

Derogation Licence Application and Bat Survey Report

Newhall Estate Stables
Redevelopment,
Co. Clare.

January 2025

Prepared for:
Transmoor Limited



O'DONNELL 
ENVIRONMENTAL

Summary

Project: Proposed redevelopment of Newhall Estate stables, Co. Clare.

Coordinates: R 31860 73584 (IG); 531816 673614 (ITM).

Report by: Tom O'Donnell BSc (Hons) MSc CEnv MCIEEM.

Statement of Competence: O'Donnell Environmental is an independent environmental consultancy established by Tom O'Donnell BSc (Hons) MSc CEnv MCIEEM in 2019. O'Donnell Environmental is a Chartered Institute of Ecology and Environmental Management (CIEEM) 'Registered Practice' which demonstrates our commitment to high professional standards, accountability and the delivery of the best outcomes for biodiversity and our Clients.

Tom O'Donnell is a Chartered Environmentalist and a full member of the Chartered Institute of Ecology and Environmental Management. He was awarded a BSc in Environmental and Earth System Science [Applied Ecology] in 2007 and an MSc in Ecological Assessment in 2009, both from UCC. Tom has 15 years professional experience in the environmental industry, including working on projects such as windfarms, overhead power lines, roads, cycleways and residential developments. Tom is licensed by NPWS for roost disturbance (Ref: DER/BAT 2023-16) and to capture bats (C25/2023).

Colm Breslin BSc (Hons) is a Qualifying member of the Chartered Institute of Ecology and Environmental Management. He was awarded a BSc in Biological, Earth and Environmental Sciences [Ecology and Environmental Biology] in 2023 from UCC. Colm has experience in habitat mapping, bat activity surveys and preliminary roost assessments for a variety of windfarm and residential developments. Colm is licenced by NPWS for roost disturbance (Ref: DER/BAT 2024-09) and to capture bats (C03/2024).

Claire McCarthy BSc (Hons) MSc is a Qualifying member of the Chartered Institute of Ecology and Environmental Management. She was awarded a BSc in Biological, Earth and Environmental Sciences [Zoology] in 2018 and an MSc in Marine Biology in 2022, both from UCC.

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1 Introduction

O'Donnell Environmental was commissioned by Transmoor Limited to undertake an Appropriate Assessment (AA) in relation to the redevelopment of former agricultural buildings at Newhall Estate, Ennis, Co. Clare which contain an internationally important maternity roost of Lesser Horseshoe Bat within the former stables complex (NPWS, 2013).

Newhall Estate is located approximately 4km south of Ennis, Co. Clare and for the purposes of the current report can be described as consisting of:

- Newhall House (currently in the final stages of renovation which was subject of a previous derogation licence and planning application).
- The former stables complex which is in an advanced state of dereliction which house the original roosting location of Lesser Horseshoe Bat (Roost ID: 44; NPWS, 2018). Gate Lodges recently identified as housing a maternity colony of Lesser Horseshoe Bat (Tom O'Donnell *pers. comm.*).
- Bespoke replacement roost constructed by the NPWS (see **Figure 1.1**).

The Clients landholding contains mostly native woodland forestry and intensive agricultural grassland bordering Killone Lough and Ballybeg Lough to the east. The landscape is generally characterised by well intact landscape features of native woodland, mature hedgerow and scrub occurring in a mosaic around the proposed development which provide suitable foraging and commuting habitat for a wide variety of bat species.

A site location map is presented in **Figure 1.1**. The Client intends to renovate the former stables complex in its entirety for tourism. The proposed works in the absence of mitigation will see the complete loss of this structure for roosting Lesser Horseshoe Bat (Roost ID: 44).

The aims of the study were to assess and evaluate the likely importance of the existing structures to bats.

This report is informed by the following documents which are submitted as part of the current planning application including:

- Site Layout Lighting (see **Appendix B**)
- The Stables Elevation Drawing (see **Appendix C**)
- The Stables Ground Floor Drawing (see **Appendix C**)
- The Stables First Floor Drawing (see **Appendix C**).



2 Methodology

This report was informed by desk-based and site-based assessments. Site visits were carried out by Tom O'Donnell BSc (Hons) MSc CEnv MCIEEM, Claire McCarthy BSc (Hons) MSc and Colm Breslin BSc (Hons) on 17th May, 18th July, 3rd August and 25th September 2023. Full access to the site was provided by the Client.

Site meetings and follow up discussions were held between the Applicant, NPWS Representatives (Elaine Keegan & Helan Carty), Client representatives and Tom O'Donnell. The decisions made in these meetings are incorporated in the proposed design and measures.

2.1 DESKTOP REVIEW

A desktop review of publicly available relevant data was undertaken on the National Biodiversity Data Centre (NBDC) and National Parks & Wildlife Service (NPWS) websites. The National Biodiversity Data Centre was reviewed for relevant data, specifically i) existing species records for the 10km square in which the study site is located (R37) and ii) an indication of the relative importance of the wider landscape in which the study site is located, based on Model of Bat Landscapes for Ireland (Lundy *et al.* 2011). In the latter, the index ranges from 0 to 100, with 0 being least favourable and 100 most favourable for bats.

Designated nature conservation sites within the wider hinterland of the proposed redevelopment were considered also under the EU Habitats Directive¹ while SPAs designated under the EU Birds Directive².

A request to the NPWS for information pertaining to Lesser Horseshoe Bat roost records (including counts) within 10km of Newhall Estate was made by O'Donnell Environmental on the 21st August 2023. These locations are considered sensitive data due to the identification of private residences and are thus not discussed in specific detail but were considered extensively for the purpose of this report. Consultation was continually sought with the district NPWS conservation ranger Elaine Keegan throughout the report process.

Roost count data was provided by Elaine Keegan, NPWS, based on an emergence count carried out by NPWS on 26th July 2024.

2.2 VISUAL ROOST SURVEY

Daytime visual assessments of the exterior and interior building structures were carried out by Tom O'Donnell, Claire McCarthy and Colm Breslin on 17th May, 18th July, 3rd August and 25th September 2023 to identify any bat roosting potential within the buildings. Signs of bat use include bat droppings, feeding remains, potential bat access points identified by characteristic staining and scratches, noise made by bats etc.

¹ Council Directive 92/43/EEC on the conservation of natural habitats and wild flora and fauna, as amended by Council Directive 97/62/EC.

² Directive 2009/147/EC (Birds Directive) on the conservation of wild birds (the codified version of Council Directive 79/409/EEC as amended).

Daytime visual roost surveys consisted of:

- Exterior inspection of Newhall House, two-storey outbuilding housing the original Lesser Horseshoe Bat maternity colony, entrance gate lodges and adjacent outbuildings at ground level.
- Interior inspection of Newhall House, two-storey outbuilding, entrance gate lodges, NPWS bespoke roost and additional associated stonework outbuildings.

A detailed visual assessment of all relevant structures was carried out following guidance set out in Collins (2023). Interior structures were assessed to determine how bats used the wider interior spaces of the former stables complex, the connectivity between interior structures and any potential access/egress points. This helped inform subsequent bat activity emergence and re-entry survey methodology. The survey was non-destructive, and relevant Potential Roost Features (PRFs) were visually inspected to identify any evidence of bat roosting. Potential Roost Features (PRFs) are described according to the scheme outlined in **Table 2.1**, below.

Table 2.1. Scheme for describing the potential suitability of structures for bats.

Suitability	Description
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible	No obvious habitat features likely to be used by roosting bats, but a degree of uncertainty remains as seemingly unsuitable features may be used on occasion.
Low	A feature with one or more potential roost sites that could be used by individual bats opportunistically. Potential roost sites which do not provide appropriate conditions and / or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats due to characteristics and surrounding habitat but unlikely to support a roost of high conservation status.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

After 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition)', Collins (2023).

2.3 BAT ACTIVITY SURVEYS

Emergence and passive bat activity surveys were carried out to determine the current status of the known Lesser Horseshoe Bat maternity colony within the proposed development, alongside any other bat species that may be roosting within the disused structures.

2.3.1 Emergence / Re-entry Survey

Three emergence surveys were carried out on the exterior of the proposed structures on 18th July, 3rd August and 25th September 2023. Surveys followed Collins (2023) and aimed to determine access/egress and counts of the identified Lesser Horseshoe Bat maternity roost within the two-storey outbuilding and entrance gate lodge, alongside their associated flight lines and direction of travel upon egress of the structures. The survey also aimed to identify the presence, if any, of any other species or roosting locations associated with the structure.

The survey was carried out by bat-licensed surveyors Tom O'Donnell and Colm Breslin, alongside Claire McCarthy and Frankie Carroll. Surveyors were positioned to maximise views of the structures, in combination with night vision aids. Three Guide IR Pro 19 thermal imaging cameras were positioned to optimise views of main access/egress points and predicted commuting directions, following best

practice guidelines. Images showing the field of views from camera placements are shown in **Plate 2.1** to **Plate 2.7**. Particular attention was applied to any identified access/egress points noted during previous daytime visual assessments of the exterior and interior structures. Flight lines and commuting directions of Lesser Horseshoe Bat emerging from the structure were noted by surveyors, including important local landscape features utilised early in the night.

Echolocation recordings were made on handheld Echo Touch Meter Pro 2 full spectrum recorders and heterodyne Batbox III D. Surveys were carried out during suitable weather conditions.

2.3.2 Passive Bat Monitoring

Passive bat monitoring was carried out between 18th July and 3rd August for a total of 16 survey nights using WA Song Meter Mini full-spectrum detector. The survey period involved one detector placed within the woodland immediately north of the Lesser Horseshoe Bat maternity roost within the two-storey outbuilding (see **Figure 1.1**). The purpose of monitoring was to quantify local bat activity levels, species richness and the significance of interaction within the development footprint.

Bioacoustics analysis of bat sonograms was carried out according to the parameters set out in Russ (2012; 2021) and Middleton et al. (2014). Kaleidoscope Pro software was used to aid analysis and all calls were manually verified.

2.4 SURVEY LIMITATIONS

Full access to the interior and exterior of the building and adjoining land was provided by the Client. Two bat surveys took place within the bat maternity season, with the final survey taking place outside the bat maternity season as per Collins (2023) for 'high' suitability roosting features. Full interior access to the two-storey outbuilding housing the original Lesser Horseshoe Bat maternity colony (Roost ID: 44) was not possible due to the advanced state of disrepair the building was in at the time of surveys. However, interior inspection of the roosting location was possible through ladder access on the second floor, and data was additionally supplemented by NPWS roost monitoring and previous research papers published on the roost (e.g. McAney and Fairley, 1989).



Plate 2.1 Example image of thermal camera covering the former stables complex containing the original roosting location of Lesser Horseshoe Bat (Roost ID: 44).



Plate 2.2 Example image of thermal camera covering the western aspect of the former stables complex adjoining the main courtyard.



Plate 2.3 Example image of thermal camera covering the northern aspect of the former stables complex (Roost ID: 44) adjoining mature woodland with surveyor positioned adjacent to egress point.



Plate 2.4 Example image of thermal camera covering the northern aspect of the former stables complex (Roost ID: 44) adjoining mature woodland with Lesser Horseshoe Bat emerging (red) and travelling north.



Plate 2.5 Example image of thermal camera covering the eastern aspect of the former stables complex adjoining the eastern courtyard.



Plate 2.6 Example image of thermal camera covering the northern gate lodge housing the newly discovered Lesser Horseshoe Bat maternity roost with bats emerging (red) and travelling north.



Plate 2.7 Example image of thermal camera covering the eastern aspect of the two-storey outbuilding adjoining the eastern courtyard

3 Results

The current application relates to the renovation of derelict agricultural buildings. Adjoining land uses include improved agricultural grassland, river and lake networks, and native woodland. The residential dwelling was renovated under separate derogation license and planning application.

The proposed development boundary hosts three distinct roosting locations of Lesser Horseshoe Bat, a Qualifying Interest of the Newhall and Edenvale Complex SAC (NPWS, 2013), of which all are confirmed maternity roosting locations (see **Figure 1.1** for locations). The proposed development and surrounding environs provide a wide range of suitable foraging and commuting habitat for Lesser Horseshoe Bat.

3.1 DESKTOP SURVEY

3.1.1 Sites of International and National Importance

The development site is located within the Newhall and Edenvale Complex SAC (2091). 13 SAC's contain Lesser Horseshoe Bat as a Qualifying Interest within 15km of the site boundary.

All Natura 2000 sites within 15km of the proposed development are shown in **Figure 3.1** and have been reviewed extensively for this report and the potential for impacts considered. Foraging areas and commuting landscape features within 2.5km of Lesser Horseshoe Bat roosts are considered important for the success of a maternity colony (Schofield, 2008). Considering this distance for Lesser Horseshoe Bat, the scale of the proposed development, and relevance to the Qualifying Interests of the Newhall and Edenvale Complex SAC, the relevant proximal Natura 2000 sites from the proposed development are summarised below in **Table 3.1**. Knockanira House SAC and Pouladatig Cave SAC are the most proximal designated sites for which Lesser Horseshoe Bat is also a Qualifying Interest, located approximately 4.13km southwest and 3.14km northwest respectively.

