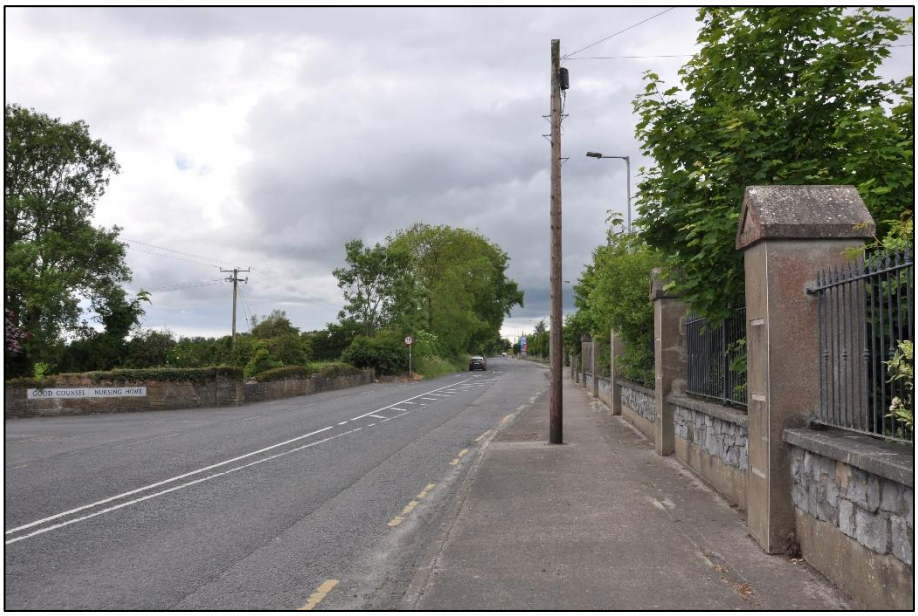

Biodiversity Management Plan

Proposed Bus Stop and Roundabout Development at Ros Mór, Old Cork Road (R512), Limerick

Version: 17/08/22

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EXECUTIVE SUMMARY

The current document provides a Biodiversity Management Plan for a proposed development at Ros Mór, Old Cork Road, Limerick. The proposed development comprises the removal of existing boundary wall and railings, removal of recently planted ornamental vegetation and four Ash trees, construction of a roundabout, bus stop lay-bye and footpaths, replacement boundary wall and railing, upgrading existing lighting, replacement tree/scrub planting.

The proposed development is located a considerable distance from any Natura 2000 site. The nearest sites are the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA. These sites are located c. 2.6km and c. 3.6km north of the proposed development. A full assessment of potential impacts on these designated sites is completed in a Screening for Appropriate Assessment Report by Ecofact which determined that no mitigation was required and that there was no potential for impacts. A Screening for Environmental Impact Assessment (EIAR) also concluded that the proposed development did not require an EIAR. The proposed development site is an existing road and there are no sensitive ecological receptors present. Birds and Rabbits do use this treeline. The local common bat species potentially present may use this treeline to commute, roost and / or forage. There are two trees to be felled with at least moderate bat suitability. These couldn't be fully inspected due to foliage cover and the location of Potential Roost Features (PRFs). No Annex I habitats, rare plants or protected plant species occur within the proposed development site. There is an area of scrub to the southeast of the site. Bats and non-volant mammals maybe use the treeline and scrub areas for commuting and foraging purposes. Small mammals also use this as protection within the landscape.

Some minor direct loss of habitat will occur. Amenity grassland and ornamental vegetation will be removed. Local disturbance impacts are likely to arise.

Measures have been provided to reduce these impacts and also to promote and enhance biodiversity on the site. These include following Limerick City Council's Biodiversity Plan and the All-Ireland Pollinator Plan. Landscaping should only use native species and aim to replace / create habitats which are appropriate to the area such as hedgerows and wildflower meadows Site clearance should be done slowly so that any wildlife in the area has sufficient time to vacate the footprint of the works. These works should be undertaken outside of the bird nesting season (1st of March to the 31st of August) as there is the potential for bird species to use the site for nesting. Tree felling should follow the National Roads Authority's *'Guidelines for the Treatment of Bats during the Construction of National Road Schemes'* (NRA, 2006). Works will be undertaken during daylight hours to reduce potential disturbance to bats in the local area. Rabbits occur in close proximity to the works. Tree felling and any clearance in that area should be carried out in a very slow and careful manner along the treeline to allow any rabbits present to escape and leave the area.

