BAT SURVEY AND MITIGATION PLAN FOR PROPOSED WORKS AT TINERANA STABLES, OGONNOLLOE, CO. CLARE

Applicants Gary and Michelle McNamara

Scientific agent: Ruth Minogue

Contents

1 Bat Survey and Mitigation Measures – Tinerana Stables County Clare

1.1 Introduction

MEC Ltd were commissioned by Gary and Michelle McNamara (applicants) to undertake a bat survey in response to a request for Further Information by Clare County Council as follows (Planning reg 23-60012)

1.2 Purpose of survey

The purpose of the survey is to re survey the relevant elements of the project in light of the time lag between the previous 2017 survey and within the appropriate season. Figure 1.1. presents the project site and boundary at Tinerana Beg, County Clare (52.862942,-8.454602). The surveys over the activity season 2024 found bat activity and use of the stable building by a number of bat species.

Therefore a derogation license was applied for and issued in Jan2024. The license expired in March 2024 and therefore this updated application reflects the change in proposed timing of the works.

Following a meeting on site with NPWS the following amendments have been made and agreed:

- Swop over the proposed roost spaces with access for bats at the opposite end of the gables on stables A and B
- A conservation approach to the slates and timbers with removal only of what is necessary
- Insert a bat hotbox in Stable A
- Additional tree planting of native species at front of the stone wall facing the Lough Derg shoreline to include alder in the species mix. The additional planting is to be managed for wildlife and not managed as a box hedge.:

Figure 1-1 Project location and boundary

1.3 Competences and limitations

Ruth Minogue MCIEEM undertook the survey work, Ruth has been undertaking bat surveys since 2013 and has attended bat training and conferences as part of CPD. She has previously undertaken full season activity survey work on Newhall and Edenvale SAC (Newhall Stables) over 2013 and more recently bat surveys over 2021 at Ballaghfadda for Clare County Council. Ruth undertakes bat surveys over the active bat season from May to early September for planning applications, master planning and the Acres Traditional Farm Building Schemes and is a licensed ecologist (Bat License Der -Bat 23-96).

Limitations: the weather for the evening surveys was conductive to bat activity and surveys were undertaken during the bat activity season. No limitations were noted.

1.4 DEROGATION LICENSE JUSTIFICATION

This Section addresses the requirement for the derogation to be issued only under specific qualifying circumstances as set out in Regulation 54(2).. Alternatives considered include the demolition of the structure entirely, the postponement or abandonment of the proposed works.

The proposed works will involve minimal interventions in the roof space due to the condition survey undertaken in summer 2024. The building is proposed to be used as a house for the family. In the absence of these work, the fabric will decline further and the roost space which supports several bat species will be adversely affected in terms of increased light via tile slippage/loss, changes in ambient conditions due to gaps in roof and increased draughts/exposure to rain and wind. Failure to undertake these works will result in further decay of the areas of the building most affected, namely roof tiles, timber joists and chimney features.

This derogation is being sought on the basis that there are no satisfactory alternatives and the derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range.

2 Methodology

The following surveys were undertaken:

- Emergence bat survey 11th July 2023
- Re entry bat survey 19th July 2023
- Internal inspection of stables, visual inspection of the bridge 11th and 19th July 2023
- Deployment of static bat detectors 11th to 19th July 2023.

Table 2.1 presents details on the surveys.

TABLE 2-1 BAT SURVEY DATES CONDITIONS AND SUNSET

Date	Sunset/sunrise duration of survey	Weather conditions
11th July 2023	Sunset:21:55. 21:35 to 00.00.	17C, calm Relative humidity 62% 7/8 cloud cover
19th July 2023	Sunrise: 05:32. 04:00 to 05:35.	
11th to 19th July 2023	9 x consecutive nights. Static detectors deployed in Stable A and Stable B. Recording from -15 mins before sunset to + 15 mins after sunrise	

2.1 Equipment

Ruth Minogue led the survey effort. The team used the following survey equipment:

- Elekon Batlogger M2 x 2
- Elekon Batlogger S2
- Torches

Results were analysed using Elekon Batexplorer software. The surveyors were located inside the courtyard for the emergence and re-entry survey whilst the second surveyor surveyed the northern elevation of the stable and the tower structure for emerging and re-entering bats.

Preliminary roost surveys were undertaken on the ground floor of the buildings, and access to the loft space was ruled out on safety grounds due to the poor condition of the floor particularly at Stable B. The bridge was visually inspected during daylight hours.

Bats were identified in the field to species level, *Myotis* sp. were identified to family level. During hand-held bat surveys species were identified in real time by recording peak frequency. Notes were also made on the time of recording and type of behaviour of each bat encountered during the activity surveys. The surveyors stayed in these locations for the duration of the survey.

3 Results

3.1 Desktop results

National Biodiversity Database was searched on 11th July for 10km tetrad (R67) and the following records were returned:

- Brown Long-eared Bat (Plecotus auritus)
- Daubenton's Bat (Myotis daubentonii)
- Lesser Noctule (Nyctalus leisleri)
- Pipistrelle (Pipistrellus pipistrellus sensu lato)
- Soprano Pipistrelle (Pipistrellus pygmaeus)

The bat habitats at landscape scale database was reviewed and this shows the project site and environs is of highest suitability for all bats. See Figure 3.1 below. The National Bat Database of Ireland and the Lesser Horseshoe Bat roost database was also consulted with the following results presented in Figures 3.2 and 3.3 respectively. The closest recorded bat roost in from 2007 and recorded common and soprano pipistrelles and long brown eared. This site is located approximately 300m southwest of the project site. The closest recorded LSH bat roost is east of the town of Tulla over 12km west of the project site.