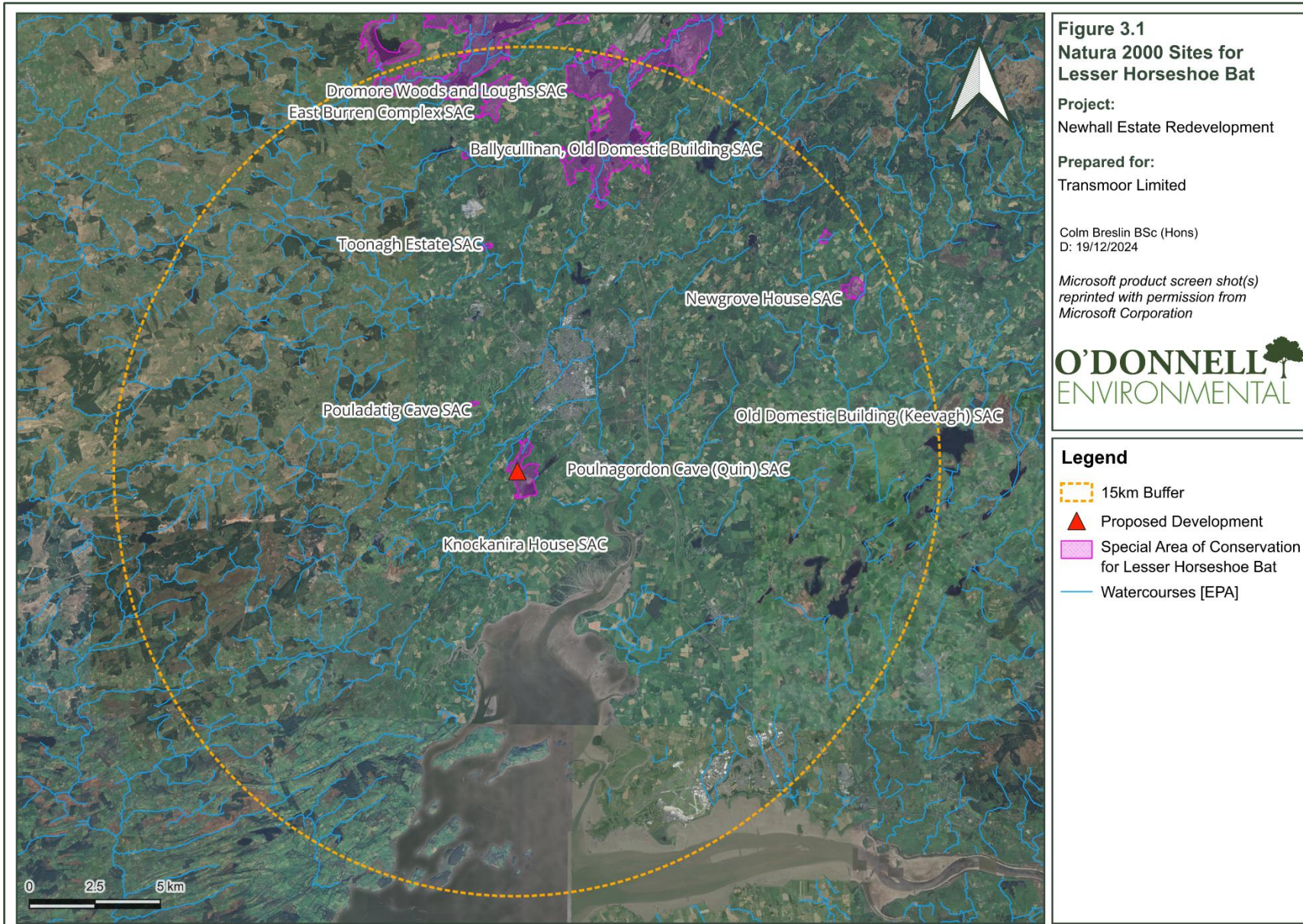
No further sites, beyond the standard 15km search area, are considered to be relevant to the current assessment due to the nature and scale of the proposed project and the lack of a viable source-receptor pathway between the proposed site and any other Natura 2000 sites. Appropriate Assessment is outside the scope of this report.

Table 3.1 – Relevant Lesser Horseshoe Bat Natura 2000 Sites.

Site Name & Code	Qualifying Interests	Minimum Distance from Site (km)
Newhall and Edenvale Complex SAC (2091)	<ul style="list-style-type: none"> Caves not open to the public [8310] <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat) [1303] 	0
Pouladatig Cave SAC (0037)	<ul style="list-style-type: none"> Caves not open to the public [8310] <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat) [1303] 	3.14
Knockanira House SAC (2318)	<ul style="list-style-type: none"> <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat) [1303] 	4.13
Toonagh Estate SAC (2247)	<ul style="list-style-type: none"> <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat) [1303] 	8.58
Old Domestic Building (Keevagh) SAC (2010)	<ul style="list-style-type: none"> <i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat) [1303] 	8.63

Site Name & Code	Qualifying Interests	Minimum Distance from Site (km)
Poulnagordon Cave (Quin) SAC (0064)	<ul style="list-style-type: none"> • Caves not open to the public [8310] • Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] 	10.33
Dromore Woods and Loughs SAC (0032)	<ul style="list-style-type: none"> • Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] • Limestone pavements [8240] • Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] • Lutra lutra (Otter) [1355] 	10.50
Ballycullinan, Old Domestic Building SAC (2246)	<ul style="list-style-type: none"> • Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] 	12.13
Old Farm Buildings, Ballymacrogan SAC (2245)	<ul style="list-style-type: none"> • Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] 	12.85
East Burren Complex SAC (1926)	<ul style="list-style-type: none"> • Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140] • Turloughs [3180] • Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] • Alpine and Boreal heaths [4060] • Juniperus communis formations on heaths or calcareous grasslands [5130] • Calaminarian grasslands of the Violetalia calaminariae [6130] • Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] • Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510] • Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] • Petrifying springs with tufa formation (Cratoneurion) [7220] • Alkaline fens [7230] • Limestone pavements [8240] • Caves not open to the public [8310] • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] • Euphydryas aurinia (Marsh Fritillary) [1065] • Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] • Lutra lutra (Otter) [1355] 	13.38
Old Domestic Buildings, Rylane SAC (2314)	<ul style="list-style-type: none"> • Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] 	14.11

Site Name & Code	Qualifying Interests	Minimum Distance from Site (km)
Newgrove House SAC (2157)	<ul style="list-style-type: none"> Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] 	14.41
Moyree River System SAC (0057)	<ul style="list-style-type: none"> Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Alkaline fens [7230] Limestone pavements [8240] Caves not open to the public [8310] Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] Lutra lutra (Otter) [1355] 	15.16



3.1.2 Bat Data Search

National Biodiversity Data Centre holds previous records of bat presence from within the 10km square (R37) in which the proposed site is located. These records are for the following six species:

- Lesser Horseshoe Bat (*Rhinolophus hipposideros*).
- Common Pipistrelle (*Pipistrellus pipistrellus*).
- Soprano Pipistrelle (*Pipistrellus pygmaeus*).
- Leisler's Bat (*Nyctalus leisleri*).
- Daubenton's Bat (*Myotis daubentonii*).
- Brown Long-eared Bat (*Plecotus auritus*).

The overall bat suitability index value (46.89) according to 'Model of Bat Landscapes for Ireland' (Lundy *et al.* 2011) suggests the landscape in which the proposed site is located is of high suitability for Lesser Horseshoe Bat and other bat species in general. Species specific scores are provided in **Table 3.2**. Lesser Horseshoe Bat received a species-specific score of '33' indicating the surrounding landscape is of high quality for this species. This would be expected as the proposed development is located within their known distribution and contains an extensive network of summer roosting and hibernation locations alongside suitable foraging and commuting habitat which is discussed in further detail below.

Table 3.2 - Suitability of the study area for the bat species according to 'Model of Bat Landscapes for Ireland' (Lundy *et al.* 2011).

Common name	Scientific name	Suitability index
<i>All bats</i>		46.89
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	52
Brown long-eared bat	<i>Plecotus auritus</i>	64
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	53
Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>	33
Leisler's bat	<i>Nyctalus leisleri</i>	57
Whiskered bat	<i>Myotis mystacinus</i>	46
Daubenton's bat	<i>Myotis daubentonii</i>	46
Nathusius pipistrelle	<i>Pipistrellus nathusii</i>	17
Natterer's bat	<i>Myotis nattererii</i>	54

Source: <https://maps.biodiversityireland.ie/Map>. Accessed 05/10/2023.

O'Donnell Environmental requested information from NPWS pertaining to Lesser Horseshoe Bat roost records (including counts) within 10km of the proposed development. A total of 50 Lesser Horseshoe Bat roosts have been recorded and are currently being monitored by the NPWS within 10km of the study area. These roosts are a mixture of maternity, hibernation, satellite, transitional and night roosts. This request for data was considered alongside the results of surveys carried out for this Natura Impact Statement.

A total of 2 (possibly 5) Lesser Horseshoe Bat maternity roost records within the NPWS database are located within 5km of the proposed development. Of these, one is located within the Newhall and Edenvale Complex SAC (Roost ID: 44). The NPWS constructed a bespoke Lesser Horseshoe Bat roost in recent years and has been confirmed as a maternity colony (Elaine Keegan pers. comm.). The Gate Lodge, while previously known to the NPWS for night-

roosting was confirmed in 2023 as a maternity roost for Lesser Horseshoe Bat. This brings the total number of known Lesser Horseshoe Bat maternity roosts within the development boundary to three. See **Figure 1.1** for relevant roost locations.

The two-storey outbuilding within Newhall (Roost ID: 44) is classified as a maternity roost for Lesser Horseshoe Bat by the NPWS. Annual roost counts are presented below in **Table 3.3** and have been ongoing since 1983. Annual counts of Lesser Horseshoe Bat within the two-storey outbuilding have been steadily declining in the past decade. This is likely due to the structural degradation of the building and adjacent structures which has allowed considerable light and water ingress through collapsed roof portions (see **Plate 3.2**). The roost size has decreased drastically in recent years, with the most recent count in 2024 showing 6 individuals. This follows an overall peak count of 335 individuals in 2012.

Monitoring for the new NPWS roost has been ongoing since 2021, seeing yearly counts of 5 (2021), 5 (2022), 18 (2023) and 33 (2024). Monitoring for the Gate Lodge has been ongoing since 2023, seeing yearly counts of 39 (2023) and 61 (2024).

Additionally, 5 hibernation sites for Lesser Horseshoe Bat are contained with this Natura 2000 site. Knockanira House SAC and Pouladatig Cave SAC are the most proximal designated sites for which Lesser Horseshoe Bat is a Qualifying Interest, containing a maternity roost and hibernation roost at 4.13km and 3.14km distance respectively.

Table 3.3 – Annual NPWS Lesser Horseshoe Bat roost count data recorded at the proposed building (ID: 44).

Survey Date	Abundance	Survey Date	Abundance
10/05/1983	8	20/06/1997	135
04/06/1983	50	28/09/1997	30
26/06/1983	101	25/07/1997	204
07/07/1983	84	11/08/1998	188
17/08/1983	99	26/07/1999	256
04/10/1983	24	11/07/2000	220
27/04/1984	20	11/07/2002	242
04/05/1984	95	28/06/2004	238
27/05/1984	35	13/06/2006	195
14/06/1984	64	15/06/2009	221
26/06/1984	89	27/06/2011	328
13/07/1984	18	10/07/2012	335
19/07/1984	95	26/06/2013	255
22/08/1984	71	24/06/2014	180
16/04/1985	20	29/06/2015	134
24/04/1985	2	22/06/2016	200
30/04/1985	2	11/07/2017	102
01/07/1985	2	14/06/2018	40
18/07/1985	14	26/06/2019	76
29/07/1985	92	02/07/2020	63
24/09/1985	6	16/06/2021	50
23/07/1986	72	12/07/2022	28
07/01/1987	98	28/06/2023	18
07/01/1988	96	26/06/2024	6

3.2 VISUAL BAT ROOST SURVEY

The features on site were assessed for their suitability for roosting bats following Collins (2023) (see **Table 2.1**). The visual roost survey comprised the following and results are discussed below:

- Exterior inspection of Newhall House, stonework outbuildings and gate lodges.
- Interior inspection of Newhall House, stonework outbuildings and gate lodges.

It is understood from previous research papers and NPWS records that the original Lesser Horseshoe Bat roosting location (Roost ID: 44) is located within the second floor of the two-storey outbuilding complex east of Newhall House above the ceiling boards of the upper rooms (McAney and Fairly, 1989) (see **Plate 3.1; Figure 1.1**).

The entirety of the exterior structures were accessible when viewed from ground-level. The exterior of the house presented multiple access/egress points, mostly in the form of unglazed windows on the ground floor and collapsed portions of roofing. There was considerable damage and dilapidation present on the entirety of the outbuilding complex, with entire subsections completely open to light and water ingress following total collapses of roof portions (see **Appendix A1; A2**). The location of the original Lesser Horseshoe Bat roost (Roost ID: 44; see

Plate 3.1) remains in somewhat better condition but no bitumen felt remains underneath the natural slate and moderate light ingress is visible through loose tiles (see **Appendix A4**). The roof portions of the adjacent upper rooms have failed catastrophically in sections (see **Plate 3.2**), further exacerbating the problem light and water ingress on the colony.

Daytime visual inspection of interior spaces of all structures was carried out with the aim of identifying bat roosts by either the presence of bats or signs of past bat roosting. Safety concerns over the structural integrity of the two-storey outbuilding meant that full interior access was not possible. However, the Lesser Horseshoe Bat maternity colony (Roost ID: 44) was able to be identified through ladder access of the upper floor window. Considering the connectivity between interior spaces, it can be presumed that Lesser Horseshoe Bat and other bat species utilise the structure in its entirety prior to emergence.



Plate 3.1 Overview of the exterior structure of the two-storey building which houses a maternity colony of Lesser Horseshoe Bat (Roost ID: 44) (bounded in red).



Plate 3.2 Interior view of the two-storey outbuilding (Roost ID: 44) which shows advanced state of dereliction allowing significant light and water ingress into the main roosting location of Lesser Horseshoe Bat.



Plate 3.3 View looking east showing the associated stonework structures attached to the two-storey outbuilding containing the Lesser Horseshoe Bat maternity roost (Roost ID: 44).

Exterior inspection of the gate lodge yielded no discernible gaps present in the roofing slates or exterior faces. A single cutout in the boarded-up door provides the only access/egress for bat species (see **Plate 3.4**). Interior inspection of the gate lodge resulted in the discovery of a maternity colony of Lesser Horseshoe Bat (Tom O'Donnell pers. comm.) which was previously thought to be solely used for night roosting (NPWS, 2013; see **Plate 3.5**). The gate lodge structure appears relatively intact and structurally sound, with a single juvenile Sycamore

growing from the base of the northern wall which may displace the wall in future years. It should be noted that modern roofing felt is installed within the interior of this structure, which can cause bats (including Lesser Horseshoe Bat) to become entangled in loose threads and induce mortality, as opposed to traditional bitumen felt. In this instance the particular product used shows no sign of fraying although the material has become worn (see **Plate 3.5**).



