BIODIVERSITY ENHANCEMENT PLAN

FOR

LARGE-SCALE RESIDENTIAL DEVELOPMENT (LRD)

AT

LEYDEN'S WHOLESALERS & DISTRIBUTORS,
NO. 158A RICHMOND ROAD,
DUBLIN 3, D03 YK12

ON BEHALF OF

MALKEY LIMITED

Prepared by
Enviroguide Consulting

Dublin
3D Core C, Block 71, The Plaza,
Park West, Dublin 12

Kerry
19 Henry Street
Kenmare, Co. Kerry

Wexford
M10 Wexford Enterprise
Centre, Strandfield Business
Park, Rosslare Road, Wexford

www.enviroguide.ie
info@enviroguide.ie
+353 1 565 4730

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1 Introduction

1.1 Background

Enviroguide Consulting was commissioned by Malkey Limited to prepare a Biodiversity Enhancement Plan (BEP) for a Large-scale Residential Development (LRD) (the 'Proposed Development') at a c. 0.55 hectare developable site at Leyden's Wholesalers and Distributors, No. 158A Richmond Road, Dublin 3, D03 YK12 (the 'Site').

1.2 Quality Assurance and Competence

Synergy Environmental Ltd., T/A Enviroguide Consulting, is wholly Irish owned multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All our consultants carry scientific or engineering qualifications and have a wealth of experience working within the Environmental Consultancy sectors.

Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM). All surveying and reporting is carried out by qualified and experienced ecologists and environmental consultants. Liam Gaffney, Senior Ecologist with Enviroguide undertook the on-site surveys that inform this report. Brian Keeley, Qualified Bat Ecologist and Director of Wildlife Surveys Ireland undertook the bat surveys that inform this report. Enviroguide Ecologist Shannen O'Brien prepared the Biodiversity Enhancement Plan for this Proposed Development.

Liam Gaffney has a M.Sc. Hons. (Wildlife Conservation and Management) and a B.Sc. Hons (Zoology) from University College Dublin, and a wealth of experience in desktop research, literature scoping-review, and report writing, as well as abundant practical field experience (Habitat surveys, Wintering bird surveys, large mammals, fresh water macro-invertebrates etc.). Liam is also a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

Brian Keeley is a Professional Ecologist/ Bat Ecologist, and Co-director of Wildlife Surveys Ireland. Brian Keeley was a founder member of the Dublin Bat Group in 1989 and was also a founder-member of Bat Conservation Ireland, of which he is currently Chairperson. Wildlife Services Ireland are active with the Bailieborough branch of the Irish Wildlife Trust and have established a network of IWT nature reserves in the North Meath, Cavan and Monaghan area on farms volunteered by the owners for this purpose.

Shannen O'Brien has a B.A. in Zoology from Trinity College Dublin and a M.Sc. Hons. in Wildlife Conservation and Management from University College Dublin, and has experience in desktop research, report writing, and literature scoping-review, as well as practical field and laboratory experience (pollinator surveying, sampling and identification, habitat surveying, invasive species surveying, etc.). Shannen has prepared Stage I and Stage II Appropriate Assessment Reports, Invasive Species Assessments, Ecology Statements, and Ecological Impact Assessments (EcIAs).

2 Project Description

2.1 Site Location

The Site of the Proposed Development, as seen in Figure 1, measures a total of ca. 0.83Ha (development site area and road works area) and currently comprises warehouse and shed structures and associated vehicular yard.

The Site is bounded to the north-east by Richmond Road, to the west/south-west by No. 146A and No. 148-148A Richmond Road (pending application ABP Reg. Ref. TA29N.312352), to the south/ south-west by a residential and commercial development (Distillery Lofts) and to the east/south-east by No. 156-163 Richmond Road - the Former Distillery Warehouse (derelict brick and stone building). The River Tolka lies c.50m to the south of the Site and is separated by hardstanding. The general surroundings of the Site comprise of commercial and residential lands for the most part, with various areas of green space associated with sports clubs, religious orders, and educational institutions scattered throughout.

2.2 Development Description

Malkey Limited intend to apply for permission for development (Large-scale Residential Development (LRD)) at this c. 0.55 hectare site at the former Leydens Wholesalers & Distributors, No. 158A Richmond Road, Dublin 3, D03 YK12. The site is bounded to the north-east by Richmond Road, to the west/south-west by No. 146A and Nos. 148-148A Richmond Road (pending application ABP Reg. Ref. TA29N.312352), to the south/south-west by a residential and commercial development (Distillery Lofts) and to the east/south-east by the Former Distillery Warehouse (derelict brick and stone building). Improvement works to Richmond Road are also proposed including carriageway widening up to c. 6 metres in width, the addition of a c. 1.5 metre wide one-way cycle track/lane in both directions, the widening of the northern footpath on Richmond Road to a minimum of c. 1.8 metres and the widening of the southern footpath along the site frontage which varies from c. 2.2 metres to c. 7.87 metres, in addition to a new signal controlled pedestrian crossing facility, all on an area of c. 0.28 hectares. The development site area and road works area will provide a total application site area of c. 0.83 hectares.

The Proposed Development will principally consist of: a Large-scale Residential Development (LRD) comprising the demolition of existing industrial structures on site (c. 3,359 sq m) and the construction of a mixed-use development including artist studios (c. 749 sq m), a creche (c. 156 sq m), a retail unit (c. 335 sq m), and a gym (c. 262 sq m), and 133 No. residential units (65 No. one bed apartments and 68 No. two bed apartments). The development will be provided in 3 No. blocks ranging in height from part 1 No. to part 10 No. storeys as follows: Block A will be part 1 No. storey to part 4 No. storeys in height, Block B will be part 1 No. storeys to part 10 No. storeys in height (including podium) and Block C will be part 1 No. storeys to part 9 No. storeys in height (including podium). The proposed development has a gross floor area of c. 14,590 sq m and a gross floor space of c. 13,715 sq m.

The development also proposes the construction of: a new c. 204 No. metre long flood wall along the western, southern and south-eastern boundaries of the proposed development with a top of wall level of c. 6.4 metres AOD to c. 7.15 metres AOD (typically c. 1.25 metres to c. 2.3 metres in height) if required; and new telecommunications infrastructure at roof level of Block B including shrouds, antennas and microwave link dishes (18 No. antennas enclosed in

9 No. shrouds and 6 No. transmission dishes, together with all associated equipment) if required. A flood wall and telecommunications infrastructure are also proposed in the adjoining Strategic Housing Development (SHD) application (pending decision ABP Reg. Ref. TA29N.312352) under the control of the Applicant. If that SHD application is granted and first implemented, no flood wall or telecommunications infrastructure will be required under this application for LRD permission (with soft landscaping provided instead of the flood wall). If the SHD application is refused permission or not first implemented, the proposed flood wall and telecommunications infrastructure in the LRD application will be constructed.

