Report on Supporting Ecological Surveys

prepared in response to request for further information

for proposed

Lanesborough Outdoor Theatre

by

CAAS Ltd

for

de Blacam and Meagher Architects

on behalf of

Longford County Council

DE BLACAM AND MEAGHER ARCHITECTS

August 2025

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Document Control

	Author/Reviewer	Date
prepared by	Karen Dylan Shevlin	Various dates to 22 August 2025
reviewed by	Paul Fingleton	25 August 2025
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1. Introduction

1.1. Background

CAAS has been appointed by de Blacam and Meagher Architects on behalf of Longford County Council to carry out bat and amphibian surveys and reporting in support of the request for further information received from An Coimisiún Pleanála (Case ID: 318314) for the proposed Lanesborough Outdoor Theatre, Co. Longford ('the proposed development').

1.2. Report structure

This report sets out an overview of the methodology utilised for the surveys, analysis and reporting. It then provides a brief description of the proposed development and associated works, followed by a description of the receiving environment to which the proposed development relates in the context of bat and amphibian ecology.

The results of the surveys are then discussed in the context of the proposed development and surrounding habitats and landscape. Subsequently the proposed development is then assessed in the context of the survey results for potential impacts on local populations. If required, mitigation is recommended in order to address any potential impacts identified.

2. Methodology

2.1. Desktop review

The desktop review provides supporting information for survey planning and can support data collected from field surveys. A desktop review for bat species for the proposed development was carried out via the National Biodiversity Data Centre. Data was accessed for 1 km^2 area [N0068] which covers the proposed development site and the semi-natural woodland to the south. Recent reporting[1] on species trends and distributions was also consulted and informed surveys and results interpretation.

2.2. Bat surveys

A survey for potential bat roost features (PRF), swarming and commuting habitat within and surrounding the proposed development site was conducted on the 25/02/25. The PRF survey was conducted early in the year when vegetation is at its lowest and potential crevices are most visible in trees, walls etc. A search of all trees, rock faces and any other potential roosting features immediately surrounding the development for PRFs was conducted, as these areas are most likely to be impacted by changes in lighting and noise as a result of the proposed development.

A subsequent night-time bat walkover (NBW) survey was conducted on 14/07/25 using an Echo Meter Touch Pro to support the PRF and swarming / commuting inspection survey and provide a holistic view of the value of the site for local bat populations. Transects for the NBW were designed to encompass the transport route to the proposed development site, and the surrounding habitats of the site itself where accessible. All surveys followed the most up to date guidance (C0llins (2023)[2]

All resultant data was analysed using Kaleidoscope Pro software. All surveys were conducted in the optimal weather conditions and seasons for each, with no limitations encountered.

[1] Roche, N. & Langton, S. (2024) Population estimates, trends and background information for six Irish bat species. Article 17 reporting 2018-2023: Supporting document.
[2] Collins, J. (ed.) 2023. Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

2.3. Amphibian surveys

A survey for potential amphibian habitat was carried out on 25/02/25 and a survey for evidence of breeding populations of amphibians was conducted on the 15/04/25. Target species for this area were common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*). Survey methodologies following best practice guidance from the NRA (2008)[3] and NIEA (2017)[4]. Both surveys focused on the proposed site at the quarry itself and the nearby amenity grassland habitat which borders Lough Ree. No other areas directly interacted with as a result of the proposed development that have potential to support amphibian breeding populations were identified.

Surveys focus on searches for individuals and evidence of breeding. Any potentially valuable habitat encountered within the survey areas was also noted. Both surveys were conducted in the optimal conditions for such surveys with no limitations encountered.

3. Description of Proposed Development

The proposed Lanesborough Outdoor Theatre development site is 0.618 ha (6,180 sqm) in area and consists of the construction of a 500-seat outdoor community amphitheatre in former Council Depot at Commons North Lime Quarry, Lanesborough, Co. Longford (Figure 3.1).

The development will consist of (see Figure 3.2 below):

1. Permanent tiered seating (500 seats)
2. Stage with canvas canopy and steel support structure.
3. Temporary public ‘porta-loos’ including 1 no. accessible ‘porta-loo’.
4. 1 no. 20 foot container (14 sqm) modified for equipment storage.
5. 1 no. 20 foot container (14 sqm) modified to contain function services (temporary bar, first aid).
6. 1 no. Sound booth (7 sqm).
7. Site lighting.
8. Associated landscaping and ancillary site works.

The venue will operate on Friday and Saturday evenings for the months of June, July and August, for live music performances.