Plate 3.4 View of the Newhall Estate entrance gate lodge housing the recently discovered Lesser Horseshoe Bat maternity roost (c T. O'Donnell, NPWS License Ref. 211/2023).



Plate 3.5 View of the Lesser Horseshoe Bat maternity colony within the entrance gate lodge (T. O'Donnell, NPWS License Ref. 211/2023).

3.3 BAT ACTIVITY SURVEYS

The proposed site was assessed for its value to foraging and commuting bats through emergence surveys and passive monitoring. The results are discussed separately below.

3.3.1 Emergence Surveys

Three emergence surveys were carried out on the two-storey outbuilding housing the known Lesser Horseshoe Bat maternity colony (Roost ID: 44). A single emergence survey was carried out on the entrance gate lodge (see **Figure 1.1** for locations). Surveyors were positioned to maximise the view of structures and to help deduce flight lines following emergence. The results for both structures are discussed separately below.

Some survey nights were characterised by high levels of Barn Owl activity, with a confirmed nest within a veteran Beech tree at the front of Newhall House (see **Appendix A5**). Breeding adults were observed flying throughout the site, although none were seen enter any structure housing Lesser Horseshoe Bat roosts. Additionally, Kestrel was identified waiting outside the NPWS roost within the barn buildings (see **Appendix A9**). Considering the advanced state of dereliction of the two-storey outbuildings, the roost remains potentially under threat from access by aerial and non-volant predators.

3.3.1.1 Original Lesser Horseshoe Bat Roost (Roost ID: 44)

Multiple potential emergence points were identified within the two-storey outbuilding (Roost ID: 44), primarily due to the advanced state of dereliction of the building (see **Plate 3.2**). The primary access/egress route was historically, and remains so, the unglazed windows at the rear/northern aspect of the building on the ground floor which leads directly into the woodlands/former gardens (McAney and Fairly, 1989; Elaine Keegan pers. comm.; see **Plate 2.3**). No emergence of any bat species was noted along the front of the building leading directly into the courtyard.

Lesser Horseshoe Bat were noted extensively using the structure in its entirety for early night flight prior to emergence. Upon egress of the structure, Lesser Horseshoe Bat was seen commuting north directly into the adjacent woodland from which no discernible direction could be ascertained. Other bat species were identified upon emergence and can be presumed to also be roosting within the structure, including Soprano Pipistrelle and Natterer's Bat (minimum 4 individuals). Natterer's Bat was noted as heading directly west along the garden boundary wall with the remaining species also travelling into the woodland. Pre-emergence flight of a single Brown Long-eared Bat was recorded within the adjacent stonework structure. Considering the interior connectivity between structures, this species may be roosting in the adjacent structures.

No discernible flight paths could be ascertained later in the survey nights as the surrounding landscape was used extensively for foraging by a wide variety of species including Lesser Horseshoe Bat. Features of particular note used for local foraging include the woodland edge habitat and mature Lime (*Tilia cordata*) treeline between the two-storey outbuilding and Newhall House.

Review of thermal imaging footage provided a maximum count of 44 bats emerging from the structure (Roost ID: 44). This count includes predominantly Lesser Horseshoe Bat alongside small numbers of other bat species such as Soprano Pipistrelle and Natterer's Bat roosting in small numbers. Roost counts were observed to decline as the bat active season progressed and maternity colonies disbanded.

3.3.1.2 Entrance Gate Lodge

A single surveyor with the help of night vision aids was deemed sufficient to observe the entrance gate lodge owing to the single access/egress point within the structure and simple nature of the surrounding landscape. Following review of thermal imagery, a total of 59 Lesser Horseshoe Bats were observed emerging from the gate lodge. No other species were recorded egressing the structure. Upon emergence, Lesser Horseshoe Bat was seen commuting primarily north into the linear woodland features which leads towards Edenvale Lake. Some flight lines were in a southerly direction but this was noted as being limited to a small number of individual bats.

3.3.2 Passive Bat Monitoring

Passive monitoring was carried out in the adjacent woodland using a Wildlife Acoustics Song Meter Mini full-spectrum detector in order to quantify local bat activity levels, species richness and significance of interaction with the site. Bioacoustics analysis of bat sonograms was carried out using Kaleidoscope and all calls were manually verified. Detectors were deployed between 18th July and 2nd August 2023 for a total of 16 survey nights, with a total of 5,168 registrations confirmed through manual analysis using Kaleidoscope software and following Russ (2012; 2021).

Overall, a high level of bat activity was recorded. Of the nine (possibly ten) Irish species known to occur nationally, eight (possibly nine) were recorded within the proposed development; this represents a high diversity of species. The Annex II listed Lesser Horseshoe Bat was recorded during passive monitoring due to the proximity of the detector to known roosting locations and the presence of suitable foraging and commuting habitat.

The results of passive bat monitoring are presented in **Table 3.4**. The majority of registrations comprised common and widespread species as would be expected in an Irish context, namely Soprano and Common Pipistrelle which accounted for 45.4% and 34.4% of registrations respectively. A relatively large proportion of recorded activity consisted of rarer and more sensitive species including Whiskered Bat (4.7%), Natterer's Bat (1.2%) and Brown Long-eared Bat (2.1%). Daubenton's Bat (6.1%) and Leisler's Bat (4.7%) comprise the remaining majority of registration. Lesser Horseshoe Bat was recorded in small numbers despite the proximity of the detector to a known maternity roosting location (see **Figure 1.1**). This would be expected as echolocation pulses of Lesser Horseshoe Bat are typically weaker and not as effectively picked up by ultrasonic detectors compared to other Irish bat species.

The distribution of registrations recorded are shown in **Figure 3.2** and **Figure 3.3**. Activity patterns can be seen as relatively consistent throughout the survey period, with peaks near the end of July for unknown reasons (see **Figure 3.2**). Bat activity in a given survey night (see **Figure 3.3**) was characterised by high levels of early night activity followed by a distinct drop in activity before recovering to stable levels for the remainder of the night. This activity pattern can be explained somewhat when considered in conjunction with active bat surveys (see **Section 3.3.3**). The woodland within which the detector was deployed is utilised extensively for early night flight and foraging by proximally roosting bat species. As night progresses and light levels continue to drop, activity levels then plummet as local bat species commute away to optimal riparian foraging habitat in the form of river corridors and lake boundaries. In addition to echolocation calls, large numbers of 'feeding buzzes' were noted (indicating successful foraging) and social calls were encountered frequently throughout echolocation data analysis.

The scale of the proposed site, the nature of the habitats contained within, the species recorded and distribution of those recordings during the survey indicate that the site is of high value for foraging and commuting bats.

Table 3.4 – Bat ‘registrations’ recorded during passive bat monitoring.

Survey Date	Brown Long-eared Bat	Common Pipistrelle	Daubentons Bat	Leislers Bat	Lesser Horseshoe Bat	Myotis sp.	Natterers Bat	Soprano Pipistrelle	Whiskered Bat	Total
18-Jul-2024	10	82	23	13	0	4	2	43	26	203
19-Jul-2024	7	124	19	20	0	1	3	59	25	258
20-Jul-2024	3	124	19	16	3	2	4	64	26	261
21-Jul-2024	3	53	36	7	0	9	2	40	15	165
22-Jul-2024	5	121	21	20	0	2	9	85	15	278
23-Jul-2024	10	136	18	25	3	3	1	67	19	282
24-Jul-2024	5	89	17	30	0	2	5	83	14	245
25-Jul-2024	9	180	23	15	4	3	4	223	17	478
26-Jul-2024	7	41	19	17	3	2	5	102	8	204
27-Jul-2024	8	322	14	11	1	3	0	490	13	862
28-Jul-2024	6	125	15	7	0	3	5	458	14	633
29-Jul-2024	8	139	17	15	1	3	9	202	14	408
30-Jul-2024	11	65	16	12	0	5	4	74	10	197
31-Jul-2024	3	69	12	11	1	6	3	140	13	258
01-Aug-2024	14	53	38	14	0	6	5	161	5	296
02-Aug-2024	0	53	10	11	0	0	1	55	10	140
Total	109	1776	317	244	16	54	62	2346	244	5168

Note: data shows number of bat registrations which is defined as the presence of a species within a recording of up to 15 seconds.

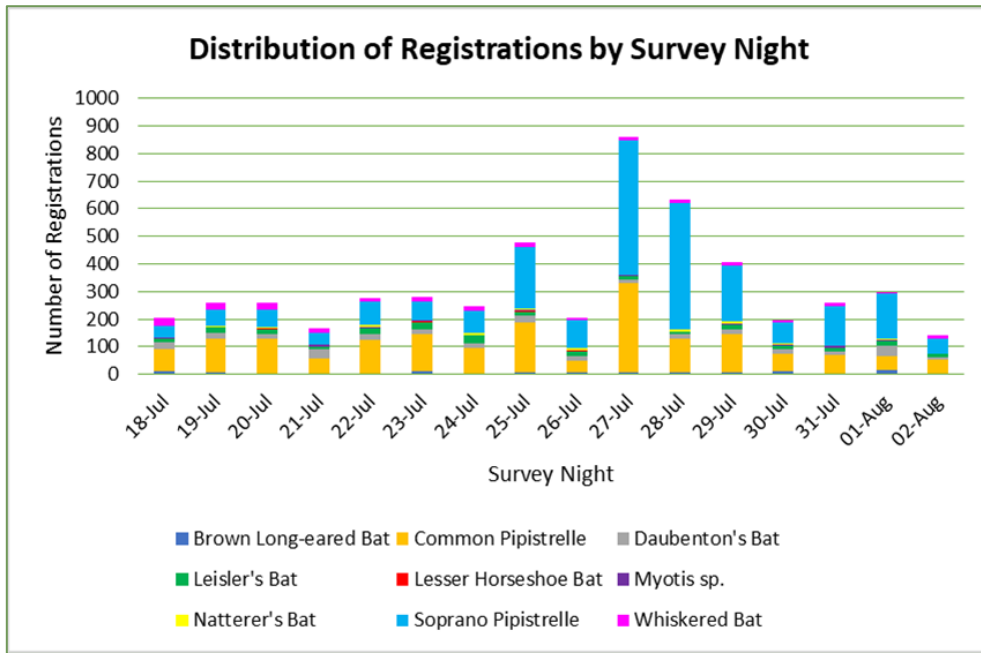


Figure 3.2 - Distribution of all bat registrations recorded by survey night and species.

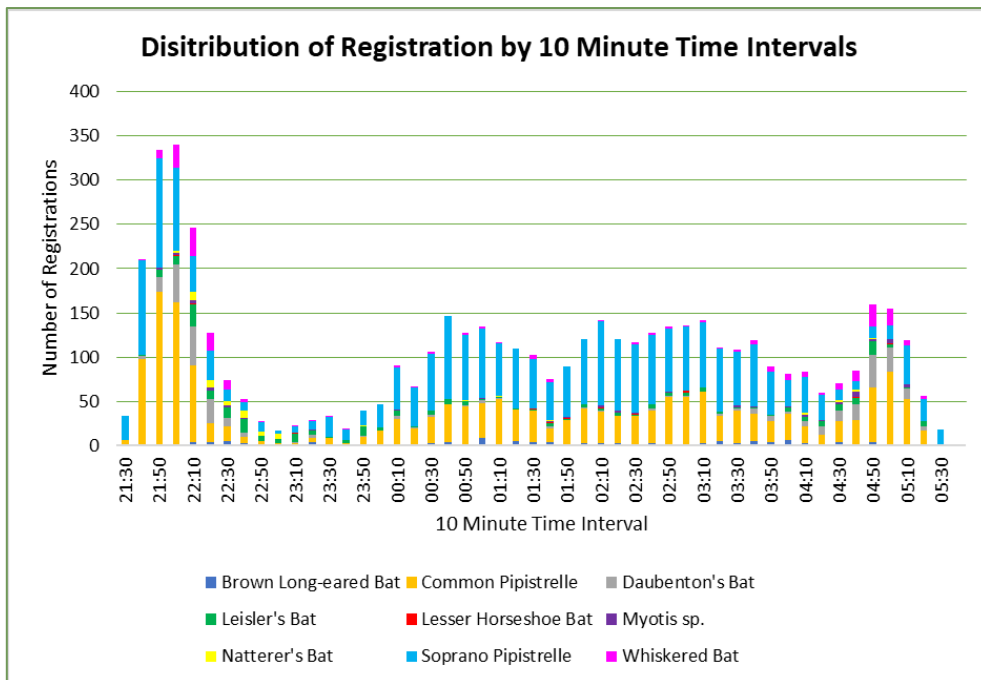


Figure 3.3 - Distribution of all bat registrations recorded by 10-minute time intervals and species (median sunset and sunrise times were 21:38 and 05:42 respectively).

Considering the nature and scale of the proposed site, the habitats contained within, the distribution of activity, and the presence of roosting bats, the proposed site is considered of **Local importance (Higher Value)** for foraging, commuting and roosting bats (following NRA, 2009).

3.4 SUMMARY OF RESULTS

The two-storey outbuilding within Newhall Estate contains a known Lesser Horseshoe Bat maternity roost (Roost ID: 44) within the upper floor of the building proximal to the western gable. The current location of this roost is currently under threat from advanced dereliction of the building, likely resulting in the complete loss of Lesser Horseshoe Bat maternity roosting in the medium term. Additionally, another Lesser Horseshoe Bat maternity roost was identified by O'Donnell Environmental within the entrance gate lodge during the course of surveys. Access and egress points, and normal direction of travel upon egress are identified in this report.

There was no evidence of significant roosting by any other bat species in any of the structures within the proposed site. Non-significant roosting of other species included Soprano Pipistrelle, Natterer's Bat and Brown Long-eared Bat within the two-storey outbuilding in small numbers, although no definitive counts are available for these species. The stonework outbuildings provide an abundance of roosting opportunities for crevice dwelling bat species.

4 Potential Impacts

Potential ecological impacts which could arise as a result of the proposed development are discussed below. Avoidance and mitigation measures in respect of identified potential impacts are discussed in Chapter 5 - Avoidance and Mitigation Measures. The predicted residual impact of identified potential impacts following application of avoidance and mitigation measures are discussed in Chapter 6 - Residual Impacts.