The proposed development also provides ancillary residential amenities and facilities; 25 No. car parking spaces including 13 No. electric vehicle parking spaces, 2 No. mobility impaired spaces and 3 No. car share spaces; 2 No. loading bays; bicycle parking spaces; motorcycle parking spaces; electric scooter storage; balconies and terraces facing all directions; public and communal open space; hard and soft landscaping; roof gardens; green roofs; boundary treatments; lighting; ESB substation; switchroom; meter room; comms rooms; generator; stores; plant; lift overruns; and all associated works above and below ground.

2.2.1 Note Regarding Flood Wall

As detailed in the Statutory Notice, the development proposes the provision of a flood wall along the western, southern and south-eastern boundaries of the proposed development in the event that the flood wall proposed in the adjoining SHD (pending decision ABP Reg. Ref. TA29N.312352) is neither granted nor implemented before this application commences development. Both applications are under the control of the Applicant.

On the preferred basis that the flood wall is not required as part of the subject application as it will have already been provided as part of the Phase 1 SHD application, an approach favouring soft landscaping will be used between Phase 1 (SHD) and 2 (LRD). The soft-landscaping approach will comprise grass and shrub planting of between 40 to 100 centimetres, allowing for the creation of a vegetative buffer adjoining Block A. A gate will also be provided between the two phases at the end of the central courtyard of phase 2 between Buildings A and B, creating a physical link between Phases 1 and 2.

Except where referenced, all assessments carried out are based on the worst-case scenario, i.e. the provision of the flood wall as this is more invasive than the soft-landscaping option.

It is noted, however, that the inclusion or omission of the floodwall has little impact on the landscaping and biodiversity enhancement proposed at the Site, with some minor changes to the locations of proposed trees in the north-western corner of the Site should the flood wall be required. Please see Mitchells & Associates drawings: RIC0001-MA-XX-XX-DR-L-100 and RIC0001-MA-XX-XX-DR-L-103 (Included in Appendix I and II) for ground floor landscaping without, and with flood wall, respectively.

3 Baseline Ecological Conditions

Baseline ecological surveys for the Proposed Development were carried out on the 6th of September 2022 by Enviroguide Senior Ecologist Liam Gaffney, along with 8 winter waterbird flight-line surveys between November 2021 – April 2022. Wildlife Surveys Ireland Brian Keeley carried out the dawn and dusk bat activity and roost assessment surveys on 22nd – 23rd of September 2021 and again on 27th – 28th of June 2022. The results of these surveys are detailed in full in the EcIA (Enviroguide, 2023) that accompanies the planning application under separate cover. These results are referenced where applicable in this BEP.

3.1 Enviroguide Surveys

The predominant habitat on Site is *Buildings and Artificial Surfaces (BL3)*, comprised of hardstanding cover in the form of car parking area, warehouse and associated structures. Minor areas of *Recolonising Bare Ground (ED3)* were recorded along the margins of the Site, where some vegetation has managed to establish (e.g., cracks between walls and cement ground surface). The species of plant recorded within this habitat include dandelion (*Taraxacum agg*.), short-fruited willowherb (*Epilobium obscurum*), greater willowherb (*Epilobium hirsutum*), prickly lettuce (*Lactuca serriola*), thistle (*Cirsium sp*.) and smooth sowthistle (*Sonchus oleraceus*). A small section (c.20m) of ornamental hedgerow lies within the curtilage of a private dwelling along the north-eastern boundary of the Site and within the redline boundary of the proposed upgrade works along Richmond Road

The main Site area supports no trees, but is adjoined by three trees; two roadside Sycamore (*Acer pseudoplantanus*) (Nos. 769 and 770 in the Arboricultural Report (The Tree File, 2023)) along Richmond Road in the north-west of the Site, and a third Sycamore (tree A) a sapling growing from a wall and shed structure to the south of the Site (outside the Site Boundary). The two trees (Nos. 769 and 770) along Richmond Road will be removed to allow the road improvement works to be carried out. According to the Arboricultural Report (The Tree File, 2023), these trees are of mediocre to poor condition and appear to offer limited sustainability. Both trees have been categorised as "C" grade specimens and exhibit symptoms that suggest that they have already been adversely affected by previous disturbance and encroachment. Tree A (the sapling) is located outside of the Site's redline boundary and can only be removed with the permission of its legal owner. Sycamore seedlings also exist behind containers in the west of the Site.

The habitat map of the Site of the Proposed Development can be seen in Figure 2.

No species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011) including Japanese knotweed (*Reynoutria japonica*) were recorded at the Site. Two '*Medium Impac*t' invasive floral species were encountered on Site. Buddleia (*Buddleja davidii*) was present in flower and leaf at various locations within the Site; growing from cracks in the hard standing and walls. A large stand of this plant is located to the east of the Site in an adjacent plot. Three Sycamore were observed within the vicinity of the Site.