Figure 3-1 Bat Landscapes

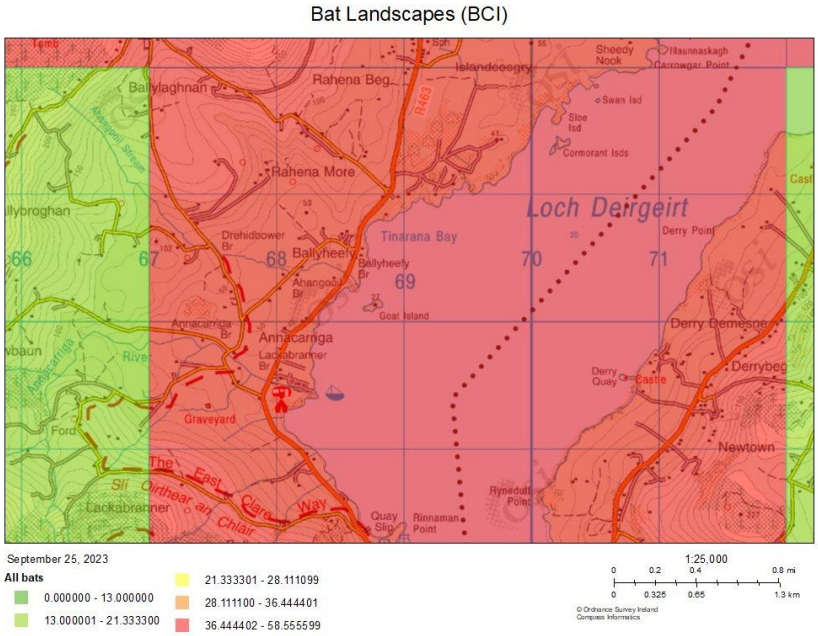


Figure 3-2 National Bat Database

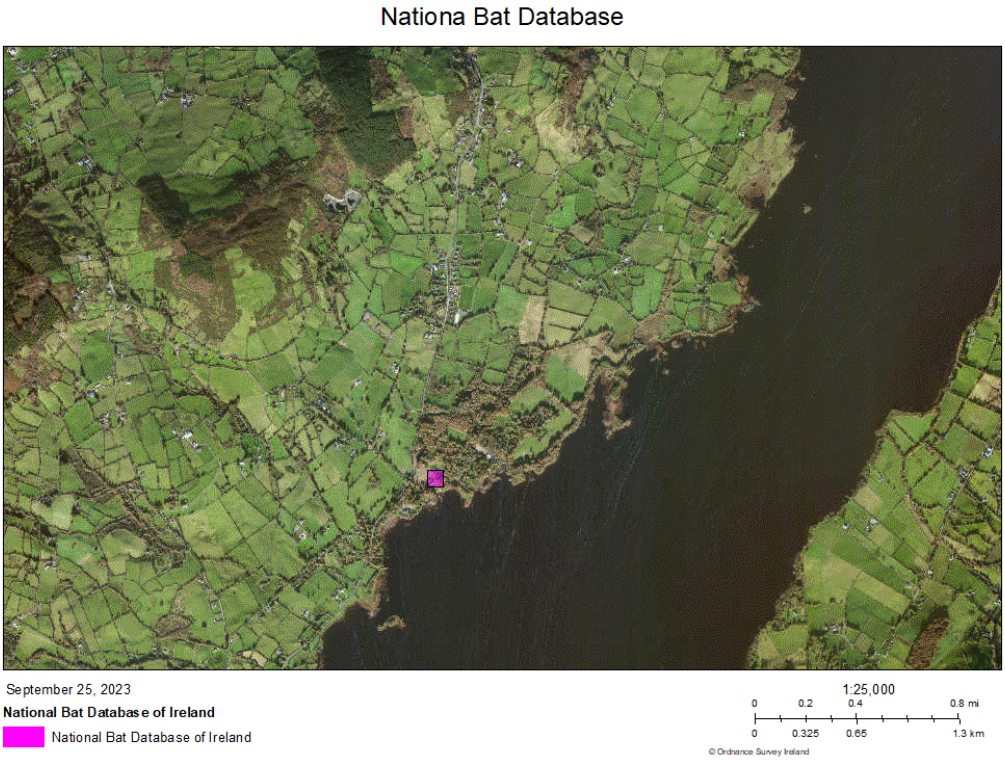
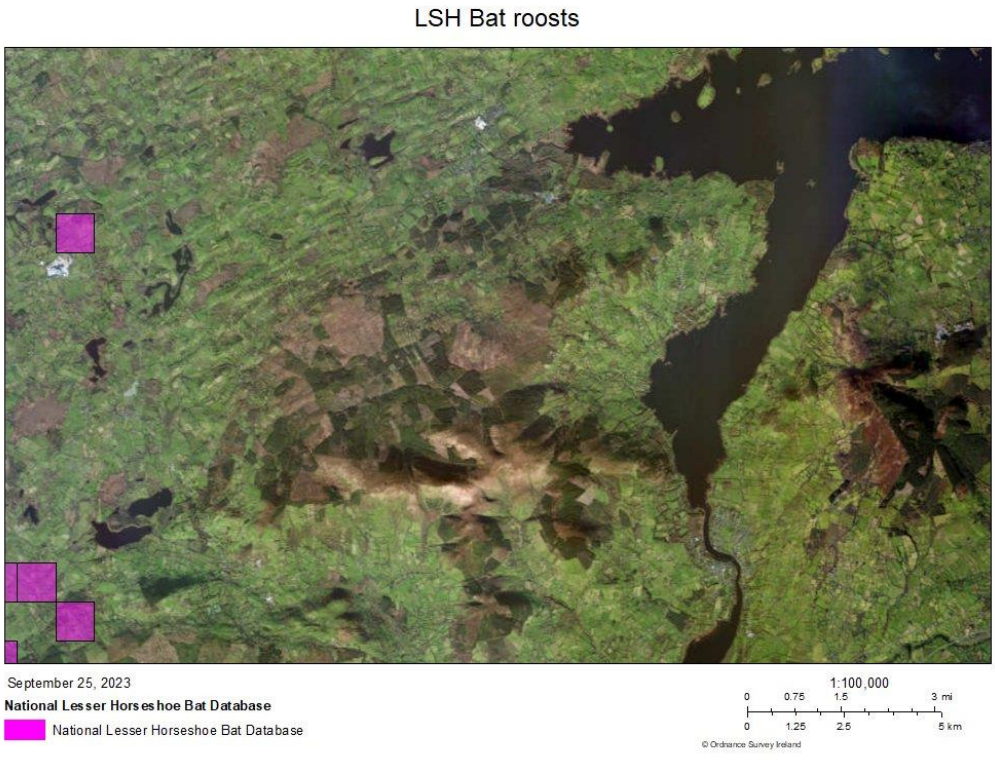


Figure 3-3 Lesser Horseshoe Bats database



3.2 Previous surveys 2017 Stable buildings (October 2017)

In summary, the 2017 survey results, outside the optimum period recorded evidence of roosting Long Brown Eared bats as follows:

"Evidence of roosting bats was observed in the lofts of both Stables A and B. Two individual Brown long-eared bat were observed roosting in the Stable A, while one individual Brown long-eared was observed roosting in the rafters of Stable B. Bat droppings, most likely associated with Brown long-eared bats were noted throughout both stable lofts. In the Stable A, loft space the droppings were concentrated in the loft chamber occupying the southwestern half of this building. Here light levels are very low during daytime and conditions are ideal for roosting bats. Currently light levels are higher towards the northeast gable end of this loft due to the presence of a permanently opened door void to the loft. One pile of droppings was noted in this loft chamber. Prey remains were also noted throughout the loft (see Appendix 1 Plates). In the Stable B loft space bat droppings were also noted throughout with both droppings and prey remains also noted at either gable end.