4.1 DO NOTHING IMPACT

The former stables complex is in an advanced state of disrepair and under a 'do-nothing' scenario it is likely that the roof would be lost entirely as a Lesser Horseshoe Bat roost within the short-term (less than 7 years following EPA, 2022).

4.2 LOSS OF ROOSTING SITES

The proposed development will see the permanent loss of the roosting spaces within the former stables complex for Lesser Horseshoe Bat. Non-significant roosting by Natterer's Bat, Soprano Pipistrelle and Brown Long-eared Bat were also identified within the stables complex. In the absence of mitigation the roosting spaces for these species will be lost in their entirety. While no roosting of other species was noted at the time of surveys, due to the extent of the stables complex, non-significant roosting by other *Pipistrellus* spp. cannot be entirely discounted and are thus considered further.

4.3 CONSTRUCTION ACTIVITY

Illumination surrounding a bat roost during the construction phase can cause disturbance (Downs et al., 2003). Light falling on a roost access point will at least delay bats from emerging and this shortens the amount of time available to them for foraging (Boldogh et al., 2007). As the main peak of nocturnal insect abundance often occurs around dusk, a delay in emergence can mean this vital time for feeding is missed. Additionally, there is evidence that Brown Long-eared Bat roosts can be abandoned completely when entrances are illuminated (Roche et al., 2014).

Inappropriate or excessive illumination of treelines or woodland areas at night can cause disturbance to roosting, commuting and foraging bats. Artificial lighting is thought to increase the chances of bats being predated upon by avian predators (e.g. owls), and therefore bats may modify their behaviour to avoid illuminated areas.

Localised increases in noise and dust levels are likely to occur during the construction phase. In the absence of mitigation, these impacts could give rise to indirect negative effects on bat species roosting onsite. Noise will occur through the operation of machinery (excavation, pile driving, etc.). Dust may arise during construction works if dry soil or other material is allowed to become windborne.

The overall effect on bats as a result of the construction phase of the proposed development is considered to be a **temporary, reversible, slight negative** effect following EPA (2022).

4.4 OPERATIONAL PHASE LIGHTING

A 'mitigation-by-design' approach was implemented and O'Donnell Environmental engaged with the project designers and lighting engineer in order to reduce the ecological effect of proposed operational phase lighting to an acceptable level. Operational phase lighting was scaled back significantly both in terms of extent and magnitude as a result. No lighting is proposed proximal to the Gatehouse roost entrance, NPWS roost or the emergence points from the proposed Brown Long-eared Bat roost within the stable complex.

Appendix B shows the proposed lighting design. Horizontal illuminance contours (Lux contours) were derived from this design by Reid Lighting following BCT and ILP (2023) guidance. New external lighting is proposed at the road entrance up to the Gatehouses, and surrounding Newhall House and outbuildings only. The predicted extent of the proposed lighting is shown in **Figure 4.1a** and **Figure 4.1b**. It should be noted that the lux contours present a 'worst-case scenario' in that the screening effect of structures and vegetation is not considered.

The light sources used for external lighting (including subsequent replacements) have been designed with cognisance of BCT and ILP (2023) and will be downward facing and specified as follows (including subsequent replacements):

- LEDs will be used, as these emit minimal ultra-violet light.
- White and blue wavelengths will be avoided; wavelength will be <2,700 kelvin.
- Lights will peak higher than 550nm.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, have been specified. Luminaires will always be mounted horizontally, with no light output above 90° and/or no upward tilt.

Lighting is proposed on the entrance driveway Horizontal illuminance proximal to roost entrances, commuting habitat etc are less than 0.2 Lux, which is considered to be "complete darkness" (BCT and ILP, 2023)), which is considered sufficient to avoid any significant negative effects due to lighting. No further measures are considered warranted.





5 Avoidance and Mitigation Measures

Avoidance and mitigation measures in relation to potential impacts identified above are discussed below. A mitigate-by-design approach was followed in the design of the current project, and O'Donnell Environmental collaborated with the design team in order to mitigate by design where possible.

5.1 LESSER HORSESHOE BAT ROOSTING LOCATIONS

O'Donnell Environmental have engaged with NPWS and the project designers throughout the design process in order to mitigate-by-design where possible any potential negative effects that may arise on bat species as a result of the proposed development.

A bespoke roost targeting Lesser Horseshoe Bat was constructed by the NPWS in 2021 adjacent to the main roosting location (**Figure 1.1; Appendix A3**) in response to its structural decline and impact on roosting bats. Monitoring has revealed roost counts numbers to be steadily rising in the new NPWS roost in subsequent years (see **Section 3.1.2**). Concurrently, roost count numbers have been declining within the stables roost. The new bespoke roost is considered to be capable of accommodating the colony and mitigating for the loss of the stables roost to Lesser Horseshoe Bat and other bat species.

The Gate Lodge (see **Figure 1.1**) was confirmed as a maternity roost for Lesser Horseshoe Bat in 2023, where previously it was known to host night-roosting bat species. Following consultation with NPWS and the Client, it has been agreed that the Gate Lodge will be left available for Lesser Horseshoe Bat in order to provide an additional roosting option for bats displaced as a result of renovation works on the former stables complex.

The stables roost (Roost ID 44) will be lost entirely to roosting bats. In the absence of intervention, the roost would be lost in any event in the short term due to dereliction. The stables roosting location is in a dilapidated condition and there is evidence that it is a suboptimal roosting location and being abandoned by the colony. Two suitable, suitably large, safe roosting spaces are available locally which are in the Clients ownership and are already being used by Lesser Horseshoe Bats. These spaces will continue to be dedicated to Lesser Horseshoe Bat. Confidence is high in this instance that the mitigation proposed is appropriate and likely to be successful.

5.2 OTHER SPECIES

In order to compensate for the loss of roosting by the identified crevice-dwelling species (Natterer's Bat, Brown Long-eared Bat, Soprano Pipistrelle) within the former stables complex, O'Donnell Environmental collaborated with the design team to integrate bat roosting spaces within the renovated stables complex.

The attic space of the storeroom at the eastern side of the former stables complex will be made accessible to crevice-dwelling bat species (see **Plate 5.1-5.2; Appendix C**). The primary access will be provided through the gable-end porthole utilising a predator-proof louvre. An additional access/egress point will be provided through a dedicated lead bat-access tile facing east. No artificial lighting will conflict with the location of bat access points (see **Appendix B**). The use of bat-safe construction materials may only be used within this attic space. Underlay

within any areas of attic to which bats may have access (i.e. the areas above the proposed roost) at least must use only traditional bitumen felt (1F)). Any timbers must be pressure treated offsite. Onsite application of wood preservative should be avoided, and if necessary, only products certified to be 'bat safe'³ will be used. A bat-licensed Ecologist will be consulted in relation to any onsite treatment of timber, and details of treatments used will be recorded and included in a post-construction compliance report which will be issued to NPWS.



Plate 5.1 – Proposed location of alternative bat roosting location for crevice-dwelling species within the storeroom attic of the former stables complex.

The bat-licensed Ecologist will carry out a final inspection to confirm that these roosting spaces have been provided as outlined herein. The report will confirm that the dedicated attic roost is appropriately constructed, that bats should not encounter modern roofing membranes in any part of the structures and that bat access points have been appropriately located and installed.

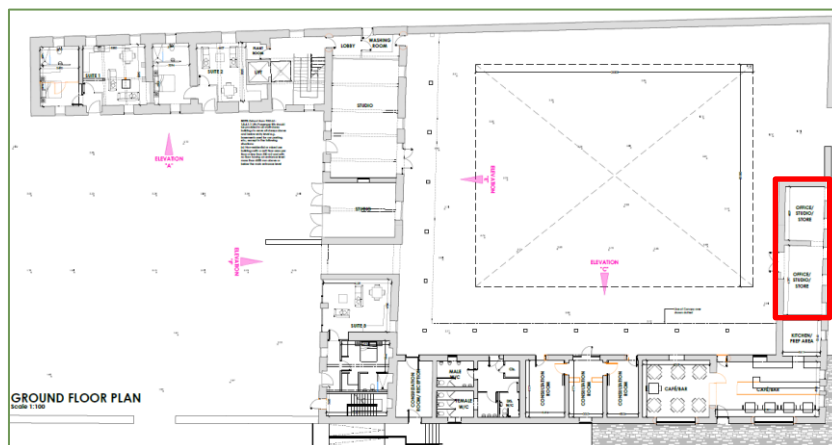


Plate 5.2 – Plan view of former stables with replacement roost attic space shown in red.

³ <https://www.gov.uk/government/publications/bat-roosts-insecticides-and-timber-treatments/timber-treatment-products-suitable-for-use-in-or-near-bat-roosts>

Prior to the commencement of demolition works (roof stripping etc.), **four Schwegler Bat Box 1FD** will be installed in two pairs on suitably undisturbed mature trees within the woodland north of the former stables complex in order to provide replacement, non-maternity, roosting opportunities for crevice-dwelling bats (excluding Lesser Horseshoe Bat) during the demolition phase of the proposed development. Should any crevice-dwelling bats be encountered during works, they will be relocated by a bat-licensed ecologist immediately.

5.3 TIMING OF WORKS

Seasonal avoidance is the primary measure being employed to avoid/reduce disturbance to roosting bats. The overriding conservation priority in this instance is the maternity colony of Lesser Horseshoe Bat.

The former stables complex is known to house a maternity colony of Lesser Horseshoe Bat (Roost ID: 44), alongside non-significant roosting of Natterer's Bat, Brown Long-eared Bat, and Soprano Pipistrelle. While no roosting of other bat species was confirmed at the time of surveys, non-significant roosting by other species (particularly *Pipistrellus* spp.) cannot be entirely discounted. Roost ID: 44 will be lost to roosting Lesser Horseshoe Bat as a result of the proposed development.

Structures onsite provide a wide range of roosting opportunities for bat species. A seasonal restriction on structural/demolition works is generally recommended during the summer within the core maternity season (May-August inclusive) to avoid impacts on breeding bats. Given the overriding conservation priority of avoiding disturbance in the breeding season, no restriction on winter works is proposed. Lesser Horseshoe Bat are not expected to be encountered within the current buildings during winter. Pre-construction surveys are prescribed (see **Section 5.4**) to minimise risk to any crevice dwelling bats which may be present.

Due to the presence of Lesser Horseshoe Bat maternity roosting within the stables roosting location (Roost ID:44), alongside the proximity of the NPWS roost (also maternity) approximately 50m east, no demolition works will take place on the former stables complex during the core maternity season (May to August inclusive). It is currently anticipated that roof removal works will be carried out in early 2025, prior to the maternity season.

5.4 DEMOLITION SUPERVISION

A bat licensed Ecologist will be engaged to carry out pre-construction surveys of the former stables complex to ensure the population status of the identified roosting bat species has not changed in the interim between surveys. The Ecologist will also advise in relation to the exclusion of bats in advance of works. Due to the open nature of the former stables complex, illumination of interior spaces by a bat-licensed Ecologist in advance of proposed demolition is considered the most suitable exclusion measure to deter bats from returning to roost. The lighting will be first illuminated at night when bats are active and have left the roost.

A bat licensed Ecologist will be engaged to provide a toolbox talk on site at commencement of demolition works and to supervise roof removal works (e.g. removal of roof tiles) at a minimum. The removal of roofing materials and the stripping of the fascia and soffit will be carried out with hand tools to minimise the potential impact to any bats roosting within.

Any bats encountered in known structures will be relocated by a bat-licensed Ecologist to the nearby bat boxes installed in advance of demolition as outlined in **Section 5.3** above.

5.5 CONSTRUCTION PHASE LIGHTING

During construction works will generally take place during daylight hours only. Where lighting during darkness is required for health, safety or security reasons, it shall be suitably cowled and directed away from roost spaces and sensitive ecological features including retained treelines and vegetation to avoid light spill during the active bat season (April-October inclusive). No site lighting will be left on overnight. These measures are considered sufficient to minimise any adverse impacts on roosting, commuting and foraging bats in the construction phase.

5.6 OPERATIONAL PHASE LIGHTING

A 'mitigate-by-design' approach was followed and the potential for negative effects due to operational phase lighting has been designed out (see **Section 4.4**). No further measures are required.

5.7 POST-CONSTRUCTION MONITORING

Post-construction monitoring will be carried out on one occasion during the maternity season in each year for two years following the completion of works to confirm the successful implementation all proposed artificial bat roosting locations and to monitor their respective status/ Access will be provided to all bat boxes and dedicated bat roof spaces for daytime inspection. All surveys will be undertaken by a bat-licensed ecologist. Integrated bat boxes are self-cleaning and thus do not require maintenance.

6 Residual Impacts and Conclusion

There will be a temporary, slight, negative effect on roosting bats at a local level during the construction phase as a result of disturbance and the permanent loss of an existing roosting location. Similar impacts will occur in the short term in the 'do-nothing scenario'.

Suitable alternative roosts are available locally, which are already used by Lesser Horseshoe Bat and therefore confidence in the success of the proposed mitigation measures is high. It is currently anticipated that roof removal works will be carried out in early 2025, prior to the maternity season.

A 'mitigate-by-design' approach has been followed, and with the implementation of the mitigation measures outlined in **Section 5** above, the overall ecological effect of the proposed development (relative to the 'do-nothing' scenario) is considered to be a **neutral** effect (following EPA, 2022).

7 Derogation Licence Application

The Newhall outbuildings, although derelict and in the process of being lost to roosting bats entirely, are confirmed bat roosts. As such, a derogation licence is required to facilitate disturbance or loss of roosting sites which would result from renovation. Bespoke avoidance and mitigation measures have been outlined in the current report.

A derogation license is requested for the proposed works, with the following details:

- Applicant: **Maria Commene, Newhall House, Newhall, Drummeen, Ennis, Co. Clare, V95 X448.**
- Supervised by: **Tom O'Donnell of O'Donnell Environmental Ltd, Lawley House, Monahan Road, Cork City, Co. Cork. T12 N6PY.**
- Species: **Lesser Horseshoe Bat *Rhinolophus hipposideros*, Natterer's Bat *Myotis mysticanus*, Brown Long-eared Bat *Plecotus auritus*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus*.**
- Activity: **Newhall Estate Stables Redevelopment, Co. Clare.**
- Timeline: **2025/2026**

Table 7.1 provides responses to four key issues which will be considered during the derogation license decision making process.