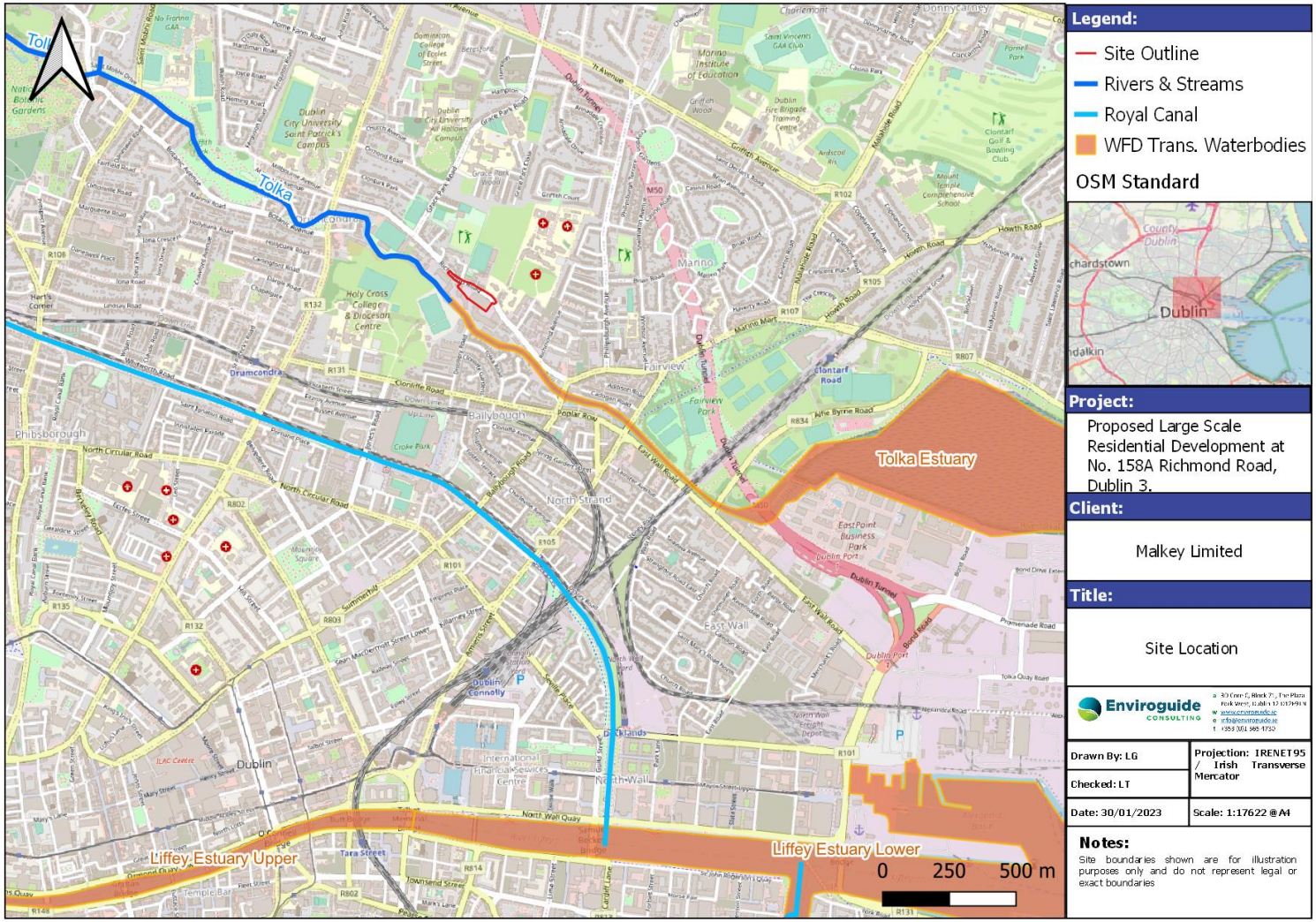

Figure 1. Site Location

Figure 2. Habitat map of the Site of the Proposed Development

No evidence of any mammal species, including rare or protected species, were recorded utilising the Site or surrounding accessible areas. This was expected due to the lack of suitable habitat on this brownfield Site for bats or terrestrial mammal species.

The only bird species recorded on the 6th of September 2022 were the common urban species feral pigeon (*Columba livia domestica*) and herring gull (*Larus argentatus*), and both were noted in flight over the Site. The active commercial hardstanding premises on Site offers limited suitable habitat for local birds.

The waterbird flight-line surveys were carried out with the aim of identifying the species in flight over the Site of the Proposed Development and to assess the potential for flight-line obstructions and collision risk, in particular to Special Conservation Interests (SCI) species listed for nearby Special Protection Areas (SPAs), namely South Dublin Bay and River Tolka Estuary SPA and North Bull Island SPA. Two species specifically listed as SCIs for nearby SPAs were recorded flying over the Site during the 2021/22 winter surveys: curlew (*Numenius arquata*) and light-bellied brent geese (*Branta bernicla hrota*). The remaining waterbird species are not listed as named SCIs for any European site, however, '[A999] Wetlands and waterbirds' is a Qualifying Interest (QI) for both North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA and thus covers these other waterbird species, namely: Grey Heron (*Ardea cinerea*), Mallard (*Anas platyrhynchos*) and Little Egret (*Egretta garzetta*). Sparrowhawk (*Accipiter nisus*) and Buzzard (*Buteo buteo*) were also recorded in flight over the Site. No waterbird species are considered to be at-risk of collisions/flight-line obstruction as detailed in the AA (Enviroguide, 2023a) and EcIA (Enviroguide, 2023b) that accompany this application under separate covers. The Site of the Proposed Development holds no potential for waterbird species as an important *ex-situ* roosting/foraging site.

No amphibian or reptile species were recorded during the field surveys carried out. There is no suitable habitat (breeding, refuge, foraging etc.) present at the Site of the Proposed Development for common frog (*Rana temporaria*), smooth newt (*Lissotriton vulgaris*) or common lizard (*Zootoca vivipara*).

3.2 Wildlife Surveys Ireland Surveys

3.2.1 Bat Roost Inspection Survey

There was no evidence of bats in any of the buildings within the Site, during either of the bat surveys in September 2021 and June 2022. No bats emerged from or entered any building and there were no signs typical of bat roosts within the Site (droppings, staining, corpses etc.). The Site offers low roosting potential for local bats in the form of a small shed with a rotted roof and unlit timber areas within the store rooms on Site, however there are high light levels on Site, along with a lack of suitable foraging habitat (the Site is primarily hard-standing). The two Sycamore trees located in the north-west of the Site were assessed as having negligible bat roost potential.

3.2.2 Bat Activity Surveys

Three bat species were recorded on Site during the September 2021 and June 2022 surveys, namely common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and lesser noctule (*Nyctalus leisleri*). However, it was noted the level of bat activity

was exceptionally low given the proximity to the River Tolka, which offers foraging and commuting habitat for local bats.

Only 2 signals were recorded on the static monitor (Songmeter Mini Bat) and one signal recorded by the hand-held bat detector in September 2021, and a total of 10 bat passes were recorded within the Site over the course of the entire night in June 2022 (See EcIA (Enviroguide, 2023b) for further details and full survey results).

4 Biodiversity Enhancement Measures

4.1 Vegetated Habitats

4.1.1 Vegetation Removal

The two Sycamore trees to be removed as part of the improvement works along Richmond Road may support nesting birds. As such, their removal will take place outside the main breeding bird season, i.e. 1st March to 31st August, in compliance with the Wildlife Act 1976 (as amended).

4.1.2 Proposed Planting

The proposed landscaping at the Site will increase its ecological value compared to the current hardstanding groundcover that exists. As outlined in the Landscape Planning Report (Mitchell + Associates, 2023) accompanying this application, native, semi-mature trees, such as alder (*Alnus glutinosa*), rowan (*Sorbus aucuparia*), hazel (*Corylus avellana*), and birch (*Betula sp*.), are proposed to be planted on Site as part of the Proposed Development. Dense planting areas, comprised of shrubs and ornamental planting are also proposed, primarily along the southwest boundary of the Site. The planting pallet has been selected with regard to the 'Councils Actions to Help Pollinators: All Ireland Pollinator Plan 2015-2020'. The planting strategy contains areas of pollinator friendly mowing regime, hedgerow planting with the recommended 75% hawthorn (*Crataegus monogyna*) plus 25% of four other native species, pollinator friendly species within the shrubs and groundcover mix and inclusion of pollinator friendly street trees.

At ground floor level, areas of wildflower meadow and dense shrub planting are proposed, along with a mix of native and non-native tree and hedgerow planting. Tree cover at the Site will increase significantly compared to the current situation, with public realm tree planting proposed in three groups of rowan along Richmond Road and honey locust (*Gleditsia triacanthos 'Skyline'*) proposed along the courtyard entranceway between blocks A and B. Multi-stem Himalayan birch (*Betula Jacquemontii)* is proposed for the north-western corner of the Site. Please see Mitchells & Associates drawings: RIC0001-MA-XX-XX-DR-L-100 and RIC0001-MA-XX-XX-DR-L-103 (Included in Appendix I and II) for ground floor landscaping without, and with flood wall, respectively.