Individual droppings were noted in the Tower loft to the southeast of the stables. These droppings were noted on a bed below the opened loft space hatch and small numbers were also noted within the loft space. The dimensions of this loft are currently restricted and relative to the lofts in the stable buildings do not offer the same high quality roosting opportunities for bats. No bat field signs were noted in the corrugated stable on the northwest side of the stable courtyard"

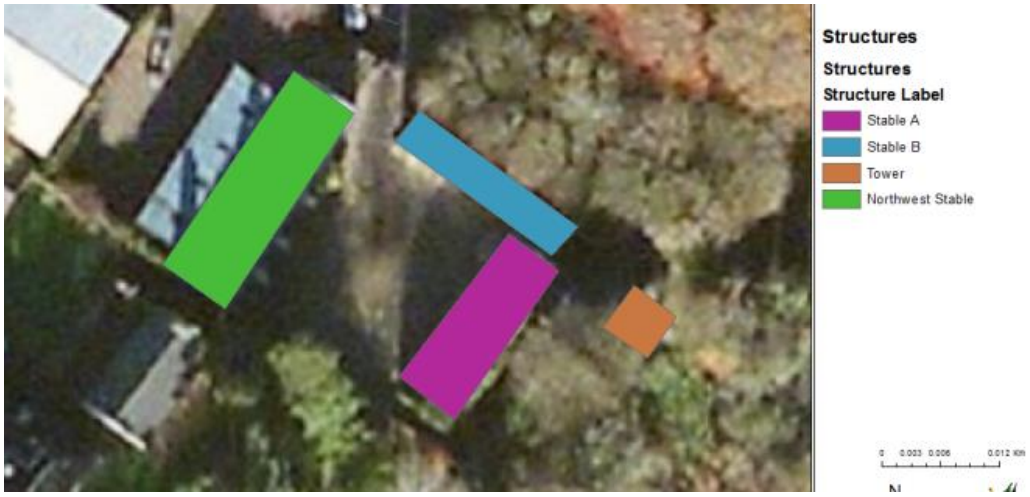
"The masonry-arched bridge where maintenance works are proposed was inspected by the project architect during the summer of 2017. The project architect noted that previous concrete and masonry repointing has been undertaken on the entire bridge arch deck and that no crevices remained within the deck. "

3.3 2023 Survey results

For consistency the following buildings are referred to as per the original bat survey as follows:

- Stable A: south east stable
- Stable B: north east stable
- Northwest stable (corrugated roof)
- Tower – forms part of the existing house
- Bridge

Figure 3-4 Structures referred to Bat survey and mitigation strategy



3.3.1 Visual inspection

The north west stable did not show any visual signs of roosting bats. The ground floor of Stable A had a number of droppings on the ground floor underneath the middle of the building and a dead bat was noted, though decomposition was advanced, so species was not confirmed. No evidence of roosting bats was noted associated with the daytime inspection of the bridge.

3.3.2 Emergence survey 11th July 2023

Two long brown eared bats were observed flying out (dropping and flying) from Stable A at 23:06. See Plate 3.1 below. Bat species recorded during the emergence survey including foraging behaviour particularly at the scrub in the southern corner of the site.

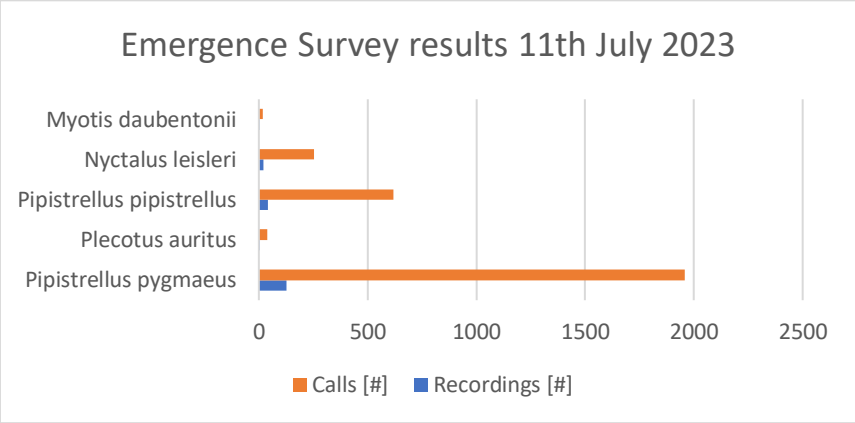
Plate 3-1 Stable A – exit by Long Brown eared bats.

The most frequently recorded species were soprano pipistrelles (127 calls), followed by common pipistrelles (42), and much less frequently recordings of Leisler bats(20), Long brown eared bats (4) and one recording of Daubenton bat. Figure 3.5 presents the overall results of activity over the emergence survey.

No bats were recorded emerging from the tower during the emergent survey of 11th July 2023.

No bats were observed emerging from the northwest stable but individual soprano pipistrelles were observed foraging within the north eastern open access part of this building through the evening.

Figure 3-5 Emergence Survey Results 11th July 2023



3.3.3 Re entry survey 19th July 2023

During the dawn survey of 19th July, between 6 to 8 individual Long Brown eared bats were observed flying into the loft door at Stable B. See plate 3.2 below. No other species were observed returning to the stables during the dawn survey.

Plate 3.2 Access for Long Brown Eared Bats

3.4 Static Detectors

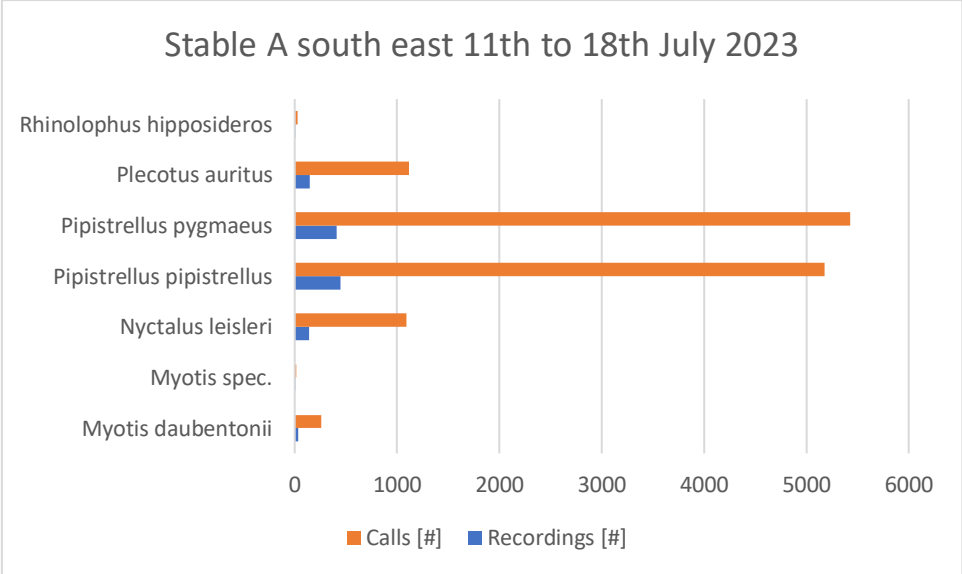
The location of the static detectors deployed (Batlogger S2) is shown below:

Figure 3-6 Blue circles indicating location on loft floor for static detectors 11th to 19th July 2023

3.4.1 Stable A-South East Stable

Over the 8 nights recorded in the loft of Stable A[1], the most frequently recorded species were Common pipistrelle (446 records), Soprano pipistrelle (410 records), Long brown eared (145 records), Leisler (138 records) and Daubenton bats (33 records). Lesser Horseshoe bat was recorded on one night, the13th July at 00:33, 00;34 and 02:11.

