APPENDIX C9A.04

Bat House Description

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A bat house is recommended to be constructed in the area of Ballindraite in order to mitigate for the potential impact of the Proposed Development on the soprano pipistrelle maternity roost located in this area (Building 41). This building is located in a point that the Proposed Development is located both south and north of the roost and, may result in the loss of the roost due to disturbance from the construction and operation of the Proposed Development. As per Marnell *et al.* (2022)[1], the mitigation/compensation requirement for this "Maternity sites of common species" is "Timing constraints. More or less like-for-like replacement. Bats not to be left without a roost and must be given time to find the replacement. Monitoring for 2 years preferred".

The structure where the maternity roost is located is a 1.5 storey railway building, currently not in use. Therefore, the bat house proposed should aim to replicate this structure and have the following:

- 3 m × 3 m (internal floor space) 1½ storey (internal height of 5 m from floor level to highest point of roof space) building constructed from concrete block cladded with natural stone/brick combination (insulation between the two walls).
- A-roof, constructed of natural slate and 1F bitumous felt (no modern breathable felt is to be used in the bat house) on timber joists (9 x 2 inch joists). There is an attic space with loft entrance internally from the ground floor.
- Entrance points into the attic space are along the facia and soffit and through bat vents along the ridge tiles.
- The ground floor entrance will be a solid door (locked).

Internally, the following is recommended:

- The floor of the building is to be a layer of crushed stone (2/3 inch down) (minimum use of concrete is recommended in order to reduce the negative impact of this material on the thermal conditions of the building) with a upper layer of 804 Clause (crushed) stone.
- A loft space is to be constructed. A floor is to be constructed dividing the building into a ground floor and loft floor. Timber joists (9×2 inch timber) will be sheeted with marine plywood (leaving the timber joists exposed at the ground floor level (i.e. under the plywood sheets) – this will provide additional roosting space for bats).
- To allow bats to fly between the loft and ground floor, the trap door opening should remain open.
- Ladder / stairwell (with safety rail) to be constructed to allow human access to loft to undertake monitoring of this section of the bat house.
- Additional bat roosting structures will be inserted internally and externally into the walls of the structure.

The success of purpose-built bat houses is dependent on a large number of factors and these will be addressed as much as possible in this section. But strict adherence to the measures recommended is required in order to increase its success.

Additional roosting:

- **External Walls –** Insert 9–12 bat tubes along the external walls to provide roosting sites for crevice-dwelling bats. These should be inserted at a minimum height of 3 m.
- **Internal Walls –** Hang 10 units of Integrated Woodstone Bat Box, 5 on a wall on the ground floor level (attached to the wall at the highest point possible) and 5 on a wall along the wall plate in the loft.
- **Landscaping –** Mature trees (native species) and native hedgerow is required to be planted around the proposed bat house to buffer from agricultural activity and to provide shelter and bat commuting habitat immediately adjacent to the structure and to ensure that it is connected to the adjacent woodland and

[1] Marnell, F., Kelleher, C. & Mullen, E. (2022) Bat mitigation guidelines for Ireland v2. *Irish Wildlife Manuals*, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

treelines. Fast-growing tree species (e.g. alder) is recommended to ensure that the new landscaping is established quickly.

In addition, in order to ensure that the bat house is fit for purpose, it is essential to monitor it for bat activity. A monitoring programme to determine the bat usage of bat house is required for a minimum of 2 years. This will entail static surveillance, summer emergence surveys, and internal temperature monitoring of loft space.

NOTE: The area in the vicinity of the bat house should remain a dark zone. No artificial lighting is permitted within or adjacent to the bat house and a dark zone is required from the bat house location to the prime foraging habitat in vicinity of the bat house location.

NOTE: It is essential that the bat specialist regularly meets the contractor on-site in relation to the construction of the bat house to ensure that the building is constructed according to recommendations presented in this document.

The proposed location of the bat house should be north-east of the current location of the maternity roost and north-east of the mainline of the Proposed Development. Bats roosting in the building will continue to have commuting access to the River Deele, located to the south. However, the Proposed Development may potentially impact on safe commuting to the north and north-east of the current roost location. Therefore, an alternative bat house should be located to the north-east of the mainline of the Proposed Development where bats will have access to suitable foraging and commuting habitat associated with woodland located in the townland of Cavanacor. Consultation with Barry Transportation and Donegal County Council is required to determine the location of the bat house.