Two landscaped podiums are proposed (Mitchells & Associates drawing: RIC0001-MA-XX-XX-DR-L-101). These areas will comprise a mix of hard and soft landscaping and will incorporate a selection of roof-top trees, namely: service berry (*Amelanchier Canadensis),* multi-stem rowan and field maple (*Acer campestre)* planted in groups. Alongside the tree planting, dense shrub planting and hedgerows are proposed.

The provision of tree and shrub planting at podium level in Block A, B & C along with smaller areas of planting at level 5 of Blocks B & C (Mitchells & Associates drawing: RIC0001-MA-XX-XX-DR-L-102), will provide increased habitat provision for local invertebrate (including urban pollinators), bats and bird species.

Green roofs are proposed for the roofs of the blocks not taken up by roof gardens/terraces. These sedum roofs allow for water attenuation and provide some habitats for insects and birds that are less likely to be disturbed than those on the ground floors. The sedum planting matts will be Irish grown and laid on a lightweight growing medium.

It is noted that all wildflower seeds will be Irish Provenance Certified Seed, from a reputable source such as Design by Nature (Wildflowers.ie). To maximise the biodiversity value of the landscaping at the Site, consideration has been made to the All-Ireland Pollinator Plan planting code (NBDC, 2015).

4.1.3 Vegetation Management

The following management of the proposed planting on Site will be undertaken during the Operational Phase of the Proposed Development:

- Periodic inspection for and if necessary, clean-up of litter.
- Physical removal of undesirable non-native or invasive shrub or herb species should these be recorded within the Site during the Operational Phase. Chemical control will be used only as a last resort.
- Although limited grassy areas are proposed for the Site, where possible, a pollinator-friendly mowing regime will be implemented as per the All-Ireland Pollinator Plan 2015-2020 guidance leaflet '*Gardens: actions to help pollinators*'[1]:
    - Where possible, areas of amenity grass shall be mown on a reduced mowing regime, and shall not be mown until the 15th of April. This will allow important pollinator plants such as Dandelion to flower. Thereafter grass shall be cut on a six-weekly rotation (5 cut and lifts per year). Second cut at the end of May, third cut in mid-late July to maximise growth of Clovers and other wildflowers, fourth cut at the end of August and the fifth cut after mid-October. Cutting arisings will be removed to an off-site compost facility. Mowing to be carried out when ground conditions are appropriate i.e., when soil is moist but not waterlogged. It is noted that, as these areas are small amenity sections of grass for use by future residents, there is limited potential for areas of reduced mowing and that this will be adopted where possible (along margins forming a less managed verge may be appropriate).
    - Areas of wildflower meadow will be cut once annually in September as per the All-Ireland Pollinator Plan 2015-2020 guidance leaflet '*Pollinator-friendly grass cutting*'[2]. Cuttings will ideally be left lie for a few days to allow any seed to drop and then removed. Meadows managed in this way will allow wildflowers to

[1] https://pollinators.ie/wp-content/uploads/2022/12/Garden-Pollinator-Guidelines-2022-WEB.pdf

[2] https://pollinators.ie/wp-content/uploads/2022/05/Pollinator-friendly-grass-cutting-A5-Flyer-2022-PRINT.pdf

bloom throughout the pollinator season and also provide undisturbed areas for nesting.

- Mowing will be undertaken during dry conditions to avoid compacting and potentially damaging the soil structure.
- Signage will be erected to help management adhere to the pollinator and wildlife friendly management regime, while also informing residents and visitors of these biodiversity enhancement measures (See Figure 3).
- Signage and waste bins will be provided at the Site to minimise dog fouling, which can have a negative effect on biodiversity planting by adding excessive amounts of nutrients and "over-fertilising" areas thus reducing the number and types of wildflowers that will grow.
- Small log piles/dead wood from felled trees will be retained and left in the area of dense shrub planting proposed along the south-western boundary of Block A (ground floor); to provide nesting and hibernacula for local pollinators and wildlife. Log piles will be left by management and remain undisturbed in discrete locations to allow colonisation by invertebrates and fungi as part of the biodiversity provision in this dense are of planting.
- No herbicides[3] or fertilisers are to be used within the areas of dense shrub planting and pollinator-friendly meadow strips designated for biodiversity enhancement.

Figure 3. Example pollinator and wildlife friendly management signage available from Pollinators.ie

4.1 Bat Box Scheme

[3] Ideally, herbicide use within the Site should be avoided entirely, and alternative weed control options (e.g. thermal control with hot water or foam) should be explored as per Pesticide Action Network UK: https://pollinators.ie/wp-content/uploads/2021/05/Alternatives-to-herbicides-a-guide-for-the-amenity-sector.pdf

Four (4no) 2FR Schwegler bat boxes will be incorporated into the new buildings to provide bat roost options at the Site of the Proposed Development.

These will be installed towards the River Tolka in 2 x 2 pairs and located on the south-western elevation of Block B, as shown in RKD drawing: 22001-RKD-ZZ-ZZ-DR-A-1301 and Figure 4. Their installation will be advised and supervised by a suitably qualified Ecologist. The recommended 2FR Schwegler design is open at the bottom, allowing the droppings to fall out, and so they do not require cleaning.