The site was revisited in July 2022 and this report was updated to include a summer Bat Roost feature survey. A derogation licence will be required for the trees to be felled as there are BRFs present. The NRA guidelines will be followed during tree felling.

TABLE OF CONTENTS

1. INTRODUCTION 3

2. METHODOLOGY 3

2.1 DESK STUDY 3
2.2 SITE VISIT 3

3. PROJECT DESCRIPTION 6

4. RECEIVING ENVIRONMENT 6

4.1 DESIGNATED AREAS 6
4.2 HABITATS AND FLORA 6
4.3 FAUNA 8

5. BIODIVERSITY MANAGEMENT 10

5.1 DESIGNATED AREAS 10
5.2 HABITATS AND FLORA 10
5.2.2 Landscaping 10
5.3 FAUNA 10
5.3.1 Disturbance / Avoidance 10
5.3.2 Lighting 11

6. CONCLUSION 11

REFERENCES 13

PLATES 14

Date	Revision	Status	Author	Reviewed By
17-08-22	1	Draft	GW	WOC

1. INTRODUCTION

The current report provides a Biodiversity Management Plan to enhance biodiversity along the proposed roundabout and bus stop development at Ros Mór, Old Cork Road (R512), Limerick. The proposed works area is c. 370m length and will comprise the removal of existing boundary wall and railings, removal of recently planted ornamental vegetation, construction of a roundabout, bus stop lay-bye and footpaths, replacement boundary wall and railing, upgrading existing lighting, replacement tree/scrub planting.

A Screening for Appropriate Assessment (AA) and Screening for Environmental Impact Assessment (EIAR) have been undertaken for the development (Ecofact, 2022a; 2022b). The Screening for Appropriate Assessment concluded that a Natura Impact Statement was not required for the proposed development (Ecofact, 2022a). The Screening for EIAR concluded that a full EIAR was not required (Ecofact, 2022b). Measures will be provided in the current report to protect and enhance biodiversity on the site where relevant.

2. METHODOLOGY

2.1 Desk Study

A desktop study was carried out to identify features of ecological importance within the proposed development site and surrounding areas. The ecological assessment included designated and sensitive areas in the vicinity of the proposed development site to enable sufficient assessment of the likelihood of significant effects on habitats, flora and fauna. A full bibliography of information sources reviewed is provided in the reference section. Information sources reviewed include:

- National Parks and Wildlife Service (NPWS) website, conservation objectives, site synopsis
- Protected species data on NPWS/National Biodiversity Data Centre (NBDC) online databases
- Environmental Sensitivity Mapping (ESM) Tool
- Environmental Protection Agency (EPA) mapping tools (including AAGeoTool)
- Fossitt (2000) *A Guide to Habitats in Ireland*
- Online aerial imagery (Bing, Google Satellite).

2.2 Site Visit

The development site was visited on the 7th of June 2022. The full length of the proposed development was walked including nearby habitats and the environs were inspected for evidence of ecological features of high conservation concern, such as those flora and fauna that occur in the closest Natura 2000 sites.

A further daytime assessment was requested, which was undertaken on the 22nd of July 2022. This was undertaken to assess the trees under consideration for felling. These trees were assessed for Potential Roosting Features (PRFs) for bats. The survey had regard to the methodology outlined in *Bat Mitigation Guidelines for Ireland* by Kelleher & Marnell (2006) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines* by Collins (2016). The site was visited during daylight hours to assess the trees which were going to be felled for bat potential. These mature trees were inspected for their potential to have bats, using visual observations with the aid of binoculars if necessary to examine the tree for

knotholes, dense ivy coverage, woodpecker holes, damaged limbs, lifting bark or impact shatters. The rest of the site was inspected for suitable bat foraging habitat and potential commuting routes.

There was a bull in the southwestern agricultural fields and therefore they could not be entered. This area was assessed from the existing road. There were no other limitations to the survey.