Figure 3-7 Stable A Static Detector results 11th to 18th July 2023



3.4.2 Stable B North East Stable

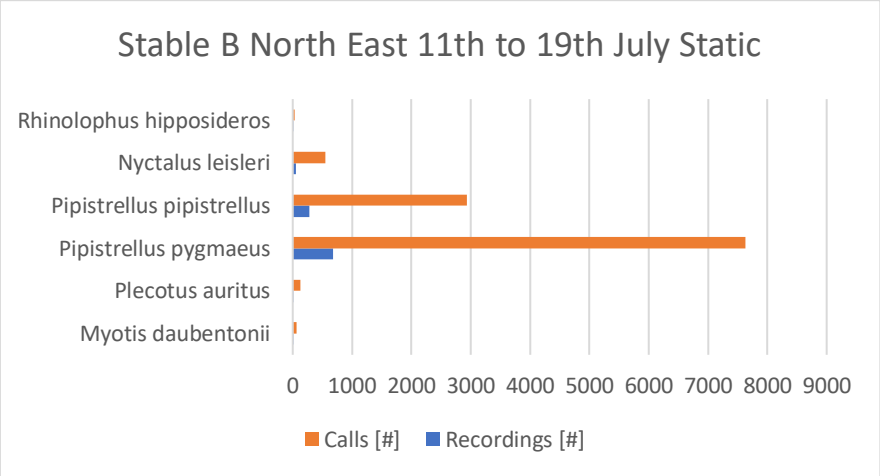
Over the 9 nights recorded in the loft of Stable B[2], the most frequently recorded species were soprano pipistrelle (679 records), followed by common pipistrelle (277 records). Again in much lower numbers,

[1] Eleken 0233 static
[2] Elekon 0773 static

Leisler bats (51 records), Long brown eared (10 records), and Daubenton bats (10 records). Lesser horseshoe bat activity was recorded more frequently in Stable B on the following dates

- 13th July at 00:33
- 16th July at 23:44 to 23:47
- 18th July at 22:53 to 22:57, and 03:29
- 19th July at 00:22.

Figure 3-8 Stable B Static Detector results 11th to 19th July 2023



3.5 Evaluation

Based on the 2023 surveys, both stables support roosting bats of Soprano, Common pipistrelle, Long brown eared bats, with Daubenton and Leisler bats in low numbers and occasional activity by Lesser Horseshoe Bats. The bats that were visually confirmed using both stables were Long Brown Eared bats which supports the results of the 2017 survey.

An analysis of the time of species activities suggests activity by common and soprano pipistrelle throughout the night possibly including foraging in the farm yard and the buildings themselves. No bat activity was observed at the tower during the surveys. However, this may be due to difficulty in access given previously there was evidence of bat use albeit in lower numbers as the stables offer good roosting space.

Therefore, as both stable buildings have been identified as a roost for Soprano, Common pipistrelle, Long brown eared bats, with Daubenton and Leislers in low numbers and occasional use by Lesser Horseshoe Bat, in order to comply with legislation it will be necessary to apply for a derogation license under the Wildlife (Amendment) Act 2000 permitting the disturbance to the stables during the renovation works. Works to the stable buildings will only proceed upon receipt of a derogation licence.

The following section is provided for information and comprises the Bat Mitigation Strategy for the derogation license application process that has been discussed with local NPWS ranger.

4 Bat Mitigation Strategy

The most critical issues for mitigating the potential impact to roosting bats include the maintenance of a suitable structure at the stables of an adequate size, with appropriate bat access points that is free from routine disturbance during the operation phase of the buildings. The timing of construction activity will also be critical in ensuring bats are not significantly disturbed. Mitigation measures proposed to achieve the continued used of the stables and/or tower as bat roosts are outlined in the following sections of this report.

The timing of construction activity will also be critical in ensuring bats are not significantly disturbed.

Mitigation measures proposed to achieve the continued used of the stables as roost are outlined in the following sections of this report.

4.1 Pre Construction Timing

The timing of the renovation works is of significant importance to ensure disturbance to bats is avoided.

- Any works to the roof area for the roosting bats must be undertaken outside the bat maternity season; i.e. 1st October-1st May is the optimum period for carrying out works.
- A preconstruction survey will be undertaken immediately prior to the commencement of construction activity to ensure that no bats are present at the stables.

4.2 Scaffolding and inspections

- The erection of scaffolding can hamper bat access during the bat activity season and should be considering during siting and especially if plastic sheeting is proposed
- Some (if not all) access points must be retained during the works

4.2.1 Disturbance/discovery of bat during construction

In the event that a bat(s) is discovered during any stage of the proposed works the following actions will be taken to ensure that no harm will be caused to the bat(s):

- All works within the vicinity of where the bat(s) is found will immediately stop;

- The bat(s) will be removed by a suitably qualified and licenced Ecologist and placed within a temporary bat box which will be kept under suitable conditions (dark, dry, warm, quiet location) for the duration of the day;

- Works will only commence once it has been established by the Ecologist that no other bats are present within the vicinity of where the previous bat(s) was found;

- Measures will be taken to ensure that the bat(s) cannot reuse the roost in which it was found (e.g. blocking/filling the hole in which it was found; and

- The bat(s) will be released from the temporary bat box by the Ecologist after sunset on the same day that it was removed from Tinerana Stables.

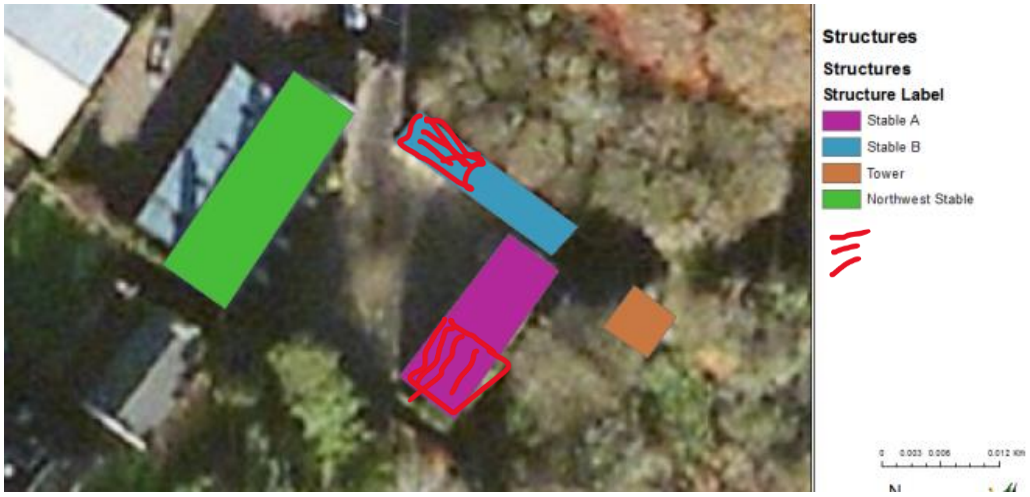
4.3 Ecological Clerk of Works

Given the location of the project adjacent to the Lough Derg (Shannon)SPA, an ecological clerk of works will be appointed to provide oversight and ensure implementation of mitigation measures as they relate to ecological resources, mitigation and monitoring. This is included in the accompanying Natura Impact Statement.

4.4 Bat roosts

Dedicated roosts will be retained in the lofts of both Stables A and B and also within the tower (see Figure 4.1 for locations).

Figure 4-1 Location of dedicated roosts in Stables A and B and C – shown in red is the new locations following NPWS consultation



4.4.1 Roost dimensions

The SOUTHERN section of the Stable A and the WESTERN section of Stable B will be retained as a bat roost. A length of 9m of each loft will be retained to be used as a bat roost. The entire existing width and height of the loft space will be retained within the 9m sections for use as a bat roost. The bat loft space will be sectioned from the remainder of the loft space by a stud wall. The existing timber roost, which allows for an uncluttered and unobstructed loft space will be retained. A doorway within the stud partition will be provided for access to the bat roost.