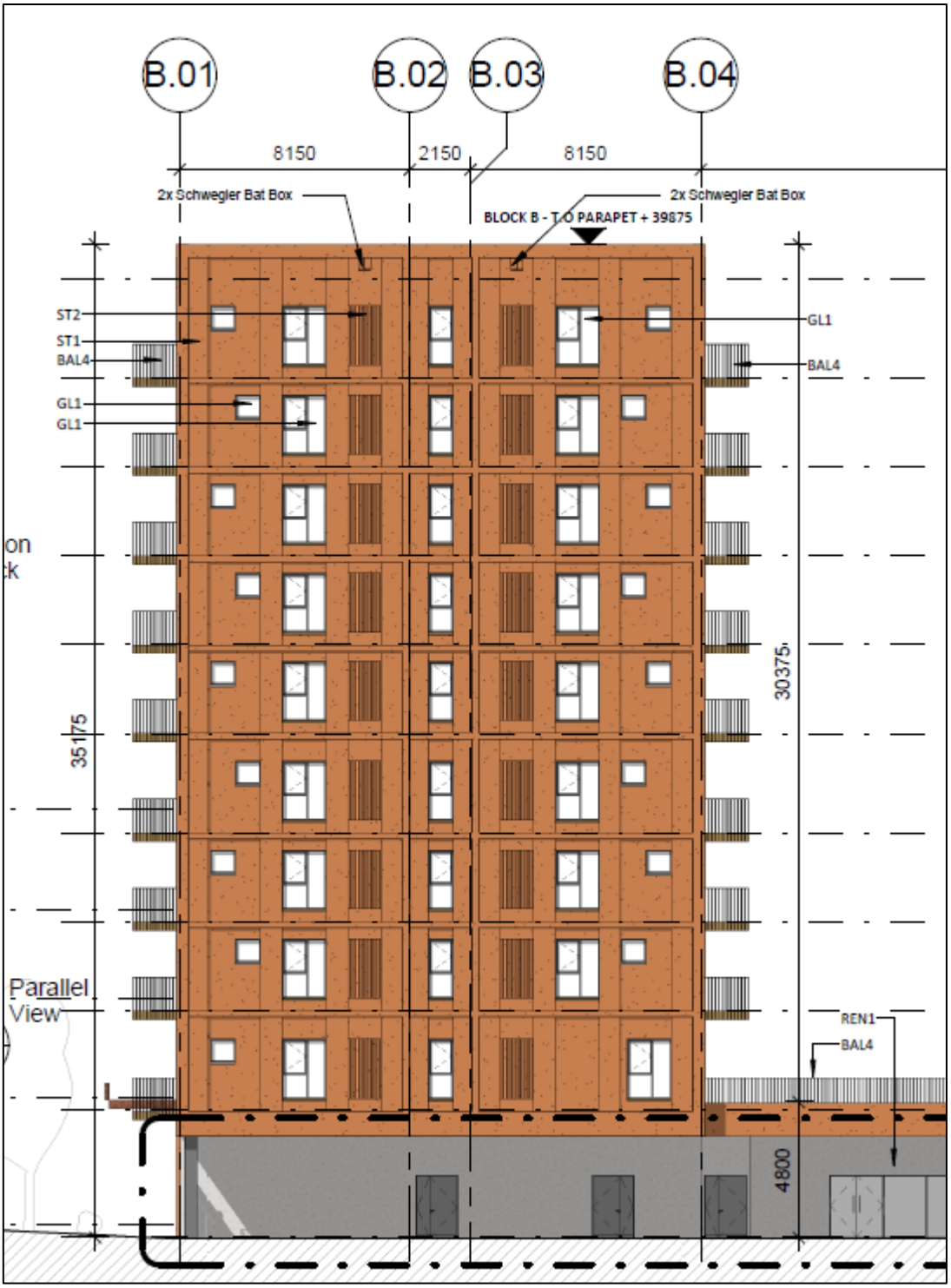

Figure 4. Extract from RKD drawing: 22001-RKD-ZZ-ZZ-DR-A-1301 showing placement of bat boxes on south-western elevation of Block B.

4.2 Bird Box Scheme

Bird boxes will be installed as part of the landscape plan, and will be overseen by the appointed ecologist, within the proposed areas of dense planting at ground floor and podium level and on the semi-mature trees to be planted on Site. The boxes will be durable. The bird boxes will

be firm and secure to their supports, and only placed on trees that are robust and large enough to support bird boxes.

There are various standard bird box options, and two of each of the following box types[4] will be installed:

- 'Hole type' bird boxes (28 mm hole)
    - For example, the Eco Small Bird Box, which can be found at the following link: https://www.nhbs.com/eco-small-bird-box
- Open fronted bird boxes for blackbirds
    - For example, the Blackbird FSC Nest Box, which can be found at the following link: https://www.nhbs.com/blackbird-fsc-nest-box
- Open fronted bird boxes for wrens and robins
    - For example, the Eco Robin (Open-Fronted) Nest Box, which can be found at the following link: https://www.nhbs.com/eco-robin-open-fronted-nest-box

Hole type bird boxes should be positioned 2-4m off the ground, with good-visibility, a clear flight line, and away from the prevailing wind direction.

The open-fronted boxes for Robins (*Erithacus rubecula*), Wrens (*Troglodytes troglodytes*) and Blackbirds (*Turdus merula*) should be installed lower than 2m but amongst dense vegetation (e.g., hedges or areas of scrub that develop within the Site), or newly planted vegetation that will grow to become dense upon establishment, and somewhere cats and other predators won't easily see or access them.

Unless the sites are very sheltered, bird boxes should be fixed facing between north and south-east to avoid the hot sun and the wettest winds. Guidance from Bird Watch Ireland regarding bird box construction and installation can be found at the following link: https://birdwatchireland.ie/app/uploads/2019/09/Nestboxes-factsheet.pdf. Bird box placement will be directed by an ecologist and amended as appropriate, with the results submitted to the council's Parks department on completion.

Bird boxes will be cleaned out at the end of the bird breeding season by the development management company, from September onwards, to encourage birds to return to the nest boxes.

4.3 Swift Bricks

Swift Bricks will also be included as part of the Proposed Development, with twenty (20no.) Swift Bricks incorporated along the parapet of Block C's south-western elevation, as shown in RKD drawing: 22001-RKD-ZZ-ZZ-DR-A-1301 and Figure 5.

Swifts (*Apus apus*) are a "clean" bird species which remove their own wastes from their nests periodically. As such, Swift bricks do not require any cleaning by the management company.

[4] https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/garden-birds/nestboxes/#:~:text=Many%20people%20put%20their%20nestboxes,cats%20to%20get%20near%20it.

The incorporation of Swift Bricks will help recover the declining swift population, which are now Red Listed in Ireland (Gilbert et al., 2021). The following recommendations are extracted from "Saving Swifts" by Birdwatch Ireland[5].

Swift bricks/boxes:

- Will be constructed of long-lasting material and securely fixed in position.
- Will be erected at least five metres above ground level.
- Will be erected in sheltered cool areas out of the sun, or under an overhang and /or under the eaves. Bricks can be placed at any aspect, however, as they tend not to overheat the way that externally fitted boxes can.
- Will have a clear airspace in front for access.
- Will be grouped (side by side in rows) as swifts are colony nesters.
- Will avoid sites which can be accessed by predators, such as cats, squirrels, magpies, and rats.
- Will avoid sites near plate glass windows because they are a known collision hazard for birds.
- Will not be placed directly above ledges or other obstructions. Swifts drop before taking flight and can collide with obstacles below the nest entrance.
- Will not be one above the other.
- Will not be near spotlights or later fit spotlights near them.

It is advised to install a **Swift calling system** to attract Swifts and encourage them to take up residence at a new site. A Swift calling system is a small speaker set-up that plays Swift calls during the summer. It should be located close to the brick entrances and has been seen to greatly increase the chances of Swifts using the Swift boxes/bricks. Solar panel options are possible.

An Ecologist will be instructed to set up the Swift calling system once the construction of the Proposed Development is complete. This can be with the help of active local Swift groups as required (e.g., Dublin Swift Conservation Group), who can help and advise as to the best set-up etc.