Table 7.1 - Derogation License Checklist

<p><i>Explanation as to why the derogation licence sought is the only available option for works and no suitable alternative exists as per Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations.</i></p> <p>Transmoor Limited intends to redevelop the former stables complex of Newhall Estate.</p> <p>The derogation license is sought to facilitate works (subject to planning permission) which are required for economic and cultural reasons to i) facilitate development of the existing structures into a small-scale recreation and wellness facility which will support employment and economic development locally and ii) will preserve buildings of historic and cultural importance for the future.</p> <p>Alternative solutions were considered, and none are available in this instance. The buildings are in an advance state of dilapidation and renovation is required to preserve the buildings. Renovation in a way that does not disturb the bat roosting locations is not possible. The buildings are privately owned and renovation for the purpose of providing a bat roost exclusively is not economically viable. In order to justify the cost of renovation a use which is economically viable is proposed.</p> <p>Given that Lesser Horseshoe Bats are highly sensitive to disturbance, coexistence of the species alongside human occupation following renovation is not considered viable. Ongoing roosting by species other than Lesser Horseshoe Bat (e.g. Brown Long-eared Bat) is catered for within the proposal. Alternative roosting locations are available and already in use by Lesser Horseshoe Bat.</p> <p>The stables are extensive in nature, containing a maternity roost of Lesser Horseshoe Bat alongside non-significant roosting of crevice-dwelling species (Natterer's Bat, Brown Long-eared Bat, Soprano Pipistrelle). This structure is in an advanced state of dereliction with considerable light, water, and wind ingress and missing roof portions in places. The structure is currently unmanaged and not maintained. Under a 'do-nothing'</p>	<input checked="" type="checkbox"/>
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scenario it is likely that the former stables complex would eventually fall into an advanced state of dereliction and be lost entirely as roosting structures for bat species. The proposed development will see the renovation of structures onsite in order to make them structurally secure and habitable and as such no suitable alternative is available for works to proceed.

Evidence that actions permitted by a derogation licence will not be 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 as is required under Section 54(2) of the European Communities (Birds and Natural Habitats) Regulations.

☒

An appropriate level of survey was carried out which complies with current best practice standards, including recent recommendations regarding the use of 'night vision aids'. Consultation was continuously sought with NPWS throughout the entire report process. Based on best available information, the former stables complex containing a maternity roost of Lesser Horseshoe Bat alongside non-significant roosting of crevice-dwelling species (Natterer's Bat, Brown Long-eared Bat, Soprano Pipistrelle).

While not confirmed at the time of surveys, non-significant roosting by other *Pipistrellus* spp. such as Common Pipistrelle cannot entirely be discounted and thus is included within this licence application also and provision has been made for these species.

Seasonal avoidance is the primary measure being employed to avoid/reduce disturbance to roosting bats. The overriding conservation priority in this instance is the maternity colony of Lesser Horseshoe Bat. Therefore no demolition works (i.e. roof removal) will take place on the former stables complex during the core maternity season (March-August inclusive). Due to the conservation priority of Lesser Horseshoe Bat maternity roosting, winter restriction for the benefit of other bat species found to be roosting in non-significant numbers is not proposed.

Detailed daytime pre-construction surveys will be carried out in advance of works to identify any potential roosting bats. Demolition works will be carried out under supervision of a bat-licensed ecologist, utilising hand tools in areas with suitability for hosting roosting bats.

Alternative non-maternity roosting locations will be provided during demolition works in the form of bat boxes in order to cater for any crevice-dwelling bat species potentially encountered during demolition works. Should bats be encountered during demolition works, the supervising bat-licensed Ecologist will immediately move these individuals to nearby bat boxes installed in advance of works.

It is considered that the proposal will not be detrimental to the maintenance of the bat populations at a favourable conservation status in their natural range and that the proposal will not have a detrimental effect on the local bat populations.

Details of any mitigation measures planned for the species affected by the derogation at the location, along with evidence that such mitigation has been successful elsewhere.

☒

Full detail on proposed mitigation measures are outlined above in **Section 5**. Below is a summary of these measures:

- *Mitigate by design approach taken in external lighting design.*
- *Maternity Roosting Locations* – maintenance of the NPWS roost and Gate Lodge as alternative maternity roosting locations for Lesser Horseshoe Bat which has previously been proven.
- *Adaptation of Structures* – renovation of attic space of stables complex to cater for non-significant roosting of crevice-dwelling species.
- *Alternative Non-maternity Roosting Locations* – installation of bat boxes prior to the commencement of works to cater for any crevice-dwelling species encountered.
- *Timing of Works* – seasonal avoidance as the main form of mitigation. Avoidance of works in the core maternity season to avoid impacts on the Lesser Horseshoe Bat maternity colony which is the overriding conservation priority.
- *Demolition Supervision* – pre-demolition surveys and exclusion where required prior to the commencement of works. Tool-box talk prior to works and supervision of such works. Use of hand tools in areas with potential to host roosting crevice-dwelling bats.
- *Lighting* – appropriate construction-phase lighting to avoid impacts during works. Operational-phase lighting design avoiding roost areas and sensitive features following engagement with design team and lighting designer.
- *Post-construction Monitoring* – yearly monitoring to confirm the application of mitigation measures and status of bat populations.

As much information as possible to allow a decision to be made on this application.

☒

Full information is outlined in the current report.

8 References

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Appendix A - Photographic Record



A1. View looking west of the former stables complex and courtyard attached to the Lesser Horseshoe Bat maternity roost (Roost ID: 44).



A2. View looking south of the former stables complex and courtyard attached to the Lesser Horseshoe Bat maternity roost (Roost ID: 44).



A3. Bespoke NPWS roost constructed approximately 50m east of the original Lesser Horseshoe Bat roosting location within the two-storey outbuilding.



A4. View within the current roosting location for the Lesser Horseshoe Bat maternity colony within Roost ID: 44. Accumulation of droppings and light ingress are clearly visible.



A5. Veteran Beech tree adjacent to Newhall House which houses nesting Barn Owl.



A6. Example view of thermal camera covering the former stables complex.



A7. View of the southern gate lodge that does not house the maternity colony of Lesser Horseshoe Bat.



A8. Example of predator exclusion tip tray at the entrance to the NPWS roost.



A9. Kestrel (red circle) waiting outside the NPWS Lesser Horseshoe Bat roost during bat emergence.



A10. Wide-angle view of both gate lodges, of which the furthest houses a known Lesser Horseshoe Bat maternity colony.

Appendix B - Lighting Design



Newhall House-REV02

External Lighting

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STABLES PERIMETER / Light scene 1 / Perpendicular illuminance	10
DRIVEWAY / Light scene 1 / Perpendicular illuminance	11
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ROOST 1 / Light scene 1 / Perpendicular illuminance	14

Luminaire list

Φ_{total} 49014 lm	P_{total} 446.4 W	Luminous efficacy 109.8 lm/W
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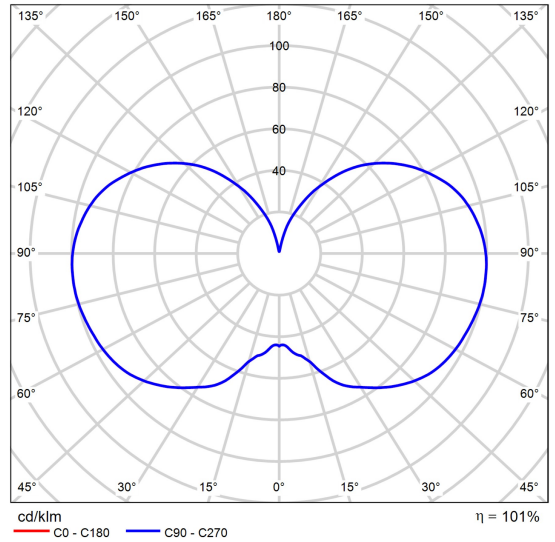
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy	Index
17	Philips			10.5 W	1542 lm	146.8 lm/W	A
57	Philips			4.7 W	400 lm	85.0 lm/W	B

Product data sheet

Philips -



P	10.5 W
Φ_{Lamp}	1521 lm
$\Phi_{Luminaire}$	1542 lm
η	101.36 %
Luminous efficacy	146.8 lm/W
CCT	3000 K
CRI	100
Index	A



Polar LDC

Glare evaluation according to RUG											
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	17.9	19.0	18.8	19.9	21.0	17.9	19.0	18.8	19.9	21.0
	3H	20.8	21.7	21.6	22.6	23.8	20.8	21.7	21.6	22.6	23.8
	4H	22.3	23.2	23.2	24.1	25.2	22.3	23.2	23.2	24.1	25.2
	6H	23.8	24.7	24.7	25.6	26.7	23.8	24.7	24.7	25.6	26.7
	8H	24.6	25.4	25.5	26.3	27.5	24.6	25.4	25.5	26.3	27.5
4H	12H	25.3	26.1	26.2	27.1	28.2	25.3	26.1	26.2	27.1	28.2
	2H	18.8	19.7	19.7	20.6	21.7	18.8	19.7	19.7	20.6	21.7
	3H	21.8	22.5	22.7	23.5	24.6	21.8	22.5	22.7	23.5	24.6
	4H	23.4	24.1	24.3	25.0	26.2	23.4	24.1	24.3	25.0	26.2
	6H	25.1	25.7	26.0	26.7	27.9	25.1	25.7	26.0	26.7	27.9
8H	8H	25.9	26.5	26.9	27.5	28.7	25.9	26.5	26.9	27.5	28.7
	12H	26.8	27.3	27.7	28.3	29.5	26.8	27.3	27.7	28.3	29.5
	4H	23.9	24.5	24.9	25.5	26.7	23.9	24.5	24.9	25.5	26.7
	6H	25.8	26.3	26.8	27.3	28.6	25.8	26.3	26.8	27.3	28.6
	8H	26.8	27.3	27.8	28.2	29.5	26.8	27.3	27.8	28.2	29.5
12H	12H	27.8	28.2	28.8	29.2	30.5	27.8	28.2	28.8	29.2	30.5
	4H	24.0	24.6	25.0	25.5	26.8	24.0	24.6	25.0	25.5	26.8
	6H	26.0	26.5	27.0	27.4	28.7	26.0	26.5	27.0	27.4	28.7
	8H	27.1	27.5	28.1	28.5	29.8	27.1	27.5	28.1	28.5	29.8
Variation of the observer position for the luminaire distances S											
S = 1.0H		+0.1 / -0.1					+0.1 / -0.1				
S = 1.5H		+0.2 / -0.2					+0.2 / -0.2				
S = 2.0H		+0.3 / -0.3					+0.3 / -0.3				
Standard table		BK12					BK12				
Correction summand		12.7					12.7				
Corrected glare indices referring to 1521lm Total luminous flux											

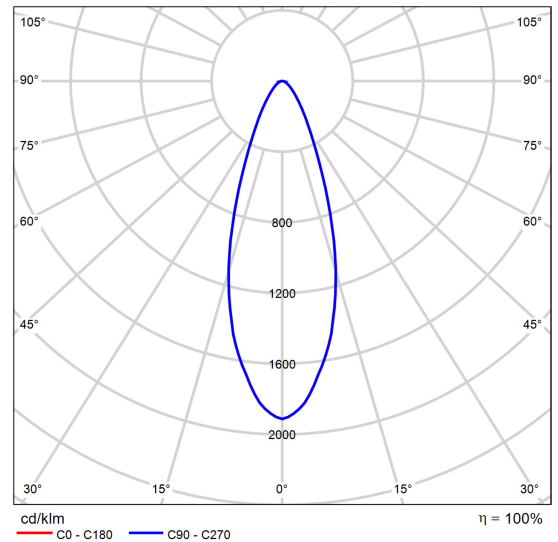
RUG diagram (SHR: 0.25)

Product data sheet

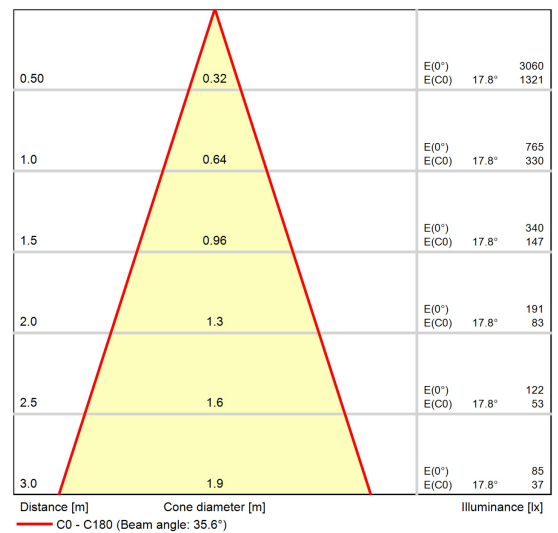
Philips -



P	4.7 W
Φ_{Lamp}	400 lm
$\Phi_{Luminaire}$	400 lm
η	99.90 %
Luminous efficacy	85.0 lm/W
CCT	3000 K
CRI	100
Index	B