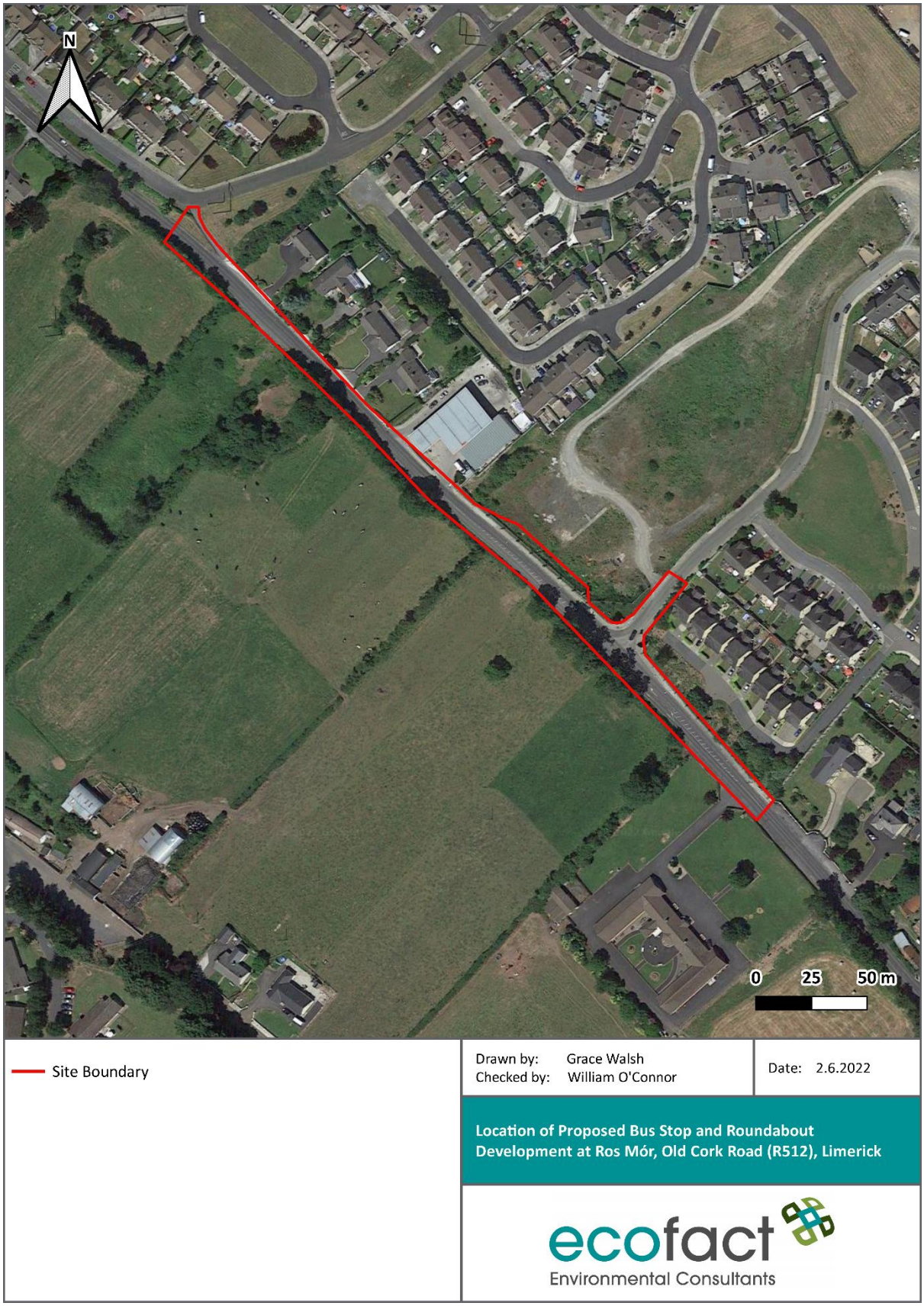

Figure 1 Location of Proposed Bus Stop and Roundabout Development at Ros Mór, Old Cork Road (R512), Limerick

3. PROJECT DESCRIPTION

The proposed development comprises the removal of existing boundary wall and railings, removal of recently planted ornamental vegetation and removal of four mature Ash trees, construction of a roundabout, bus stop lay-bye and footpaths, replacement boundary wall and railing, upgrading existing lighting, replacement tree/scrub planting.

4. RECEIVING ENVIRONMENT

4.1 Designated Areas

A Screening for Appropriate Assessment has been prepared (Ecofact, 2022a). The nearest site is the River Shannon and River Fergus Estuaries SPA, and this is located c. 2.6km north. No qualifying interests of sites are expected to occur at the proposed development site. The conclusion of the Screening for Appropriate Assessment is that no mitigation is deemed to be required and no Natura Impact Statement is required (Ecofact, 2022a). The closest Natural Heritage Area or Proposed Natural Heritage Area is the River Shannon and River Fergus Estuaries SPA which is c. 3.4km northwest of the site.