[5] https://birdwatchireland.ie/app/uploads/2019/10/Saving-Swifts-Guide_pdf.pdf

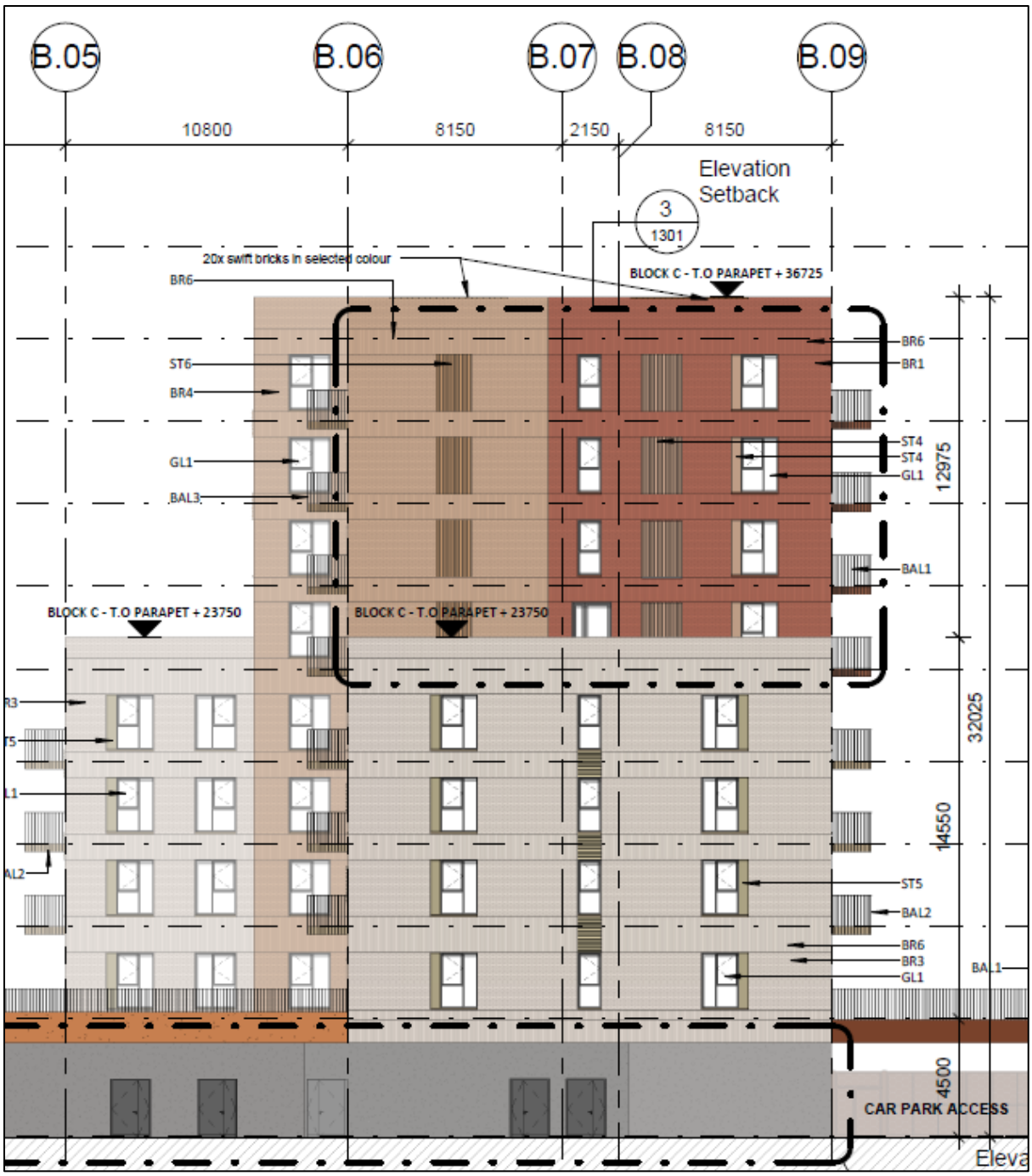

Figure 5. Extract from RKD drawing: 22001-RKD-ZZ-ZZ-DR-A-1301 showing placement of Swift Bricks on south-western elevation of Block C.

4.4 Invertebrate Habitat

4.4.1 Pollinators

Wild bees (bumblebees and solitary bees) nest in small colonies and are completely focused on collecting food for themselves and their young. They have no interest in interacting with humans, are not aggressive and pose no threat to the public, even while nesting.

To help support urban pollinator species at the Site, pollinator/insect habitat, as seen in Figure 6, will be created by either:

- creating an earth bank
- scraping back some bare earth
- leaving some areas to grow wild, and/or
- by drilling holes 10cm deep in unvarnished wood for solitary bees.

Based on the nature of the Proposed Development and its inherent spatial constraints, the most appropriate pollinator habitat from the above list would be the provision of wild/semi-natural planted areas and the incorporation of some small areas of bare earth and/or low earth banks within these wilder sections. These small features can be included in within the linear strip of dense planting already proposed for the Site's south-western boundary, along Block A.

Figure 6. Examples of solitary bee habitat. Extracted from How-to-guide: Creating wild pollinator nesting habitat (NBDC, 2016a).

To create areas of bare ground for mining solitary bees, the following steps will be taken:

1. **Find a spot:** Choose an open, well drained, sheltered, sunny location. The soil should be gently packed, and south facing slopes are preferred. It's best to choose a variety of ground conditions, from vertical banks, to flat ground-in order to attract different types of solitary bees.
2. **Creating the habitat:** using a spade, gently clear off any vegetation on the area. Remove bits of moss, grass, and anything that blocks the bee from getting to the soil. The area can be just about any size, but aim for a minimum of 10cm by 10cm.
3. **Maintaining the habitat:** once a year clear any vegetation that has grown by manually scraping back the area to bare soil. Do this in late autumn, to avoid disturbing any nesting bees. Never use pesticides of any kind (including herbicides) on an area meant for solitary bee nesting.

Large bee or insect hotels will not be installed. Guidance from the All -Ireland Pollinator Plan states "*Don't install a large bee or insect hotel. Large bee hotels are attractive to humans, but not great for pollinators. They can encourage the spread of disease and attract predators. Avoid anything bigger than an average-sized bird box. There are many other ways to provide nesting habitats for pollinators, such as providing wild areas of undisturbed long grass, and scraping back some bare earth. If you want to make a bee hotel, make sure it is small, and position it away from bird feeders so the insects aren't easy targets*." A link to a "*How-to-guide Creating wild pollinator nesting habitat*" is available to guide the development management

company in to put these habitats in place: Pollinator-Nesting-How-to-Guide-2022-WEB.pdf (pollinators.ie).

An appointed ecologist will oversee the creation of these pollinator habitats, which will be located within the proposed dense planting along Block A. Signage will be erected for educational purposes and to ensure management adhere to the pollinator and wildlife friendly management regime.

4.4.2 Hibernacula

Log piles/dead wood from felled trees will be retained within the proposed dense planting areas to provide nesting and hibernacula for local pollinators and wildlife (Figure 7). Log piles will remain undisturbed to allow colonisation by invertebrates and fungi.