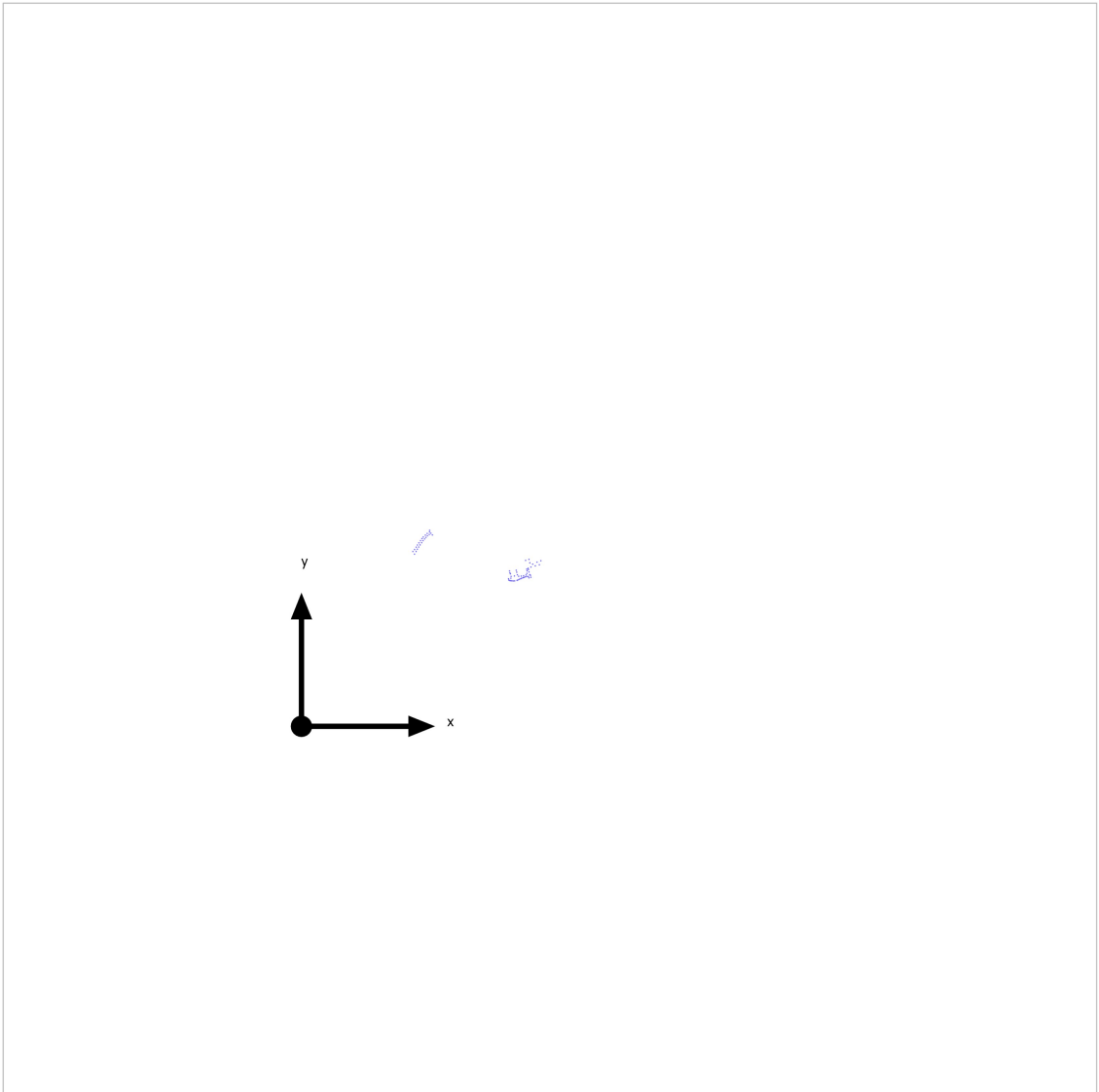
Polar LDC



Cone diagram

Site 1 (Light scene 1)

Calculation objects



Site 1 (Light scene 1)

Calculation objects

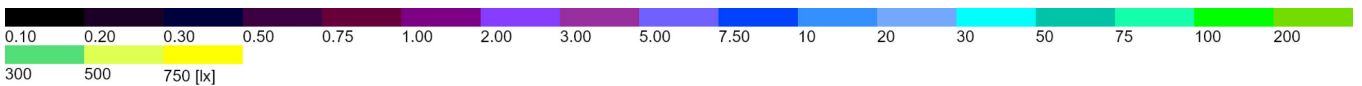
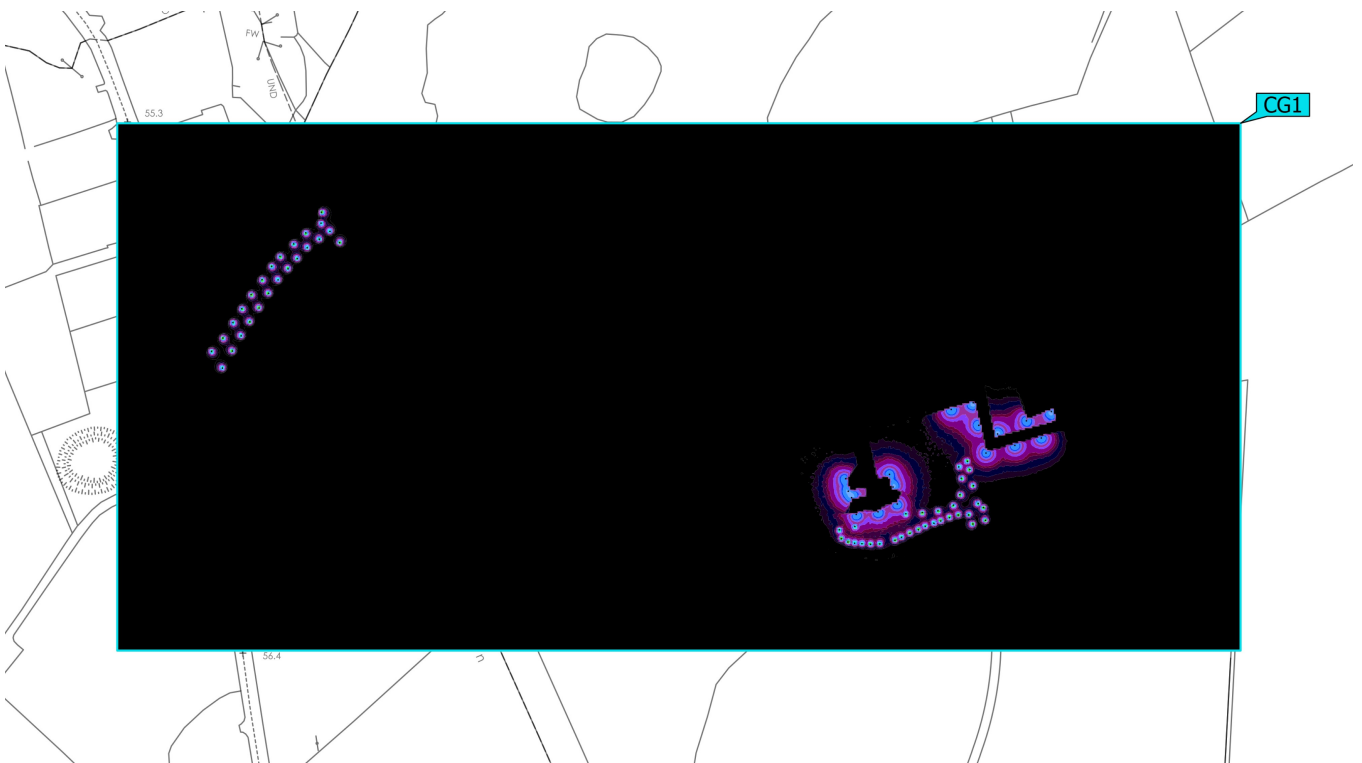
Calculation surfaces

Properties	\bar{E}	E_{min}	E_{max}	$U_o (g_1)$	g_2	Index
Calculation surface 1 Perpendicular illuminance Height: 0.000 m	0.18 lx	0.00 lx	716 lx	0.00	0.00	CG1
HOUSE PERIMETER Perpendicular illuminance Height: 0.000 m	1.51 lx	0.00 lx	24.2 lx	0.00	0.00	CG2
STABLES PERIMETER Perpendicular illuminance Height: 0.000 m	1.33 lx	0.00 lx	122 lx	0.00	0.00	CG3
DRIVEWAY Perpendicular illuminance Height: 0.000 m	9.24 lx	0.063 lx	697 lx	0.007	0.000	CG4
ACCESS ROAD Perpendicular illuminance Height: 0.000 m	3.69 lx	0.000 lx	551 lx	0.00	0.00	CG5
ROOST 2 Perpendicular illuminance Height: 3.000 m	0.10 lx	0.054 lx	0.22 lx	0.54	0.25	CG6
ROOST 1 Perpendicular illuminance Height: 3.000 m	0.004 lx	0.002 lx	0.045 lx	-	0.044	CG7

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Site 1 (Light scene 1)

Calculation surface 1

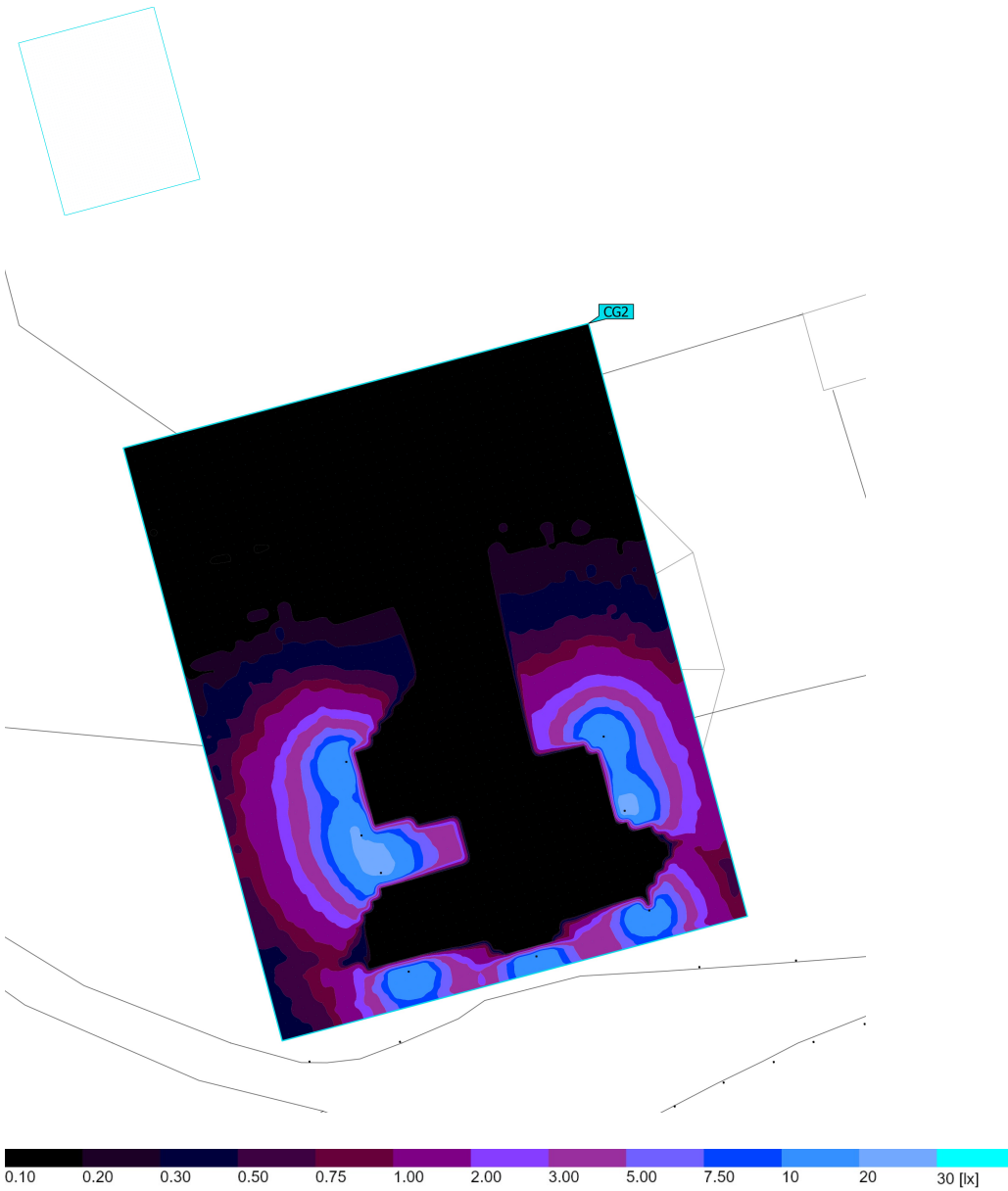


Properties	\bar{E}	E_{min}	E_{max}	$U_0 (g_1)$	g_2	Index
Calculation surface 1 Perpendicular illuminance Height: 0.000 m	0.18 lx	0.00 lx	716 lx	0.00	0.00	CG1

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Site 1 (Light scene 1)