4.2 Habitats and Flora

The proposed development is located along the existing R512 road passing a service station, agricultural grassland fields and residential estates. The development will be used by all road users including pedestrians, drivers and cyclists. The dominant habitat at the proposed development site is Buildings and Artificial Surfaces (BL3) comprising the existing road and footpath. A footpath runs along the entire north-eastern boundary of the site. Adjacent to the site here are several houses, a service station, a housing estate and a brownfield site. There is some Amenity Grassland (GA2) present on the north-eastern boundary of the site also. This occurs in the area of Ros Mór housing estate. Ornamental planting has also taken place here and there is a retaining wall. Within Ros Mór estate there is also an area of shrubbery and small trees at the site boundary.

On the south-eastern edge of site there is a treeline, a nursing home and a small section of wall. Behind the treeline there is Improved Agricultural Grassland (GA1). The treeline is well developed in sections and leads into scrub habitat to the south. It is not proposed to remove any of these trees.

Table 1 Habitats on the Proposed Development Site as per Fossitt (2000).

Habitat Type	Habitat Code
Buildings and Artificial Surfaces	BL3
Amenity Grassland	GA2
Stone Walls and Other Stonework	BL1
Treeline	WL2
Improved Agricultural Grassland	GA1

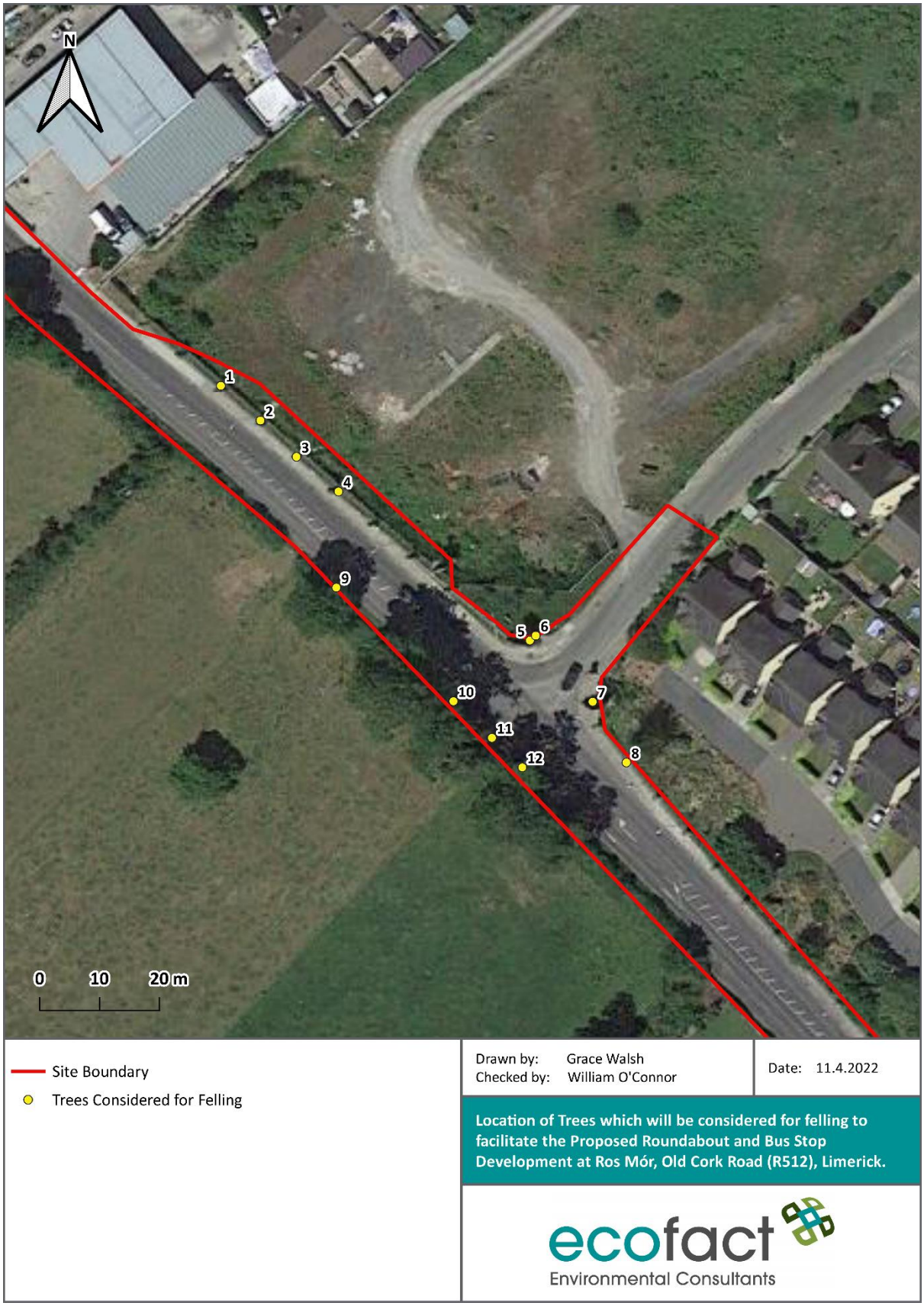

Figure 2 Location of Trees which will be considered for felling to facilitate the Proposed Roundabout and Bus Stop Development at Ros Mór, Old Cork Road (R512), Limerick.

4.3 Fauna

Relating to non-volant mammals, there are 3 records of terrestrial mammals for the 2km grid square R65C which encompasses the site. These are Eurasian Badger *Meles meles*, Red fox *Vulpes vulpes* and Irish Hare *Lepus timidus subsp. hibernicus*. There is a record of Badger from the Badger Setts of Ireland Database. This record is at least c. 720m east of the proposed development site. Irish Hare was recorded in a roadkill survey. This species may commute along the southern hedgerow of the proposed development site. Red fox may also commute along here. Much of the site is a road and stone wall, but behind the stone wall there is a grassland field and therefore these species may commute in this area, but not on the development site.