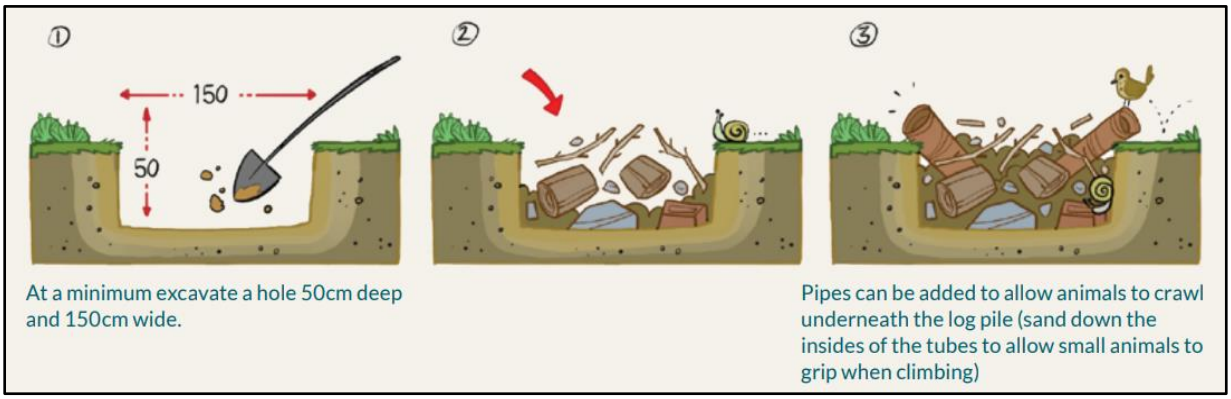

Figure 7. Example design of a wildlife-friendly log pile. Extracted from Gardening for Biodiversity (Juanita Browne, 2020).

5 Monitoring

5.1 Vegetation Management

The management of the areas of grassland, wildflower meadow and shrub planting at the Site will be assessed once annually during the growing season by an Ecologist, for a period of 5 years; to ensure that these areas are being managed in a way that maximises their biodiversity value, as laid out in this BEP. The Ecologist will be able to provide further guidance if required to the management company as to the management of these areas.

5.2 Bat Box Scheme

Bat activity at the Site and the use of bat boxes will be assessed by a licensed bat ecologist during the summer following their placement. The bat boxes will be registered as a bat box scheme with Bat Conservation Ireland. This should be undertaken for a minimum of 2 years..

These bat boxes will not require cleaning as they are self-cleaning by design. Bat boxes will be left undisturbed and any disturbance, if required, must be carried out under licence by a bat specialist.

5.3 Bird Boxes

Bird boxes will be checked annually between September and February, outside of nesting season, for the presence of old nests which will be removed. This will also allow for the condition of the boxes to be checked and maintained.

5.4 Swift Surveys

The Swift Bricks will be monitored annually during the summer by an ecologist to assess whether they are being used by Swifts. Surveys will be carried out once a year for 3 years post installation with the results shared with BirdWatch Ireland and the Dublin City Council Parks, Biodiversity and Landscape Services Division to aid in the collection of data on Dublin's Swift populations.

The ecologist will also check that the Swift calling system is operational each year and advise if repairs are needed.

5.5 Invertebrate Habitat

Once a year, in September to avoid disturbing nesting bees, any vegetation that has grown over the bare soil habitat patches will be manually scraped back to clear the area. **No pesticides will be used within any area designated for solitary bee nesting habitat**.

New logs can be added to the wood piles as the older ones decay over a period of years. Decaying wood can support a range of fungi and microhabitats and will be maintained as part of the log pile habitat.

6 Schedule of Enhancement Measures and Operational Monitoring

Table 1. Schedule of Operational Management and Monitoring Measures to be Implemented at the Site

Habitat/Species	Operational Phase Management/Enhancement			Operational Phase Monitoring		
	Task	**Frequency**	**Responsibility**	**Task**	**Frequency**	**Responsibility**
Proposed wildflower meadow, amenity grass, tree and shrub planting	Where possible and deemed appropriate, five cuts and lifts per year of amenity grass areas, under dry conditions to avoid soil compaction. Collect cuttings and compost off site. Where possible, grass will not be mown until the 15th of April to allow dandelions to flower. Areas along margins forming a less managed verge may be appropriate.	Where possible, cut on a six-weekly rotation. Second cut at the end of May, third cut in mid-late July to maximise growth of Clovers and other wildflowers, fourth cut at the end of August and the fifth cut after mid-October.	Management Company	These habitats will be monitored to: • Monitor the establishment of the newly planted vegetation. • Ensure the implementation of appropriate management regimes. • Advise on the management regime and/or any changes to the management needed based on the condition of the habitats. • Monitor and record the success of the enhancement measures.	Annually for 5 years	Ecologist
	Areas of wildflower meadow will be cut once annually in September. Collect cuttings and compost off site.	Cut once annually in September.	Management Company			
	Periodic inspection for and if necessary, clean-up of litter.	To be undertaken as part of routine litter management.	Management Company			
	Removal of undesirable non-native or invasive shrub or herb species should these be recorded.	Annually or as required	Management Company			
	Signage to be erected to ensure management adhere to the pollinator and wildlife friendly management regime.	Once	Developer			
	Herbicides will not be used within this habitat, except in exceptional circumstances where spot control of invasive flora is required.	n/a	Management Company			
Bats	Erection of a bat box scheme in the form of 4 2FR Schwegler bat boxes which will be erected on the south-western	n/a	Developer & Bat Specialist	Inspection of bat boxes.	Within one year of erection of bat box scheme	Bat Specialist

Habitat/Species	Operational Phase Management/Enhancement			Operational Phase Monitoring		
	Task	**Frequency**	**Responsibility**	**Task**	**Frequency**	**Responsibility**
	elevation of Block B, as shown in RKD drawing: 22001-RKD-ZZ-ZZ-DR-A-130.			Register bat box scheme with Bat Conservation Ireland. This should be undertaken for a minimum of 2 years.	Two years	Bat Specialist
				Monitoring of bat activity and any bat mitigation measures. All mitigation measures will be checked to determine that they were successful.	A full summer bat survey will be carried out post-works.	Bat Specialist
Birds	A minimum of 6 bird boxes will be installed within the dense shrub planting and on trees on the Site. The boxes will be durable. The bird box will be firm and secure to its support, and only paced on trees that are robust and large enough to support bird boxes.	n/a	Developer & Ecologist	Inspection of bird boxes for damage.	Annually between September-February (outside breeding bird season)	Management Company
	Removal of old nests from bird boxes.	Annually between September-February (outside breeding bird season)	Management Company	n/a	n/a	n/a
	Incorporation of 20 Swift Bricks along the parapet of Block C's south-western elevation, as shown in RKD drawing: 22001-RKD-ZZ-ZZ-DR-A-1301. Installation of Swift calling system with guidance from an Ecologist.	n/a	Developer & Ecologist	The Swift Bricks will be monitored annually during the summer by an ecologist to assess whether they are being used by Swifts. Surveys will be carried out once a year for 3 years post installation. The ecologist will also check that the Swift calling system is operational each year and advise if repairs are needed.	Annually for 3 years	Ecologist
Invertebrates	The provision of wild/semi-natural planted areas and the incorporation of some small areas of bare earth (minimum of 10cm by 10cm) and/or low earth banks within these wilder sections.	n/a	Developer initially and then Management Company	Vegetation will be cleared from designated bare soil patches manually. <u>No herbicides</u> will be used.	Annually, each September	Management Company
	Small discrete log piles will be created using the wood from the felled trees on Site. Suitable location is within the area of dense planting along the south-western boundary of the Site (behind Block A).	n/a	Management Company	New logs will be added as the older logs decay.	Several years, or as required	Management Company

7 Conclusion

This BEP describes the various ways in which biodiversity has been considered in the design of the Proposed Development. The enhancement measures and management approaches detailed within this Report will contribute to the support of biodiversity at the Site during its operational lifetime. The management approaches detailed in this Report will be adhered to as will the various recommendations and commitments relating to post construction monitoring of vegetation management regime, bats, birds and pollinator habitat.