A HOTBBOX WILL BE PROVIDED WITHIN STABLE A -this will be simply plywood plates over the 3 rafters with a plywood plate either side from the roof ridge, with a large rectangular access area maintained for the bats; this will enhance roosting conditions within the stable by reducing light into the this part of the building and decreasing draughts.

- Access to the bat roost will be restricted to the time of year outside the bat roosting season from April to October. No windows or open external voids will be inserted into the roof space of any of the three bat roosts. This will ensure that the loft spaces remain dark during the

daytime. A loft space will be provided in the tower, the entirety of which will be provided as a bat roost. In total three separate loft spaces will be provided as roosting habitat for bats.

- Bat access to the lofts will be provided at the SOUTHWEST gable end of the Stable A; the WESTERN gable end of Stable B and on the SOUTH facing side of the tower loft.
- Architectural drawings of each of the bat roosts in both lofts and the tower are provided as part of the response to this FI and are reproduced in Appendix 2 below. The extent of the proposed loft area to be retained and used exclusively for bats as part of the renovations are over and above the minimum dimensions required for roosting bats will provide suitable roost site for bats into the future.
- The entrances will be sloped downwards and outwards with waterproofing (e.g. lead lining) below to minimise ingress by rain. An optional canopy above can be used.
- Given the presence of Lesser Horseshoe Bats, the proposed access has been adjusted to accommodate these species, as follows:
- Additional draught reducing and light deflecting baffles could be used in conjunction with this access feature. Any weather shielding will not restrict roost access.
- A letter box access is proposed-. These are installed as low as practically possible on the gable wall but at least 0.4m above the level of the deck. The opening will be a minimum of 20cm x 30cm (600cm2) with a larger area preferable. This ensures that bats are away from clutter during access and will not be impeded by any potential bird's nests.
- The access will be open to facilitate access by Lesser Horseshoe Bats as well as Long Brown eared bats. See figure below for design of letter box access.

Figure 4-2 Letterbox design for roost access (Wildwood Ecology)

4.5 Roost requirements

- Any re-roofing must be provided on a like-for-like basis, using natural slate roof and a bat-friendly roof membrane (i.e. Bitumen 1F felt).
- Breathable roof membranes (BRM's) are not suitable in bat roosts.
- Timbers within the areas of the roost to be retained as bat roosts will remain untreated or if treatment is required, timbers will only be treated by substances that are considered harmless to bats.
- Rough timber should be provided in the roost space to allow bats to hang off them (as opposed to very smooth timber which can be difficult to grip)

- These species are generally found in older roofs of traditional construction giving a large uncluttered void, so typical trussed rafter construction must not be used. Suitable construction methods are purlin and rafter ('cut and pitch') with ceiling ties or possibly attic trusses, which are designed to give a roof void large enough to be used as a room[3].

4.6 Habitat Creation and Enhancement

4.6.1 landscape measures

It is noted a number of mature trees have been felled close to the roosts. These would have provided connectivity for the bats emerging from their roost. It is recommended that a new double staggered hedgerow be replaced along the avenue as indicated on the outline landscape plan. It is recommended this comprise a mix of faster and slower growing native species including Silver Birch with occasional Oak, and a shrub mix of hawthorn, blackthorn and elder. See Appendix B for landscape plan. This has been amended to include new planting at front stone wall facing Lough Derg shoreline. Species mix to also include alder.

4.6.2 Lighting

Additional illumination can deter bats from using a roost. External lighting at the roost access points should be avoided as well as along the shoreline of the Lough Derg SPA.

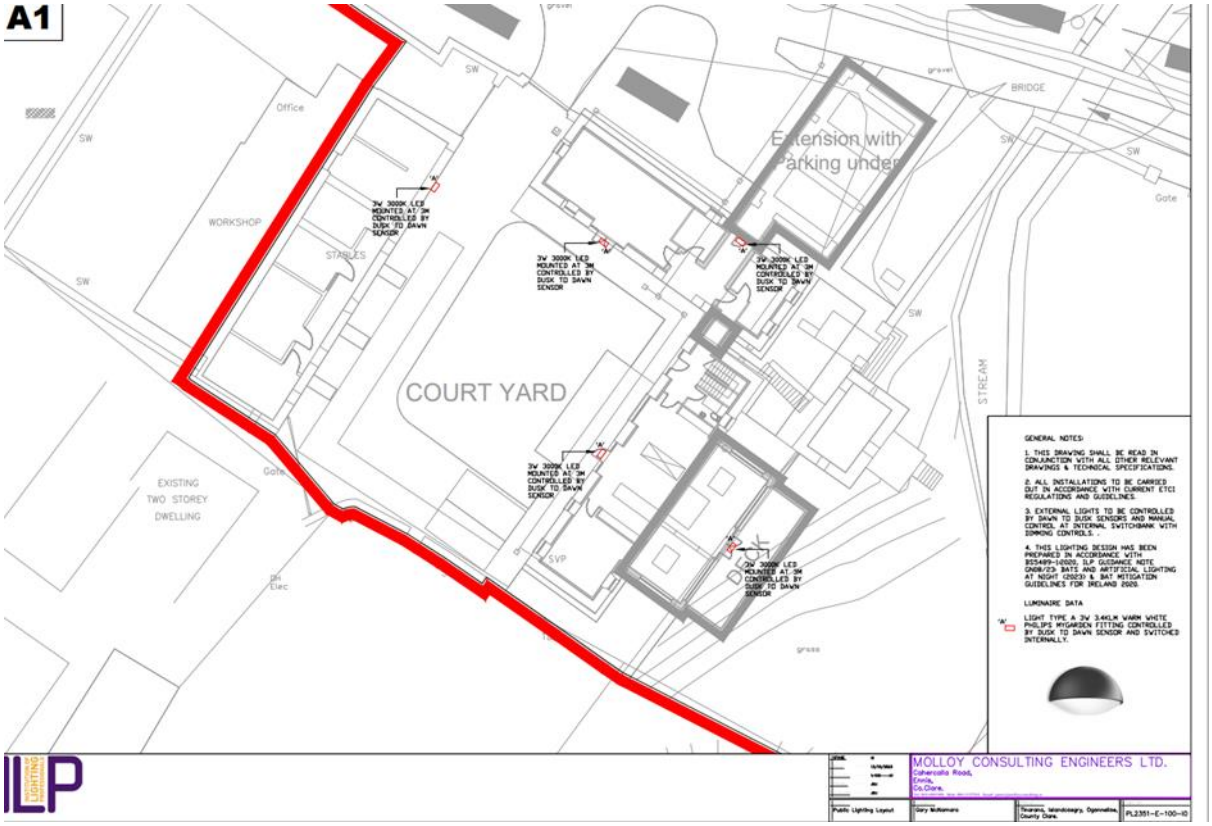
Monitoring of light levels along the woodland and shoreline habitats will be undertaken pre-construction, during construction and post-construction to identify any areas where light spill is affecting background levels during construction or operation. Where monitoring detects light spill is affecting these habitat areas remedial action will be undertaken in conjunction with the contractor and NPWS.