[3] NRA (2008) Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. NRA, Dublin.
[4] NIEA (2017) Newt Surveys - NIEA Specific Requirements. Northern Ireland Environment Agency, Belfast

Figure 3.1. Location of the proposed development

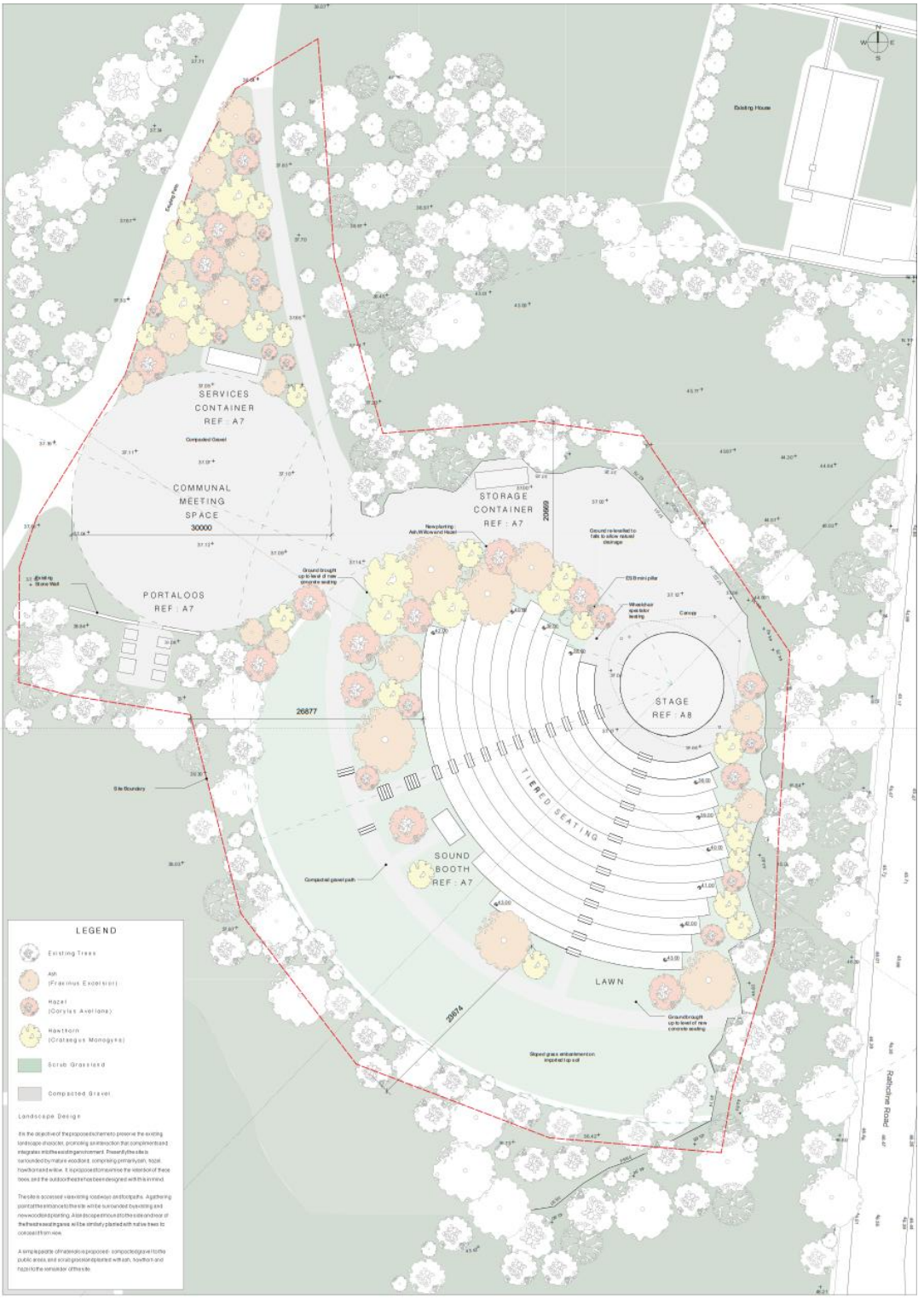

Figure 3.2 Plan of the proposed development

4. Receiving Environment

4.1. General description

The proposed development site is located just south of the village of Lanesborough, County Longford, and is bordered by Lough Ree to the west, the Rathcline Road to the east and the Rathcline Woods to the south. This site is contained almost entirely within a disused quarry which is situated

along a public access route leading from Lanesborough village, through a large area of amenity grassland along the shore of Lough Ree, and eventually into Rathcline Woods. The area of amenity grassland preceding the proposed site is heavily used during the spring and summer months by visitors for camping, fishing and boating activities on the small marina.