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Appendix I – Landscape Plan without Flood Wall (Mitchells & Associates drawing: RIC0001-MA-XX-XX-DR-L-100)

Public realm trees :

SA - Sorbus Aucuparia 'Sheerwater Seedling' - Street - 20-25cmg - Clear stem
BJ - Betula Jacquemontii multistem - Area between phase 1 and 2 - 6m high - multistem
GT - Gleditsia Triacanthos 'Skyline' - Courtyard between block A and B - 20-25cmg

RICHMOND RD PLAZA
CYCLING STANDS
CONNECTION WITH PHASE 1
TRANCE GATE
10no SHELTERED BIKE PARKING FOR ARTISTS
14no SHELTERED BIKE PARKING FOR ARTISTS
FENCING
PLANTER
Phase 1 Landscaping will be amended if granted permission to facilitate access between both schemes
18no VISITOR BIKE PARKING
CRECHE PLAY AREA
4no VISITOR BIKE PARKING
12no VISITOR BIKE PARKING
16no VISITOR BIKE PARKING
28no VISITOR BIKE PARKING
Gated access between phase 1 and 2
16no SHELTERED RETAIL STAFF LONG STAY BIKE PARKING
BOUNDARY WALL WITH FLAT STEEL FENCING
EXISTING WALL / BUILDINGS RETAINED
BOUNDARY DWARF WALL WITH FLAT STEEL FENCING
VENT
RESIDENTIAL GARDENS
PLAYGROUND
CYCLE GREENWAY ALONG TOLKA
MARGINAL PLANTING
WALL + RAILING
STEPS
EXISTING RIVER WALL TO BE MAINTAINED
EXISTING BOUNDARY WALL ON DISTILLERY LOFT LANDS
POSSIBLE FUTURE
STOP
LOADING

NORTH

1:200 @ A1

Reinforced Grass
Roll out turf on minimum 200mm approved topsoil

Proposed native, semi mature Feature Tree Planting
18-20cmg standard native tree

Native, standard and multi stem Tree Planting

Wildflower Meadow
Wildflower Meadow seeding on min. 150mm approved soil

Grass
Amenity Grass seeding on min. 150mm approved topsoil

Mixed hedge
All planting to be planted into 600mm approved topsoil

Dense planting areas
Ornamental plantings and shrubs Planted into 450mm free draining topsoil

Resin Bound gravel for bike parking

Paving

Feature paving for key areas

Seat - 40% with arm and backrest

Bike stands

Resting chairs and tables in the main open spaces

Red line boundary

Ownership boundary

PC Paving Pedestrian Footpath

Boundary wall with flat steel fencing along the site boundary

Dwarf wall with flat steel fencing along the parking entrance

Proposed levels +4.66
Existing levels +4.66

Main gates and boundary walls in perforated corten

Bow top fencing and gate 1.2m high along the Creche's play space

REV	DESCRIPTION	ISSUED BY	DATE

MITCHELL + ASSOCIATES
LANDSCAPE ARCHITECTURE URBAN DESIGN

Unit 5, Woodpark, The Rise, Glasnevin, Dublin 9, Ireland t: + 353 1 454 5066 e:info@mitchellassoc.net

PROJECT
RICHMOND ROAD - PHASE 2

CLIENT
MALKEY LIMITED

JOB NO.
RIC0001

DRAWING
LANDSCAPE MASTERPLAN - Scenario A - Phase 1 accepted

DRAWING NO.
RIC0001-MA-XX-XX-DR-L-100

DRAWN BY	CHECKED	DATE
COLINE FORTIN	AH	19.01.2023
STATUS: PLANNING	**SCALE** 1:200 @ A1	**REVISION** 00

NOTES:
All dimensions are in millimeters unless otherwise stated and shall be checked and confirmed by the contractor on site. Any discrepancies shall be immediately reported to the landscape architects. Work to figured dimensions only - Do not scale from drawing. Do Not Scale. Use Figured Dimensions Only. Not for Construction Purposes unless Specifically Marked.

Appendix II – Landscape Plan with Flood Wall (Mitchells & Associates drawing: RIC0001-MA-XX-XX-DR-L-103)

Reinforced Grass
Roll out turf on minimum 200mm approved topsoil

Proposed native, semi mature Feature Tree Planting
18-20cmg standard native tree

Native, standard and multi stem Tree Planting

Wildflower Meadow
Wildflower Meadow seeding on min. 150mm approved soil

Grass
Amenity Grass seeding on min. 150mm approved topsoil

Mixed hedge
All planting to be planted into 600mm approved topsoil

Dense planting areas
Ornamental plantings and shrubs Planted into 450mm free draining topsoil

Resin Bound gravel for bike parking

Paving

Feature paving for key areas

Entrance Gates

Seat - 40% with arm and backrest

Bike stands

Resting chairs and tables in the main open spaces

Red line boundary

Ownership boundary

PC Paving Pedestrian Footpath

Flood wall to engineers specifications

Flood gate

+4.66 Proposed levels

+4.66 Existing levels

Main gates and boundary walls in perforated corten

Bow top fencing and gate 1.2m high along the Creche's play space

REV	DESCRIPTION	ISSUED BY	DATE

MITCHELL + ASSOCIATES

LANDSCAPE ARCHITECTURE URBAN DESIGN
Unit 5, Woodpark, The Rise, Glasnevin, Dublin 9, Ireland t: + 353 1 454 5066 e:info@mitchellassoc.net

PROJECT
RICHMOND ROAD - PHASE 2

CLIENT
MALKEY LIMITED

JOB NO.
RIC0001

DRAWING
LANDSCAPE MASTERPLAN - SCENARIO B WITH FLOOD WALL

DRAWING NO.
RIC0001-MA-XX-XX-DR-L-103

DRAWN BY	CHECKED	DATE
COLINE FORTIN	AH	19.01.2023
STATUS:	**SCALE**	**REVISION**
PLANNING	1:200 @ A1	00

NOTES:
All dimensions are in millimeters unless otherwise stated and shall be checked and confirmed by the contractor on site. Any discrepancies shall be immediately reported to the landscape architects. Work to figured dimensions only - Do not scale from drawing. Do Not Scale. Use Figured Dimensions Only. Not for Construction Purposes unless Specifically Marked.