More generally external lighting should be minimised and avoid light spill such as security flood lightings or excessive lighting along the new hedgerow planted avenue and the woodland adjacent to the house and farmyard.

Lux levels close to the roost exit and woodland habitat should aim to be less than 1lux where possible. External lighting should be designed in line with the Guidance Note GN08/23 Bats and Artificial Lighting At Night (2023) and Bat Mitigation Guidelines (2022). This is very important for the presence of Long Brown eared, Daubenton and Lesser Horseshoe Bats as these are very light sensitive species. Figure 4.3 shows the lighting layout that has been reviewed by MEC Ltd and has provided minimal exterior lighting.

Figure 4-3 Lighting plan for external lighting

[3] IWM 134 (2022) Bat Mitigation Guideline pg 54



4.7 Post construction and Operation Phase monitoring

On completion of the proposed development and bat mitigation measures a full report will be compiled and presented to the Wildlife Licensing Unit.

In order to monitor the success of the mitigation measures, monitoring of the roost will be undertaken on the first, third and fifth year after the completion of the renovations. The monitoring will be undertaken by an experienced bat ecologist and will involve bat inspection surveys and bat activity surveys at the roost site to establish the roost size. The results of monitoring surveys will be provided to the NPWS.

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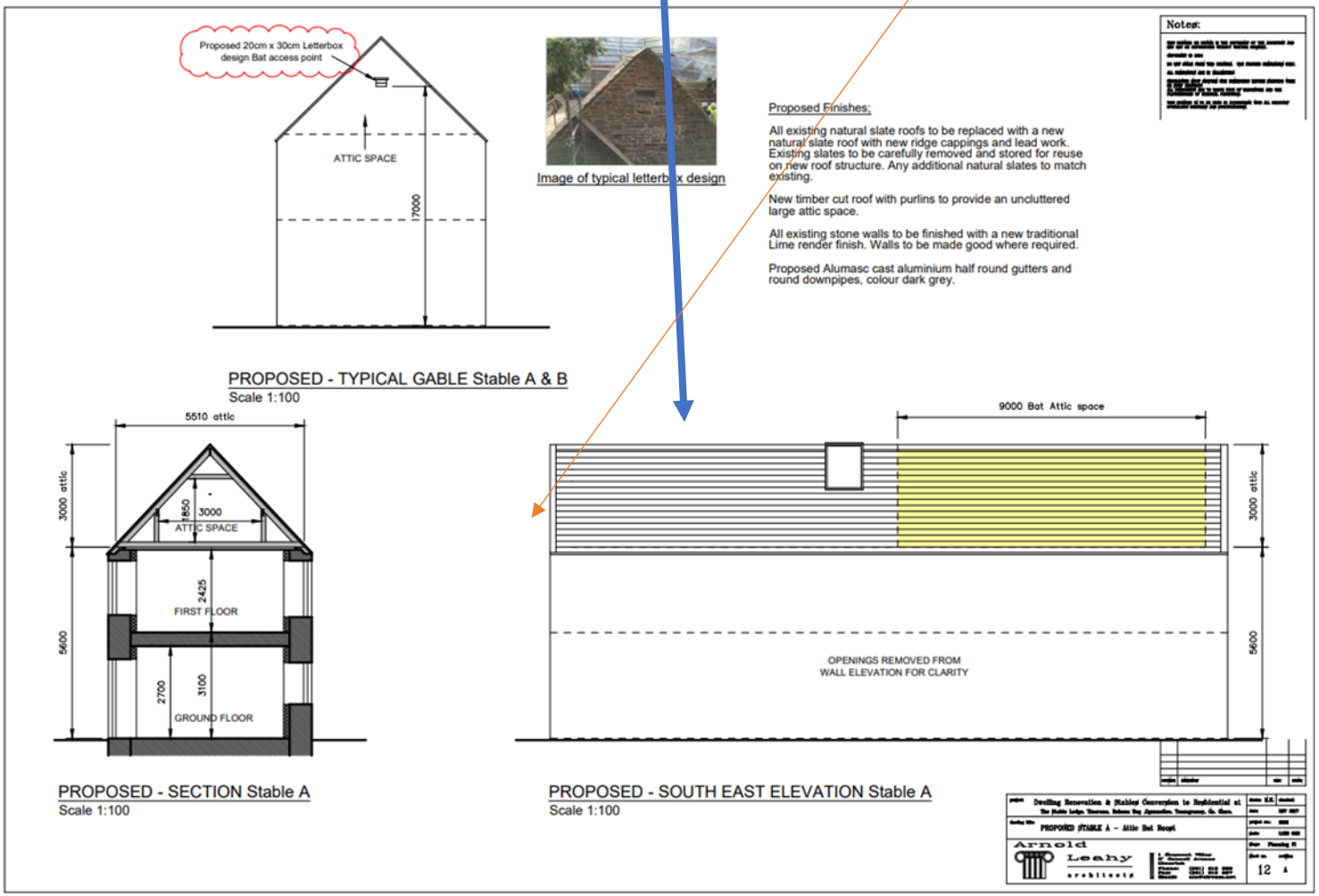
P. F. Reason / Conservation Evidence (2017) 14, 52-57 52 ISSN 1758-2067 Designing a new access point for lesser horseshoe bats, Gloucestershire, U
Websites:
www.biodiversityireland.ie
www.batconservationireland.ie
www.vincentwildlifetrust.ie
www.batsorg.uk
www.eurobats.org

Appendix A: Roost layouts and designs for Stable A and B and Tower.

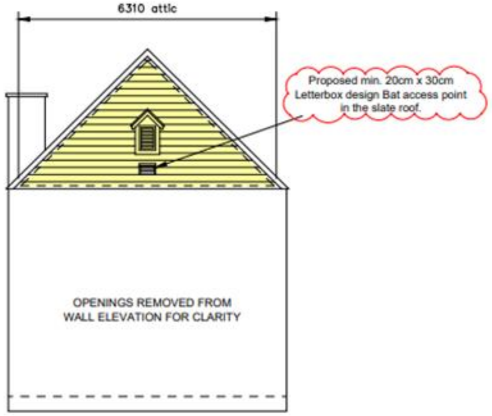
The roost spaces have now been swopped over as indicated on the arrows below remaining at 9000 x 3000 with access at other gable indicated with red arrow



Notes:

Example of roof letterbox design

EXISTING TOWER TO BE STRIPPED BACK TO ITS ORIGINAL RECTANGULAR SHAPE AND CLOSE UP MODERN OPENINGS AND MAKE GOOD.
EXISTING MODERN SLATE ROOF & FASCIA TO BE REPLACED WITH A TRADITIONAL NATURAL SLATE ROOF AND NARROW STONE FASCIA.