Common species such as Common pipistrelle *Pipistrellus pipistrellus*, Soprano pipistrelle *Pipistrellus pygmaeus* and Leisler's *Nyctalus leisleri* are expected to forage in the wider study area. There is some roosting habitat on the site, but the majority of trees have low potential. There are several trees which will be felled. Much of these are recently planted ornamental trees with no bat potential. However, there are four mature trees near the proposed roundabout location which are considered for felling. At least two of these trees have moderate to high bat roost potential. One is missing a limb and could not be fully assessed from the ground. This is the easternmost tree to be felled. At this time of year there are limitations to tree surveys due to foliage cover. There was a lot of foliage on this tree. Another has one large knothole and one small knothole. While there are two trees with at least moderate bat potential no actual evidence of roosting bats were recorded. In addition, the site is located along a busy road further reducing the bat suitability. It is noted that bats can be found roosting in trees at any time of the year, and they may not be present on a given night. Some of the trees onsite may occasionally be used by bats and they may forage and commute along the treeline. In the wider area there is no high-quality habitat for bats. As some potential for bats roosting in the trees has been identified mitigation is provided to offset potential impacts.

Table 2 Description of trees considered for felling along with bat potential and recommendations.

Tree	Description	Potential	Recommendations
1	Hornbeam *Carpinus betulus* - small ornamental tree	None	None
2	Hornbeam *Carpinus betulus* - small ornamental tree	None	None
3	Hornbeam *Carpinus betulus* - small ornamental tree	None	None
4	Hornbeam *Carpinus betulus* - small ornamental tree	None	None
5	Copper Beach *Fagus Sylvatica Purpurea* – small ornamental tree	None	None
6	Silver Birch – small ornamental tree	None	None
7	Copper Beach *Fagus Sylvatica Purpurea* – small ornamental tree	None	None
8	Hornbeam *Carpinus betulus* - small ornamental tree	None	None
9	Ash – mature tree	Low – moderate	Pre-construction check by ecologist using borescope
10	Ash – mature tree	Low	Pre-construction check by ecologist using borescope
11	Ash – mature tree	Low - moderate	Pre-construction check by ecologist using borescope
12	Ash – mature tree	Moderate	Pre-construction check by ecologist using borescope

There are three records of birds from the 2km grid square R65C which encompasses the site. Protected species recorded include Black-headed Gull *Larus ridibundus*, Little Egret *Egretta barzetta* and Northern Lapwing *Vanellus vanellus.* Bird recorded during the site survey included Starling, Magpie, Long-tailed tit, House martin, Rook and Blackbird. There is the potential for some of these species to nest in the treeline at the site.