HOUSE PERIMETER

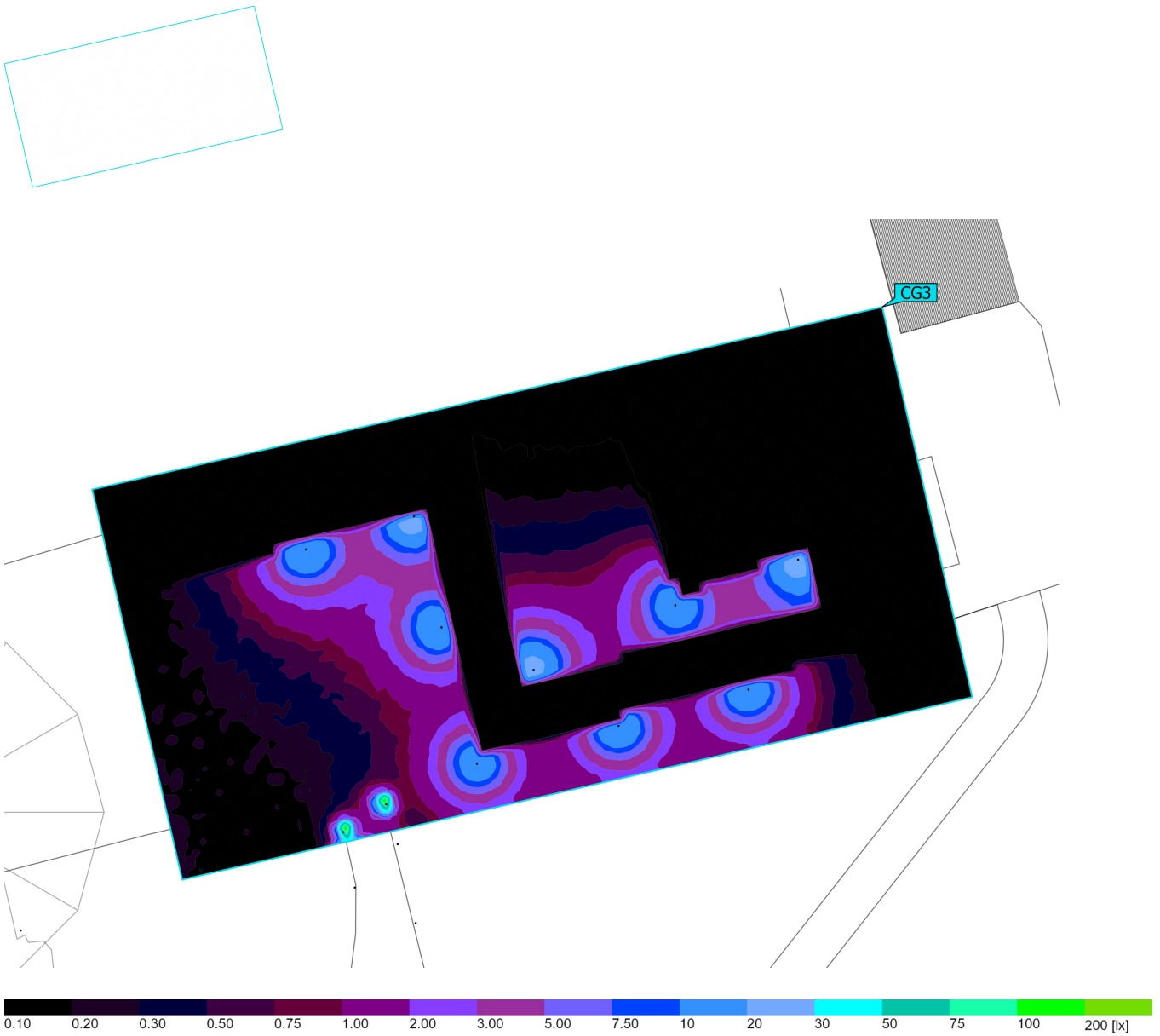


Properties	\bar{E}	E_{min}	E_{max}	$U_0 (g_1)$	g_2	Index
HOUSE PERIMETER Perpendicular illuminance Height: 0.000 m	1.51 lx	0.00 lx	24.2 lx	0.00	0.00	CG2

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Site 1 (Light scene 1)

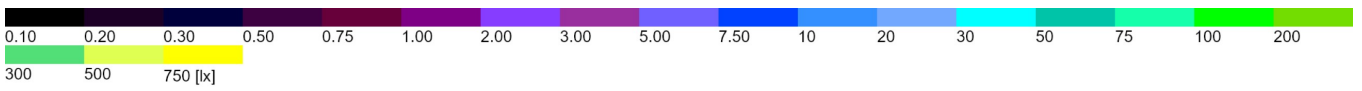
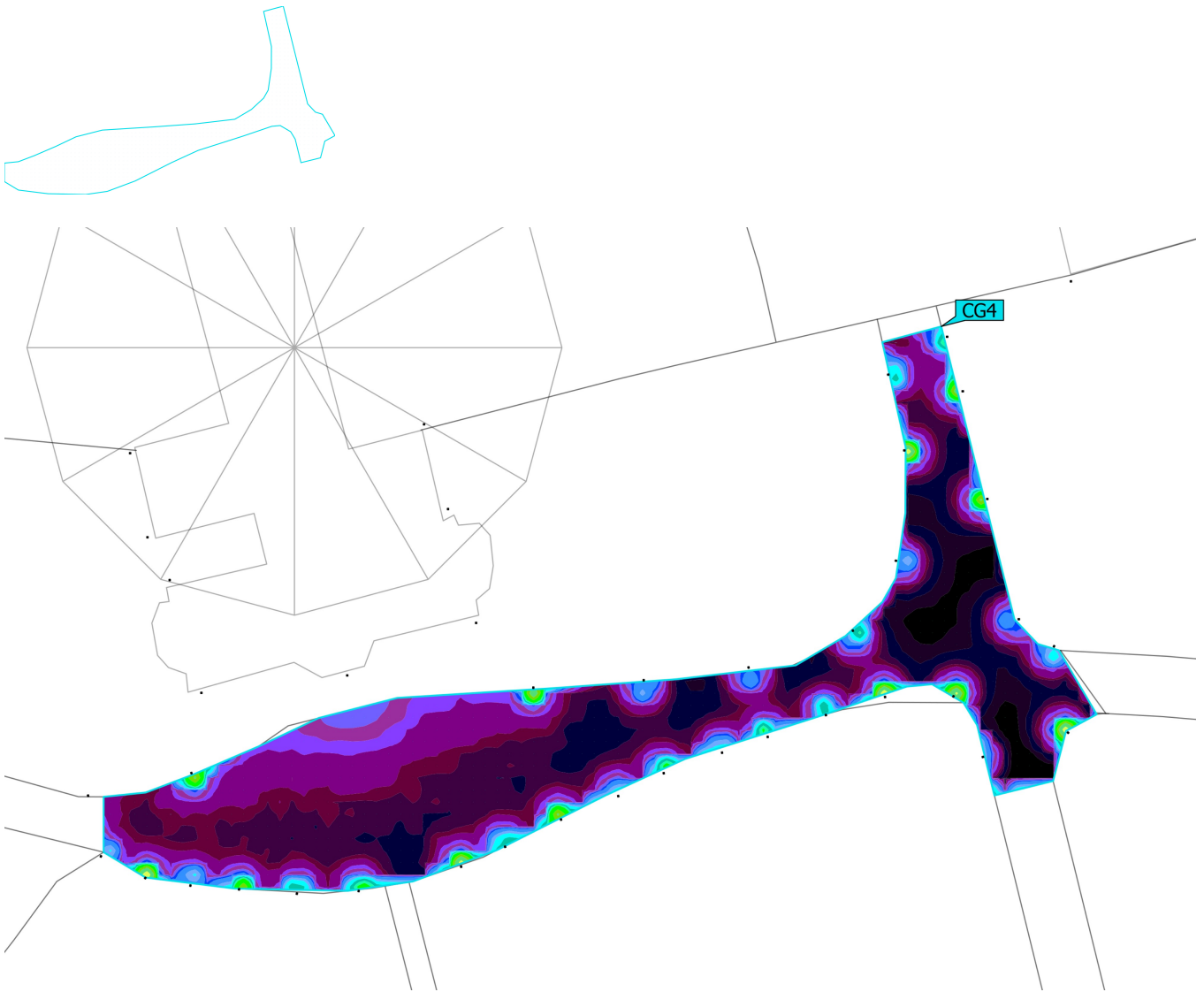
STABLES PERIMETER



Properties	\bar{E}	E_{min}	E_{max}	$U_0 (g_1)$	g_2	Index
STABLES PERIMETER Perpendicular illuminance Height: 0.000 m	1.33 lx	0.00 lx	122 lx	0.00	0.00	CG3

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

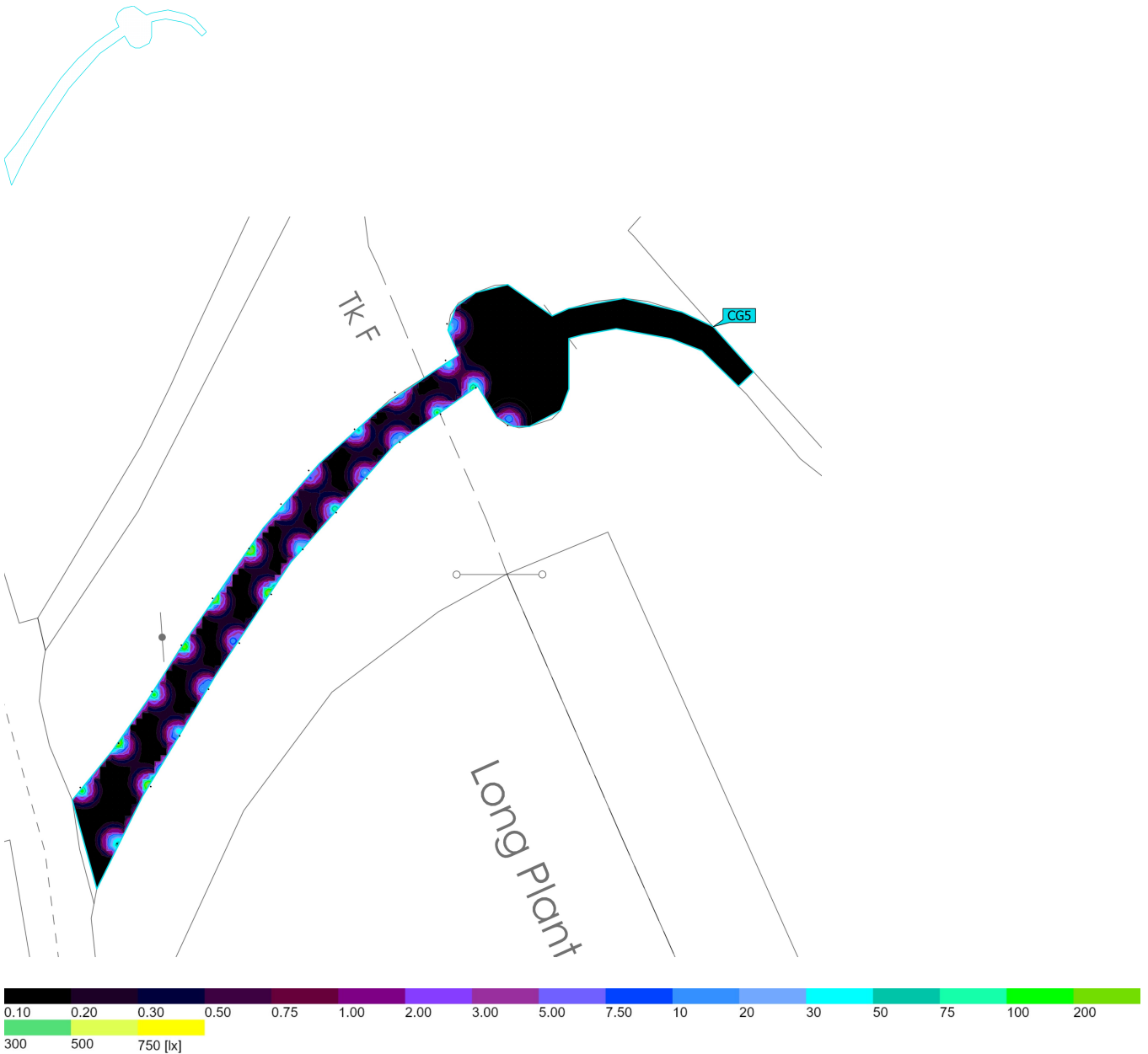
Site 1 (Light scene 1)
DRIVEWAY



Properties	\bar{E}	E_{min}	E_{max}	$U_0 (g_1)$	g_2	Index
DRIVEWAY Perpendicular illuminance Height: 0.000 m	9.24 lx	0.063 lx	697 lx	0.007	0.000	CG4

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Site 1 (Light scene 1)
ACCESS ROAD

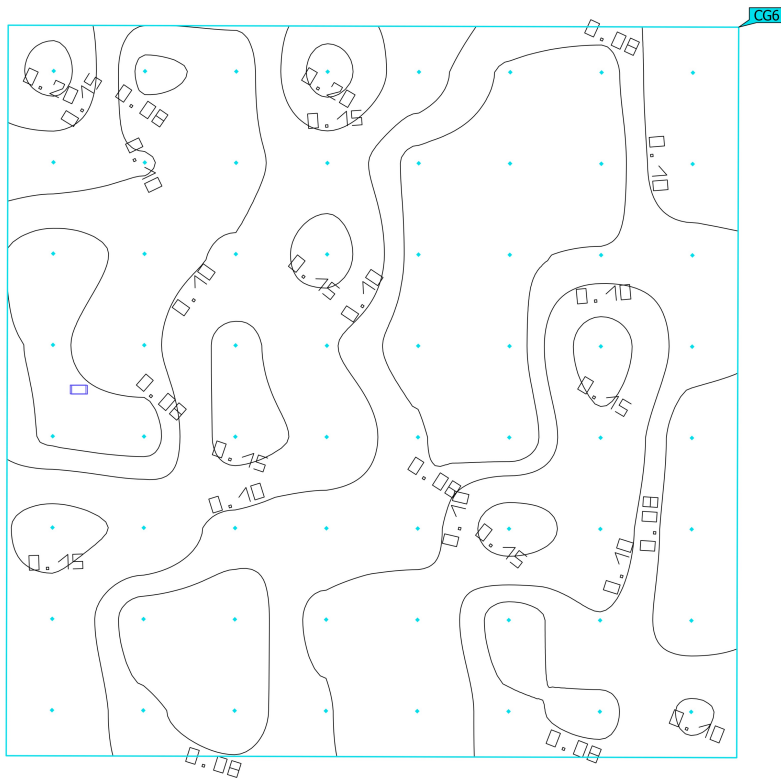


Properties	\bar{E}	E_{min}	E_{max}	$U_0 (g_1)$	g_2	Index
ACCESS ROAD Perpendicular illuminance Height: 0.000 m	3.69 lx	0.000 lx	551 lx	0.00	0.00	CG5

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Site 1 (Light scene 1)