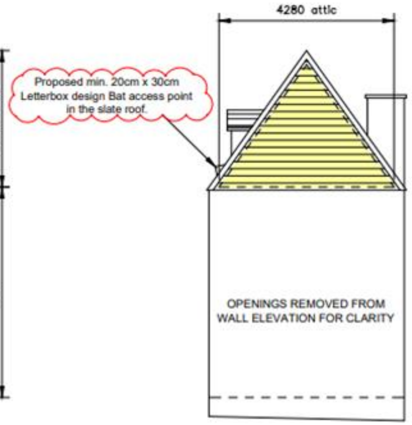


PROPOSED - SOUTH EASTERN ELEVATION Tower

Scale 1:100

PROPOSED - SECTION Tower

Scale 1:100



PROPOSED - SIDE ELEVATION Tower

Scale 1:100

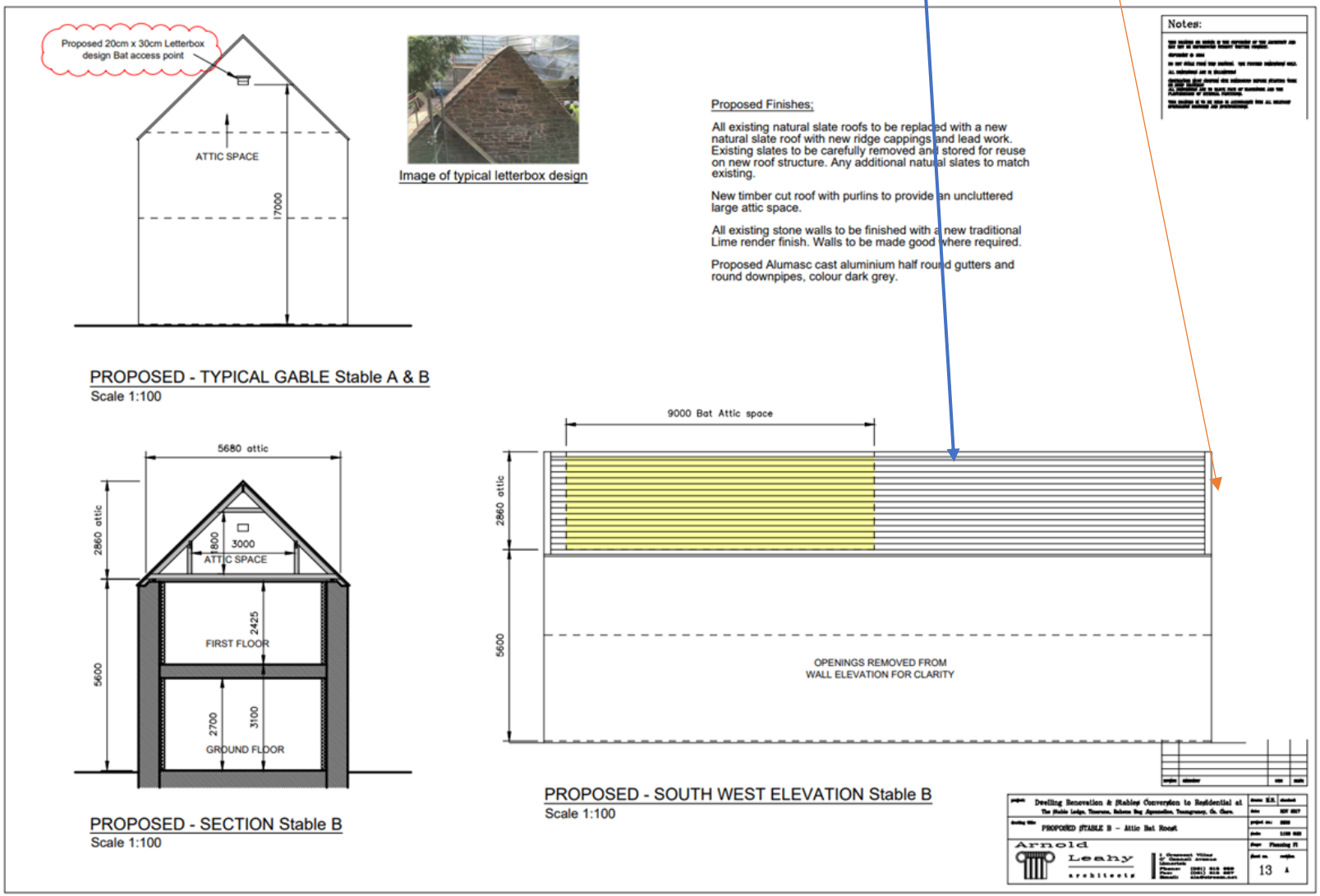
Dwelling Renovation & Stables Conversion to Residential at