There are no watercourses or drains on the site and thus there is no potential for aquatic species to occur. There are no records of reptiles or amphibians in the 2km grid square R65C which encompasses the site. There are no records of protected butterfly species in this 2km grid square. Butterflies recorded in the grid square however are as follows: Green-veined White *Pieris napi* and Speckled Wood *Pararge aegeria*.

European Rabbit (*Oryctolagus cuniculus*) were recorded in the improved agricultural grassland fields adjacent to the site. There were several rabbits recorded and there were potentially dwellings in the treeline. This field could not be accessed as there was a bull in the field.

5. BIODIVERSITY MANAGEMENT

The proposed development area is considered to be of low ecological value. Nonetheless, measures can be taken to preserve the current ecological receptors at the site and to increase biodiversity in the operational phase. Some recommendations are proposed to achieve this.

The Limerick Biodiversity Plan by Limerick City Council aims to promote and protect local biodiversity and natural heritage. The guidance in this report has been considered and incorporated into the below measures.

5.1 Designated Areas

No mitigation is required for designated areas (Ecofact, 2022a).

5.2 Habitats and Flora

5.2.2 Landscaping

The Limerick Biodiversity Plan does not give guidance for already developed sites it does however give guidance for green and brownfield sites. This states that all trees and hedgerows should be retained for the benefit of local biodiversity. The treeline at the proposed development site should be retained as much as possible. The tree felling should take considerations of adjacent trees and vegetation to avoid damaging these areas. The treeline likely provides nesting habitat for local birds as well as habitat for small mammals and the local bat population. Stripping of soil and grass cover should be reduced, and hard impermeable surfaces avoided where possible. Consideration of this should be given when drawing out the final Method Statement for the proposed development.

Landscaping on the site should follow the All-Ireland Pollinator Plan 2021-2025. In line with this, artificial fertiliser use should be minimised, and only ecological safe herbicide is to be used herbicide is required. Replanting should take cognisance of native species that suit the habitat trying to be created. Where sittable areas can be allowed to regenerate without additional planting such as in the treeline. If wildflower meadows are planted, it should be endeavoured to allow existing wildflower species to recolonise rather than sowing seeds. The grassy verge proposed should not be regularly maintained and should be allowed to potentially become a wildflower meadow or other natural habitat. Where native species already occur on the site, this represents pollinator friendly habitat and thus these species should not be removed to facilitate sowing of commercial native seed mixes. If this is not possible, care should be taken to ensure that the wildflower seed mixes used contain native species only and are grown on the island of Ireland. The planting of trees should use only native species. Once the above is completed, it is considered that biodiversity on the site may be increased. The site will also likely be of more use to pollinators, small mammals and birds.

5.3 Fauna

5.3.1 Disturbance / Avoidance

Site clearance should be done slowly so that any wildlife in the area has sufficient time to vacate the footprint of the works. As noted, birds may nest in the treeline at the site. Therefore, any site clearance

works, and tree felling should be undertaken outside of the bird nesting season (1st of March to the 31st of August) as there is the potential for bird species to use the site for nesting.

Prior to construction the trees onsite with bat suitability will nee to be inspected for any roosting bats present. Once the contractor has mobilised onsite this can be carried out by a suitably trained ecologist with a borescope. A cherry picker or similar machinery to facilitate working at height will be required.

Once these surveys are completed, if no bats are found tree felling can continue following NRA guidelines. This is to account for the occasional occurrence of bats in trees on any given night. Any trees to be felled will follow NRA (2006) '*Guidelines for the Treatment of Bats during Construction of National Road Schemes'*. Tree removal should take place in the period from late August to late October / early November. During this time all bats (young and old) are capable of flight and are not yet in hibernation, therefore would be capable of escaping. Warning must be given to any tree-roosting bats prior to felling which is done by nudging the tree two to three times, with a pause of approximately 30 seconds between nudges, to warn bats that may be present and encourage them to become active and escape. The guidelines highlight that the rate of fall of cut trees should not be accelerated by the use of chain and vehicle. This would cause a heavy impact which any occupying bat would not survive. Also, as a precaution, knocked / cut trees should be left for a period of 24hrs or overnight before they are sawn up or mulched to ensure bats that could have been present have escaped.