4.2. Habitats

The majority for the proposed site is composed almost entirely of exposed gravel (ED1) and scrub (WS1) and exposed rock face of the old quarry. This can be a valuable roosting habitat for bats, if conditions are suitable. There is no vegetative growth whatsoever within the centre of the quarry, it being pure gravel deposit. Semi native woodland or hedgerow surrounds the quarry on all sites. This presents habitat of high suitability for commuting and foraging bats. A large open area of amenity grassland lies to the north of the quarry, with Lough Ree to the west, both again providing suitable habitat for foraging and commuting by bats. Artificial lighting is already present on site at night around the car park and pathway/route leading to the proposed site. The proposed site itself, and the semi-natural woodland to its south, are not currently illuminated by any artificial light at night.

Where accessible/visible, at least two areas of intermittent wetting in the winter months are present at the edge of the quarry. A small basin of freshwater occurs in winter in the southeast of the quarry (Figure 4.1) which wet in winter and dry in summer and is likely a remnant basic from quarry activities. It was evident that this area has recently had gravel and soil materials deposited around its edge, likely creating a source for silt run off and pollution of the small area of freshwater there. This area was also dry when the site was visited to conduct other surveys in the summer months of 2025.

An additional area that is occupied by freshwater in the winter months but may dry out in the summer was identified along the southern boundary of the proposed site but not contained within the bounds of the previous quarry's activities. Therefore, this may be a naturally occurring area (possibly of a karst basin) that floods in the winter months. This area also contained high value mature *Salix spp.* (WN6) with a wealth of bryophytes and has remained undisturbed. This area is not accessible due to thick bush but has a high likelihood to provide high value habitat for amphibians and mammals.

Figure 4.1 Habitat map of the proposed site

4.3. Bats

4.3.1. Desktop review

The desktop review of records of bats from the 2 km^2 NBDC records area N06E[5] (Figure 4.2) which relates to the proposed development site and the semi-native woodland south of the site, showed the following species have been previously recorded in that area:

Common name	Scientific name
Soprano pipistrelle	*Pipistrellus pygmaeus*
Daubenton's bat	*Myotis daubentonii*
Leisler's bat	*Nyctalus leisleri*

These are species that would be expected to occur in this area and habitat, however the most recent records date from 2016-2018 and therefore the data cannot be fully interpreted as an indication of the species to be currently expected in the area.

Figure 4.2 NBDC records area N06E = red square, proposed development = blue star

The most recent reporting on population trends for Ireland's most common resident bat species provided population estimates for 2012 vs 2012. Results showed increases in the probably of detection of all species studied, with the exception of Daubenton's Bat which showed a decrease[6].

[5] National Biodiversity Data Centre database - downloaded August 2025

[6] Roche, N. & Langton, S. (2024) Population estimates, trends and background information for six Irish bat species. Article 17 reporting 2018-2023: Supporting document.

4.3.2. Survey results and discussion

The survey for PRFs recorded no trees immediately surrounding the proposed site that are suitable for bat roost habitat. This is due to the presence of short coppiced trees, hedgerows such as thick hawthorn, or trees that are too immature to carry any features that would have potential to support a bat roost (i.e., cracks, crevices, thick ivy growth etc.). However, the exposed rock face of the disused quarry is all potential bat roost habitat for several species of bat that might occur in the area. Regarding swarming habitat, no suitable habitat was identified for swarming behaviour. As expected, the vegetative habitats surrounding the proposed site provide ample habitat for commuting, foraging and ecological connectivity with the surrounding landscape.

Table 4.1 below shows the species recorded in the NBW surveys, alongside the number of passes per species recorded on site. The number of passes is a useful indicator of activity levels in a given area. The distribution of the species recorded on the NBW transect, with their relative activity levels, is shown in Figure 4.3. The NBW survey recorded four species of bat within the proposed development site. The soprano pipistrelle was the most frequently recorded species with 53 passes (approx. 50% of all activity on site). The common pipistrelle and Leisler's bat were the second and third most recorded species with 22 and 13 passes respectively. The brown long-eared bat was the least frequently recorded with 7 passes. The common and soprano pipistrelle bats are the most commonly recorded bat species nationwide, and Leisler's and the brown long-eared bat are less frequently recorded but still widespread[6,5]. The brown long-eared bat was not on the NBDC records, however as mentioned the last data submitted for this site was in 2018 and therefore this is not an up to date reference for species presently occurring at this site.