PROPOSED TOWER – Attic Bat Roost

Arnold Leahy architects

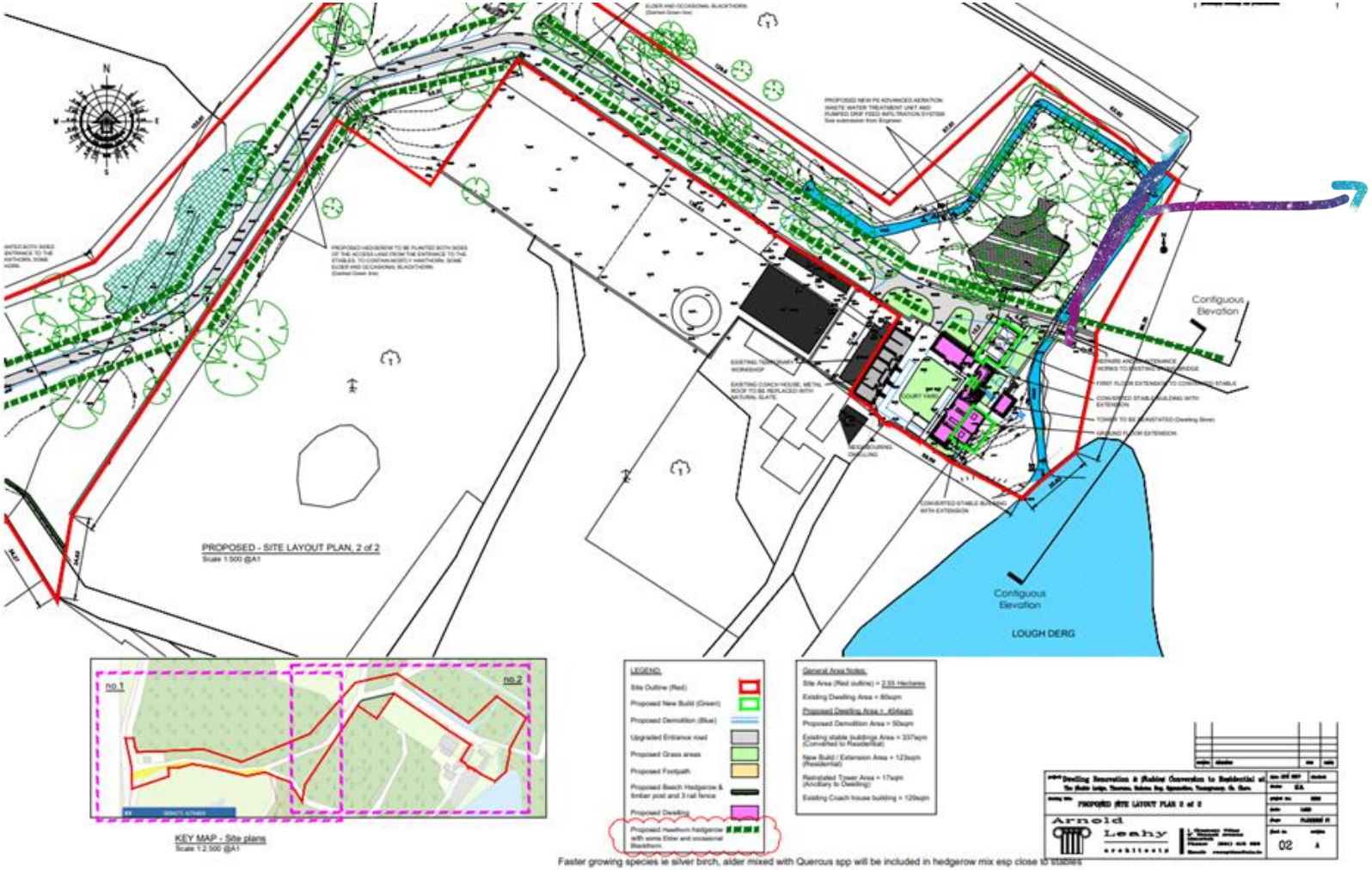
11 A

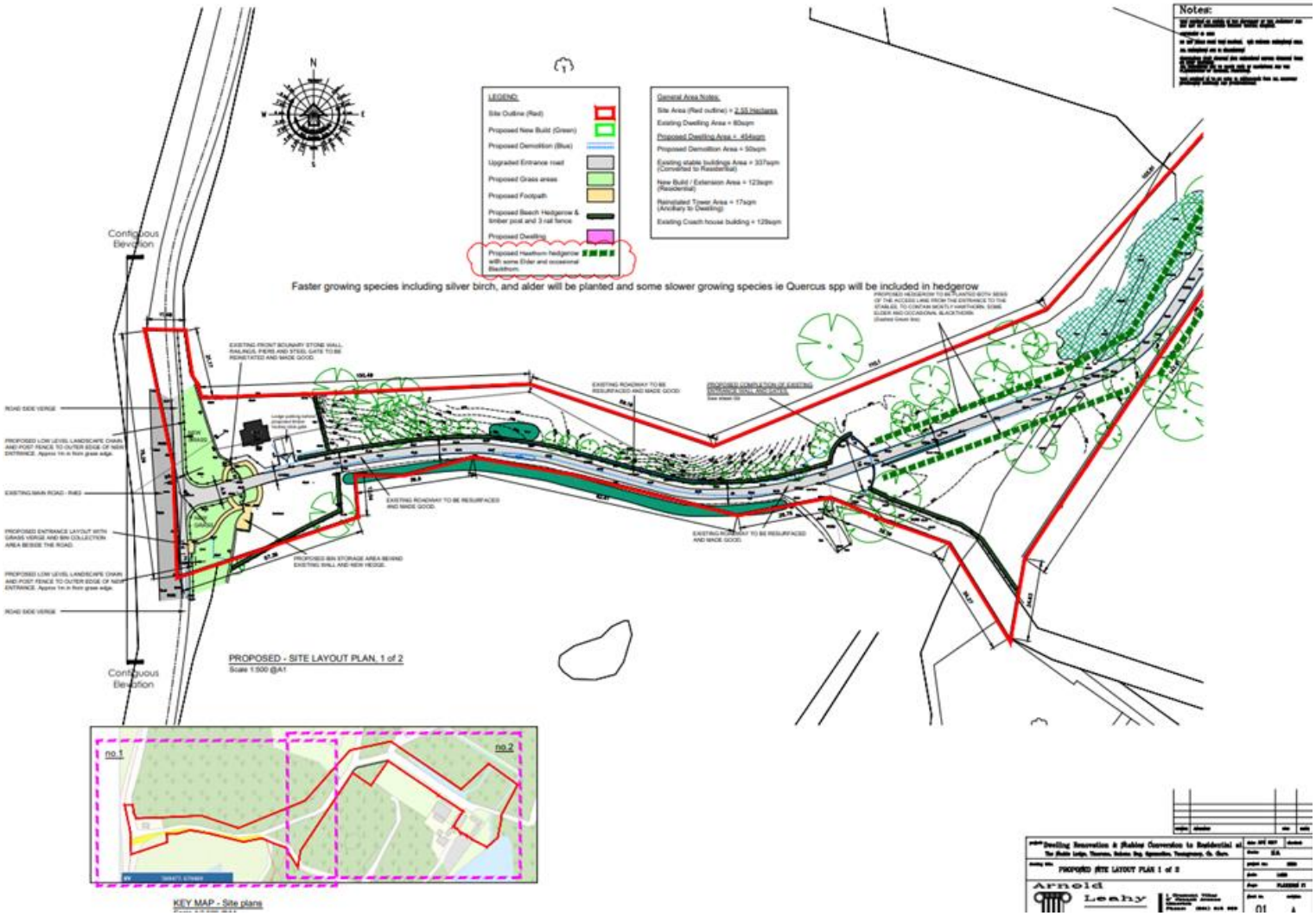
Following consultation with NPWs, this roost space has been swopped over – see blue arrow and similarly access for bats on other gable – see red arrow



Appendix B: Landscape plans

Additional planting of native species including alder to be managed for wildlife ie not closely cut or box hedge – to be provided along the stone wall facing Lough Derg shoreline




Notes:
N
LEGEND:
Site Outline (Red)
Proposed New Build (Green)
Proposed Demolition (Blue)
Upgraded Entrance road
Proposed Grass areas
Proposed Footpath
Proposed Beech Hedgerow & timber post and 3 rail fence
Proposed Dwelling
Proposed Hawthorn hedgerow with some Elder and occasional Blackthorn.
General Area Notes:
Site Area (Red outline) = 2.55 Hectares
Existing Dwelling Area = 80sqm
Proposed Dwelling Area = 454sqm
Proposed Demolition Area = 50sqm
Existing stable buildings Area = 337sqm (Converted to Residential)
New Build / Extension Area = 123sqm (Residential)
Reinstated Tower Area = 17sqm (Ancillary to Dwelling)
Existing Coach house building = 129sqm
Faster growing species including silver birch, and alder will be planted and some slower growing species ie Quercus spp will be included in hedgerow
Contiguous Elevation
Contiguous Elevation
ROAD SIDE VERGE
EXISTING MAIN ROAD - R463
ROAD SIDE VERGE
EXISTING FRONT BOUNDRY STONE WALL RAILINGS, PIERS AND STEEL GATE TO BE REINSTATED AND MADE GOOD.
EXISTING ROADWAY TO BE RESURFACED AND MADE GOOD.
EXISTING ROADWAY TO BE RESURFACED AND MADE GOOD.
EXISTING ROADWAY TO BE RESURFACED AND MADE GOOD.
PROPOSED BIN STORAGE AREA BEHIND EXISTING WALL AND NEW HEDGE.
PROPOSED - SITE LAYOUT PLAN, 1 of 2
Scale 1:500 @A1
no.1
no.2
KEY MAP - Site plans
Arnold
Leahy

Appendix C: Photographic Record

Photographic record -

	
view to The Tower from north	Stable B loft access used by Long Brown Eared Bats
	
Interior of loft space Stable B	Interior of loft space Stable A

	
Northern exterior of stable B	Looking across to shoreline of Lough Derg at Tinerana Bay