Works on site during the construction phase will also be undertaken during daylight hours to reduce potential disturbance to bats in the local area. Rabbits occur in close proximity to the works. Tree felling works will likely disturb and potentially destroy Rabbit warrens at the site. Tree felling and vegetation clearance here should begin in a very slow and careful manner. Starting these works slowly will ensure that any rabbits or other small mammals and birds present have the chance to escape and leave the area. The bird nesting season overlaps with the Rabbit breeding season and therefore breeding rabbits will not be directly impacted once the statutory bird nesting season is adhered to.

5.3.2 Lighting

Lighting should follow recommendations in Bat Conservation Ireland's *Bats & Lighting: Guidance Notes for Planners, Engineers, Architects and Developers* (2010). Light spill should be minimised by using shields, masking or louvres. Light columns being kept as low as possible. Mercury or metal halide lamps being avoided as these have a greater impact on bats, as they attract high levels of insects. Low pressure sodium lights have a minimal effect on bats and therefore would be preferred. Works will be undertaken during daylight hours to avoid disturbance to any bats in the local area. Warmer colour wavelengths between 2700 and 3000 Kelvin seem to have less impacts on bats compared to other lights such as LEDs (Marnell *et al*., 2022; Bat Conservation Trust & Institute of Lighting Professionals 2018). Consideration should be given to restrictions during dark hours, such as reducing light levels, or turning off lights, during late hours of the night.

6. CONCLUSION

The site is not considered to be of any significant ecological importance. There is the potential for the area to be used by mammals passing through, such as Red fox, and Rabbit are present. Bats may also use the site for commuting. The trees on the site may be used by nesting birds. No significant impacts are likely to arise. However, small scale impacts such as disturbance and habitat loss are likely. Mitigation measures are proposed to enhance biodiversity on the site. This involves considerations over

further landscaping mitigation, avoidance / disturbance measures and lighting. Once these mitigations are employed, it is considered that biodiversity on the site will be increased. The site will also likely be of more use to pollinators, small mammals, bats and birds.

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PLATES

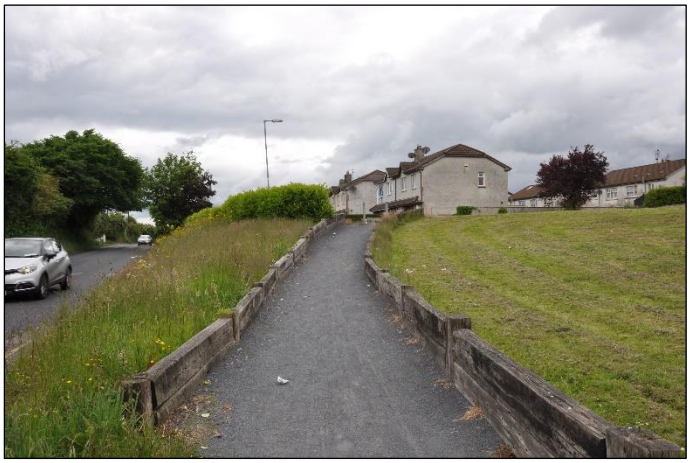

Plate 1 Western extent of the proposed works area. This will be a two-way shared use facility for pedestrians and cyclists.

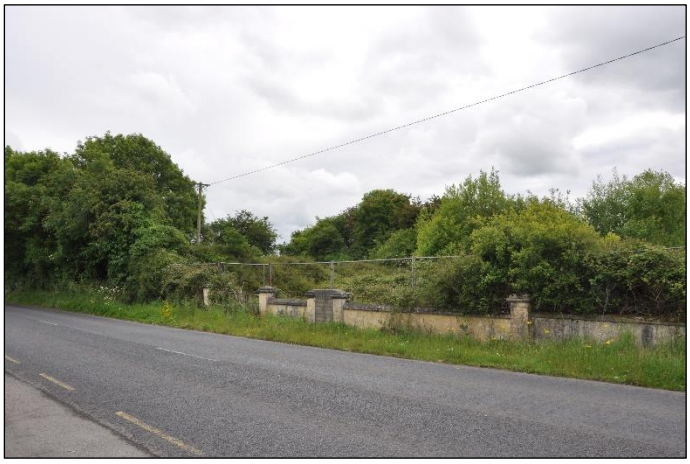

Plate 2 Scrub area to the south of the proposed development.