Table 4.1 Bat species recorded at the proposed development site

Common name	Scientific name	Total # passes
Soprano pipistrelle	*Pipistrellus pygmaeus*	53
Common pipistrelle	*Pipistrellus pipistrellus*	22
Leisler's bat	*Nyctalus leisleri*	13
Brown Long-Eared bat	*Plecotus auritus*	7

Figure 4.3 Nighttime bat walkover survey results

The NBDC records showed Daubenton's bat occurring within a 2 km^2 range of the proposed development site and given the plentiful supply of open freshwater habitat that this species requires nearby, it was expected that this species would be recorded during the NBW survey. It may not have been recorded because the survey effort was focused on the area inside the quarry itself, and because this survey is a representative sample from one night in summer – if surveys were repeated multiple times (which was not necessary for the purposes of this report), the species may have been recorded. It is likely, due to the plentiful supply of suitable habitat, that Daubenton's Bat does occur in the vicinity the proposed site, but perhaps not in significant numbers at proposed development location.

The activity recorded was concentrated over the pathway which leads from the proposed site to Lanesborough village that is bordered on both sites by grassland habitats, and over the karst limestone habitat that is at the edge of the lake (both areas occur outside of the proposed development site), with a small number of passes recorded within the quarry itself (Figure 4.3). This could be because there is less prey availability within the quarry site itself relative to the edge open freshwater and grassland habitats nearby. The presence of artificial lighting at night around the car park and pathway which leads from the proposed site to Lanesborough village is likely also drawing bat to preferentially feed there due to insects being attracted to street lighting.

4.3.3. Potential impacts

Considering the baseline lighting at the proposed site, i.e., currently there is no artificial lighting at the proposed location for the amphitheatre and the results of the PRF and NBW surveys; there is potential for impacts to local roosting habitat, in particular the rock faces of the quarry itself, and foraging bat populations within the quarry as a result of the implementation of lighting in the operational phase of the proposed development.

4.4. Amphibians

4.4.1. Desktop review

The desktop review of records of bats from the 2 km^2 NBDC records area N06E[7] (Figure 4.2 above) did not return any records of amphibians within the vicinity of the proposed development. However, as mentioned in the desktop review for bats above, the records on the NBDC can be several years old, and restricted resources can limit data availability on the database. Considering the wide availability of freshwater habitat within the area, it is expected thus that common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*) occur in the area.

4.4.2. Survey results and discussion

The preliminary inspection of the proposed development site for suitable amphibian habitat (conducted in February 2025), found two areas with potential to support breeding amphibian species namely, common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*). These potential amphibian habitats are indicated by "*Other artificial lakes and ponds FL1*" and "*Wet willow, alder, ash woodland WN6*" in the habitat map provided in Figure 4.1 above. These were the only areas of potential amphibian habitat that fall within the works area of the proposed development.

A follow up survey was conducted within the amphibian breeding season to examine both areas for evidence of breeding population of common frog and smooth newt. The survey found no evidence of either species within the "*Other artificial lakes and ponds FL1"* habitat. It was not possible to access the Wet willow, alder, ash woodland WN6 habitat with sufficient proximity to conduct an accurate

[7] National Biodiversity Data Centre database - downloaded August 2025

survey of presence of either species due to thick brush. However, this habitat is considered to have high suitability to support common frog and smooth newt populations.

As noted in the habitat's discussion above (s4.2), the "*Other artificial lakes and ponds FL1*" habitat showed evidence of recent dumping of gravel and soil materials around its edge and encroaching into the wet area. This likely creates a source for silt run off and pollution into that area of freshwater. This could be why no evidence of breeding amphibians was recorded at this location. As the "*Wet willow, alder, ash woodland WN6*" habitat could not be accessed due to thick brush but given the maturity and high quality of the habitat noted; for the purposes of this report, it is assumed that both species occur there, and thus appropriate mitigation can be prescribed to protect the area.

Given the sensitivity of the surrounding freshwater habitats (i.e., Lough Ree and associated riparian habitats), and their proximity to the proposed development site, the potential for indirect effects on hunting amphibians, particularly at night, is given additional consideration and discussed below.