ROOST 2

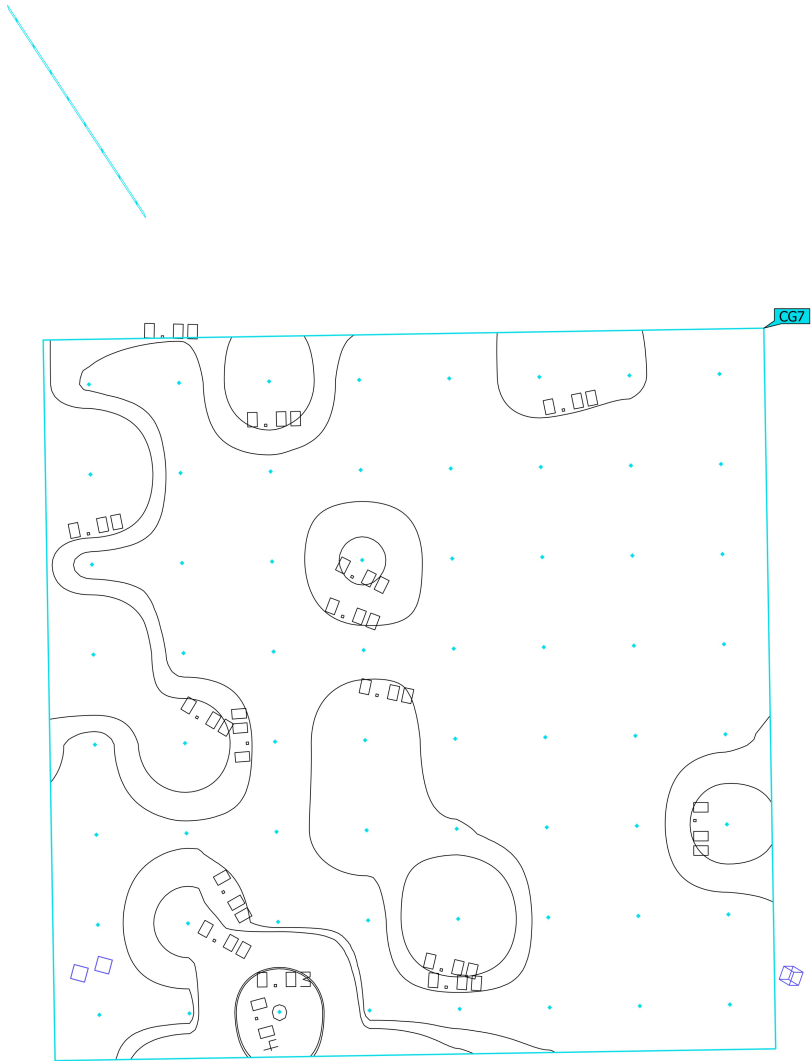


Properties	\bar{E}	E_{min}	E_{max}	$U_0 (g_1)$	g_2	Index
ROOST 2 Perpendicular illuminance Height: 3.000 m	0.10 lx	0.054 lx	0.22 lx	0.54	0.25	CG6

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Site 1 (Light scene 1)

ROOST 1



Properties	\bar{E}	E_{min}	E_{max}	$U_o (g_1)$	g_2	Index
ROOST 1 Perpendicular illuminance Height: 3.000 m	0.004 lx	0.002 lx	0.045 lx	-	0.044	CG7

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Appendix C - Proposed Design



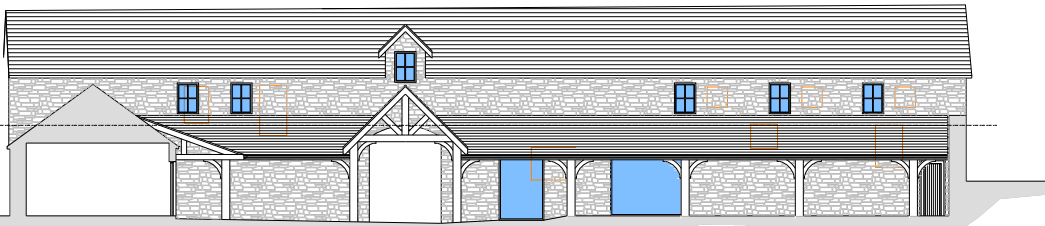
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ELEVATION "B"
Scale 1:100



ELEVATION "C"
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ELEVATION "D"
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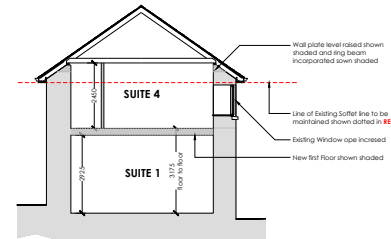
ELEVATION "E"
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ELEVATION "F"
Scale 1:100



ELEVATION "G"
Scale 1:100



SECTION A-A
Scale 1:100

Brian Foudy & Associates Limited
Chartered Engineers, Planning Consultants & Property Surveyors
Osprey House, Carmody Street, Ennis, Co. Clare, V95 F720
Tel: 0656893565 | Email: info@foudyconsulting.ie

Client: **TRANSMOOR LTD.**
Address: "The Stables" Newhall House, Newhall, Ennis, Co. Clare.
Title: **PROPOSAL 1 ELEVATIONS**

DESIGN	SCALE	1:100 @ A1
M.D	B.F	December 2024
TRM 02 03 24	DATE	D

ELEVATION "D"



ELEVATION "A"



ELEVATION "F"



ELEVATION "C"



ELEVATION "G"



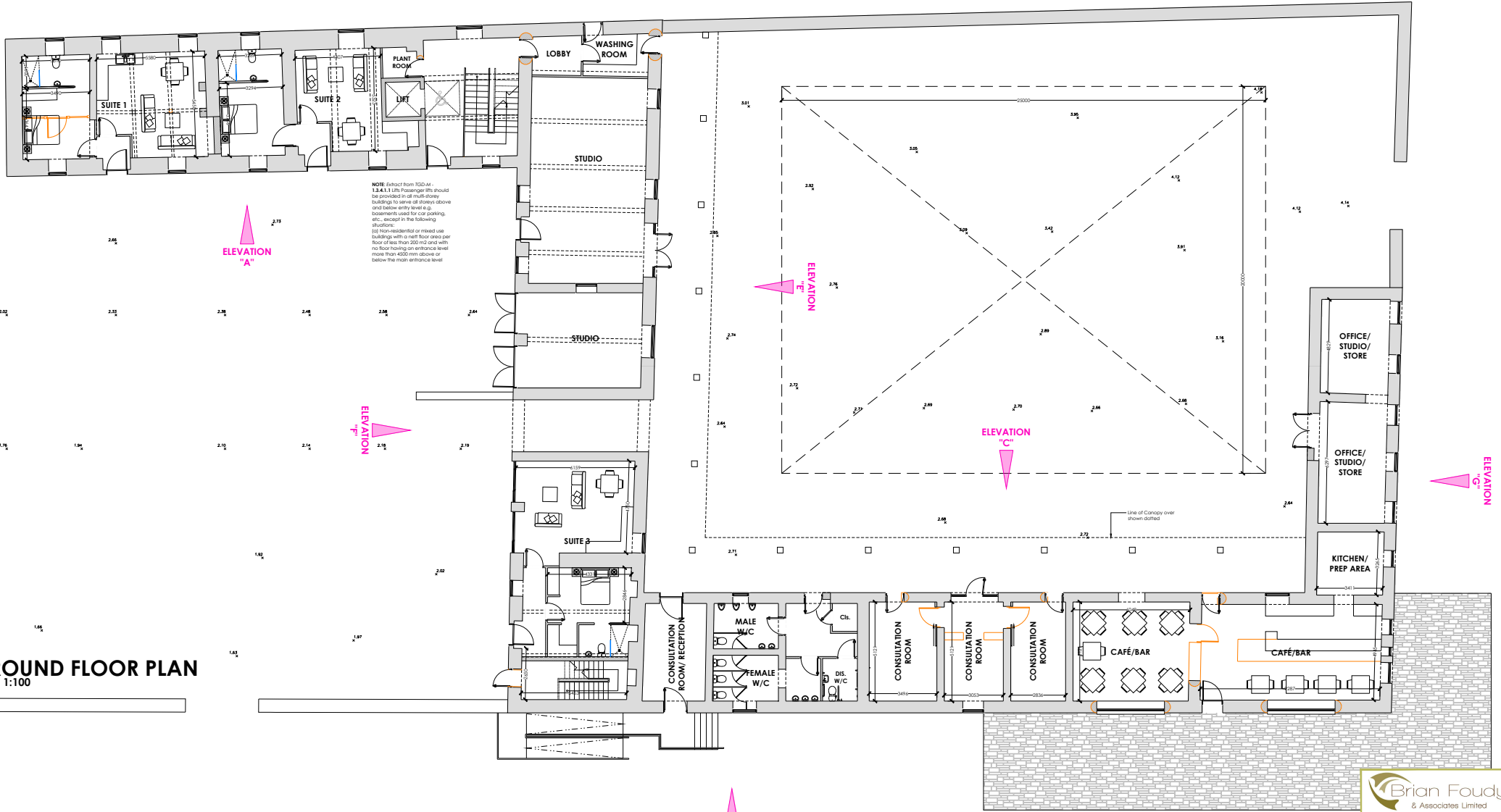
ELEVATION "B"



NOTE: Extract from TGD-M-1.3.4.1.1 Lifts Passenger lifts should be provided in all multi-storey buildings to serve all storeys above and below entry level (e.g. basements used for car parking, etc.) except in the following situations:
(a) Non-residential or mixed use buildings with a net floor area per floor of less than 200 m² and with no floor having an entrance level more than 4500 mm above or below the main entrance level

GROUND FLOOR PLAN

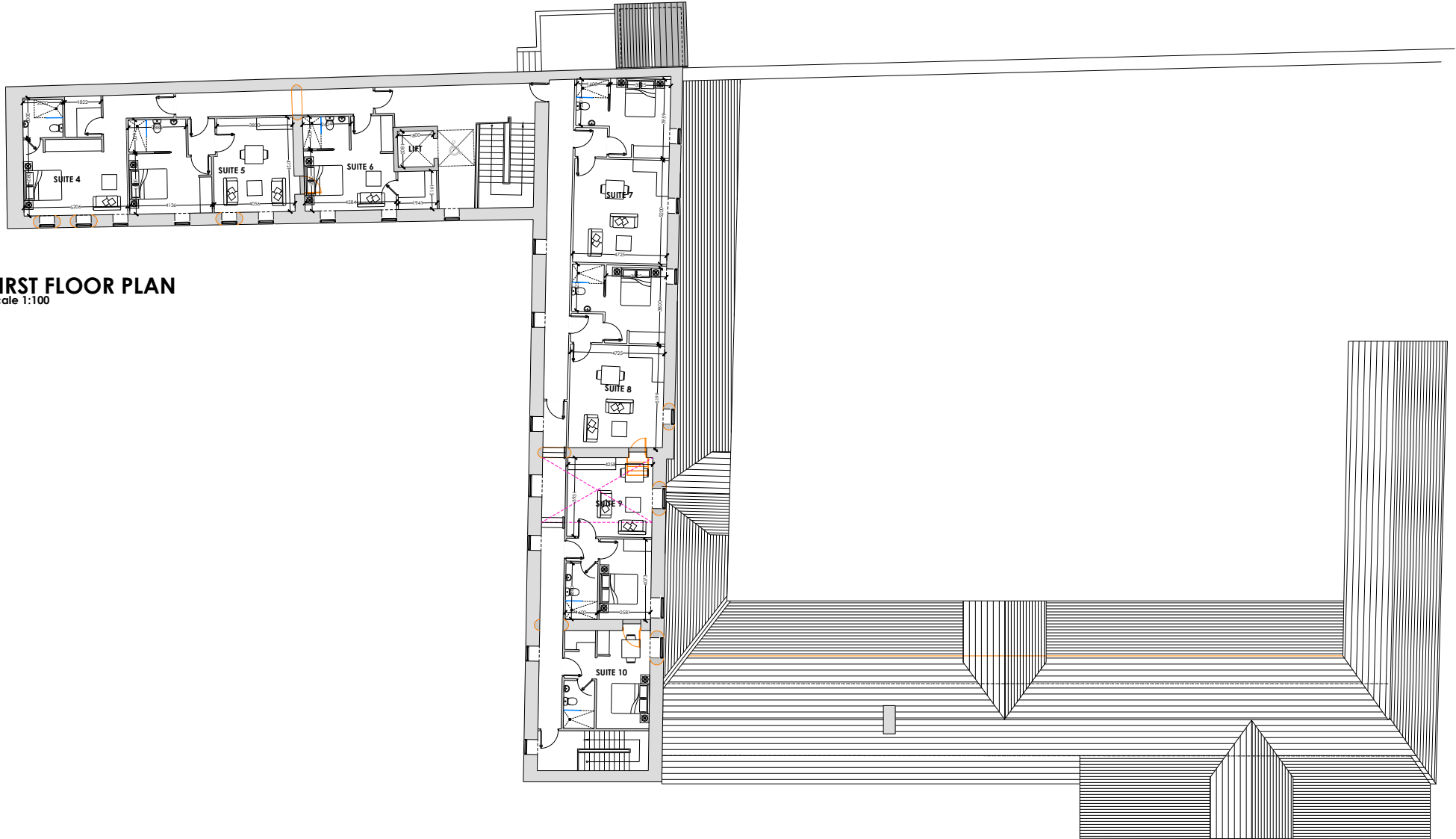
Scale 1:100



Brian Foudy & Associates Limited
 Chartered Engineers, Planning Consultants
 2, Prosperity, Sunningdale
 Osprey House, Carmody Street, Ennis, Co. Clare, V95 F720
 Tel: 0656893565 | Email: info@brianfoudyconsulting.ie

Client: **TRANSMOOR LTD.**
 Address: "The Stables" Newhall House, Newhall, Ennis, Co. Clare.
 Title: **PROPOSAL 1 GROUND FLOOR PLAN**

DESIGN	DATE	SCALE
M.D	B.F	1:100 @ A1
PROJECT NO	DATE	
TRM 02 01 24	December 2024	
PAGE		D



FIRST FLOOR PLAN
Scale 1:100

Brian Foudy & Associates Limited
Chartered Engineers, Planning Consultants & Property Surveyors
Osprey House, Carmody Street, Ennis, Co. Clare, V95 F720
Tel: 0656893565 | Email: info@foudyconsulting.ie

Client: **TRANSMOOR LTD.**
Address: "The Stables" Newhall House, Newhall, Ennis, Co. Clare.
Title: **PROPOSAL 1**
FIRST FLOOR PLAN & ELEVATIONS B-B & C-C

DATE	DESIGN	SCALE
M.D	B,F	1:100 @ A1
DATE	DATE	
TRM 02 02 24	December 2024	
DATE	DATE	
	D	

O'DONNELL 
ENVIRONMENTAL

info@odonnellenviro.ie