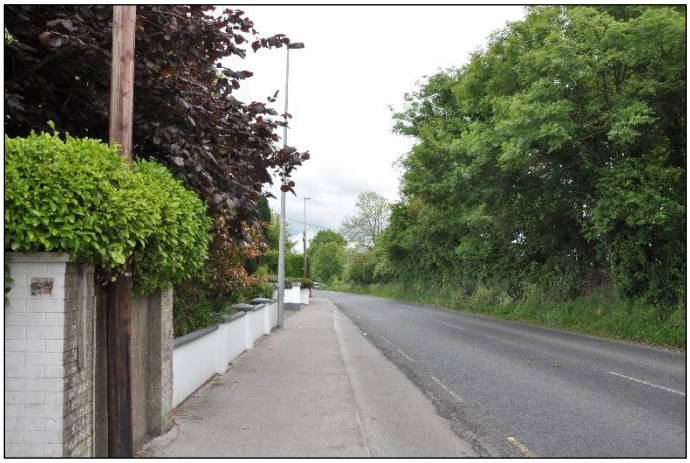

Plate 3 Existing road at the proposed development site. There is a treeline here which may provide suitable commuting and / or foraging habitat for bats.

Plate 4 Recently planted ornamental vegetation and retaining wall which will be removed as part of the proposed development. This vegetation will be replanted.

Plate 5 More ornamental vegetation which will be removed as part of the development.

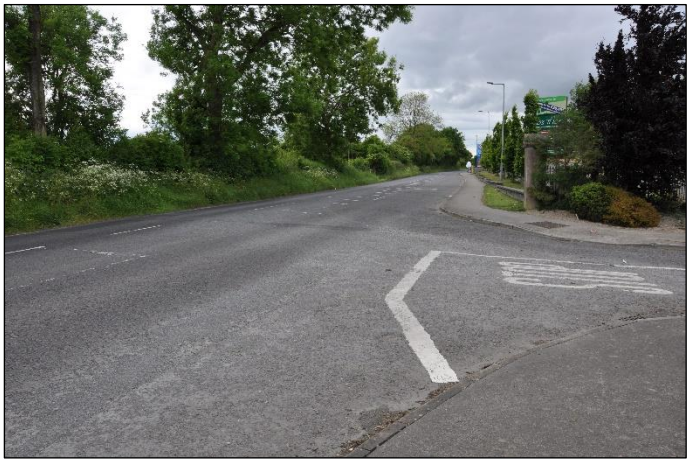

Plate 6 Proposed location of new roundabout at the entrance to Ros Mór housing estate.

Plate 7 Improved agricultural grassland field to the southwest of the site. Sand Marten, Starling, Rook and Rabbit were present in this area.

Plate 8 Some of the Ash trees to be removed as part of the proposed development.

Plate 9 Another tree at the proposed development site which may be felled to facilitate the development

Plate 10 Potential Roosting Feature (PRF) in the form of a knothole present on one of the trees to be removed.

Plate 11 Damaged limb on one of the trees to be removed. This couldn't be fully assessed from the ground by has bat roosting potential.

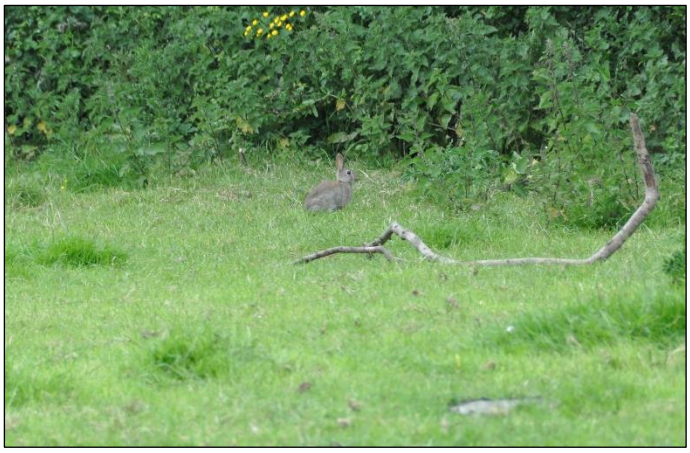

Plate 12 European Rabbit (*Oryctolagus cuniculus*) recorded north south of the proposed development site.