The proposed development site is approx. 80m from the large freshwater lake of Lough Ree. Visitors to the amphitheatre will be gathering in the car park and potentially the amenity grassland area with benches that occurs between the car park and the proposed outdoor theatre site, in the evenings and nights of events, during the summer months. Adults of common frog and smooth newt are likely to be moving through this amenity grass habitat at night during the summer months when they are most active foraging for food - but at a time when the events are also proposed to take place.

Therefore, even though there are no events directly proposed within the amenity grassland area, and it does not hold breeding habitat, it holds foraging habitat. In addition, the high value breeding habitat for these species which immediately surrounds this grassland means that amphibians are much more likely to be moving through this amenity grassland area in search of food at night – and are therefore at higher risk from indirect impacts of the significant increase in footfall (of 500 max persons) to this area each evening/night that a given event is taking place. Thus, mitigation is required to reduce significant impacts to local common frog and smooth newt populations regarding pressures from visitor pressures to the proposed site as a result of the proposed development.

5. Mitigation measures

5.1. Bats

Lighting

A complete lighting plan will be complied at the detailed design stage, but will follow the below methods and designs for artificial lighting at ecologically sensitive locations[8,9,10]:

1. No lighting installed on site shall have a colour temperature greater than 2700 K (or a G-index of ≥ 2.0)
2. Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
3. All lighting will be LED warm lighting with no metal halide, compact fluorescent light sources used.
4. All lighting on site will be designed in such a manner as to reduce light spill to the surrounding ecologically sensitive areas [i.e., the surrounding semi-native woodland, and

[8] EPA 2024. Irish GPP Criteria: Indoor & Outdoor Lighting. Available here.
[9] The Heritage Council. Environmentally Friendly Lighting Guide.
[10] Bat Conservation Trust and Institution of Lighting Professionals, 2023. Guidance Note GN08/23 Bats and Artificial Lighting at Night

particularly the rock face of the disused quarry (as this is bat roost habitat)] as much as possible by implementing the following measures:

a) All lighting on site will be designed to be projected away from the sensitive ecological features of the surrounding landscape
b) All lighting installed will be designed to point towards pathways and central floor of the proposed outdoor theatre
c) Light beams of all installed lighting will not exceed an angle 80 degrees.
d) Baffles or cowls will be used to assist in directing light away from woodland where necessary.

5. All lighting will only be in use during events and have a "switch-off programme" for when events are not taking place.
6. All lighting during events will be dimmable and censored during events to reduce lighting on site as much as possible when not required. Exceptions will be allowed only for censored lighting areas which may require continual lighting during the events for health and safety / risk management reasons.
7. All lighting will comply with best energy efficiency standards.

A suitably experience Ecological Clerk of Works shall be assigned to the design stages of the proposed development to ensure that the above lighting design measures are implemented into the operational phase lighting design for the proposed development.

Noise

The following noise measures will be put in place to mitigate any potential for impacts on local bat populations as a result of the proposed development:

1. Restrict event sound checks to daytime hours only.
2. Ensure that no music events take place after 11:00 pm.
3. Implement real-time noise monitoring at noise-sensitive locations during events.
4. Undertake continuous measurement and record keeping ensuring that noise levels remain below the suggested limit of 55 dB LAeq.
5. Design loudspeaker systems in line with the setup modelled in the assessment to minimise noise impact on surrounding sensitive receptors.

5.2. Amphibians

Increased visitor pressure

To reduce footfall within the amenity grassland areas which surround the car park and amphitheatre, and direct visitors attending events to keep to the hard surface pathways and off the amenity grassland habitats at night; temporary event fencing will be in place along the western side (i.e., the side which opens onto the amenity grassland) of the path that leads from the car park to the amphitheatre for every event (see habitat map provided in Figure 4.1 above for map of pathways and amenity grassland areas).

All event stewards will be informed by the council of the sensitivity of the grassland area and the requirements to restrict visitor movements to the hard surface areas of the car park, pathways and amphitheatre grounds.

Breeding habitat

An area of high value habitat for breeding amphibians was located along the southwestern edge of the proposed development – see Figure 5.1 below where this habitat is indicated as "Zone of ecological importance"). This area occurs along the border of the proposed development area;

however, a 10m buffer / root protection zone will be put in place for the entirety of the construction phase.

This buffer will be installed previous to any works beginning on site, and the boundary indicated to onsite staff via simple fencing cordoning off the area. This will prevent encroachment of footfall, machinery or soil spill to this ecologically sensitive area for the duration of the construction phase.

A suitably experienced Ecological Clerk of Works shall be assigned to the proposed development for the duration of the construction phase to ensure that the above measure is implemented and enforced for the duration of the proposed works.

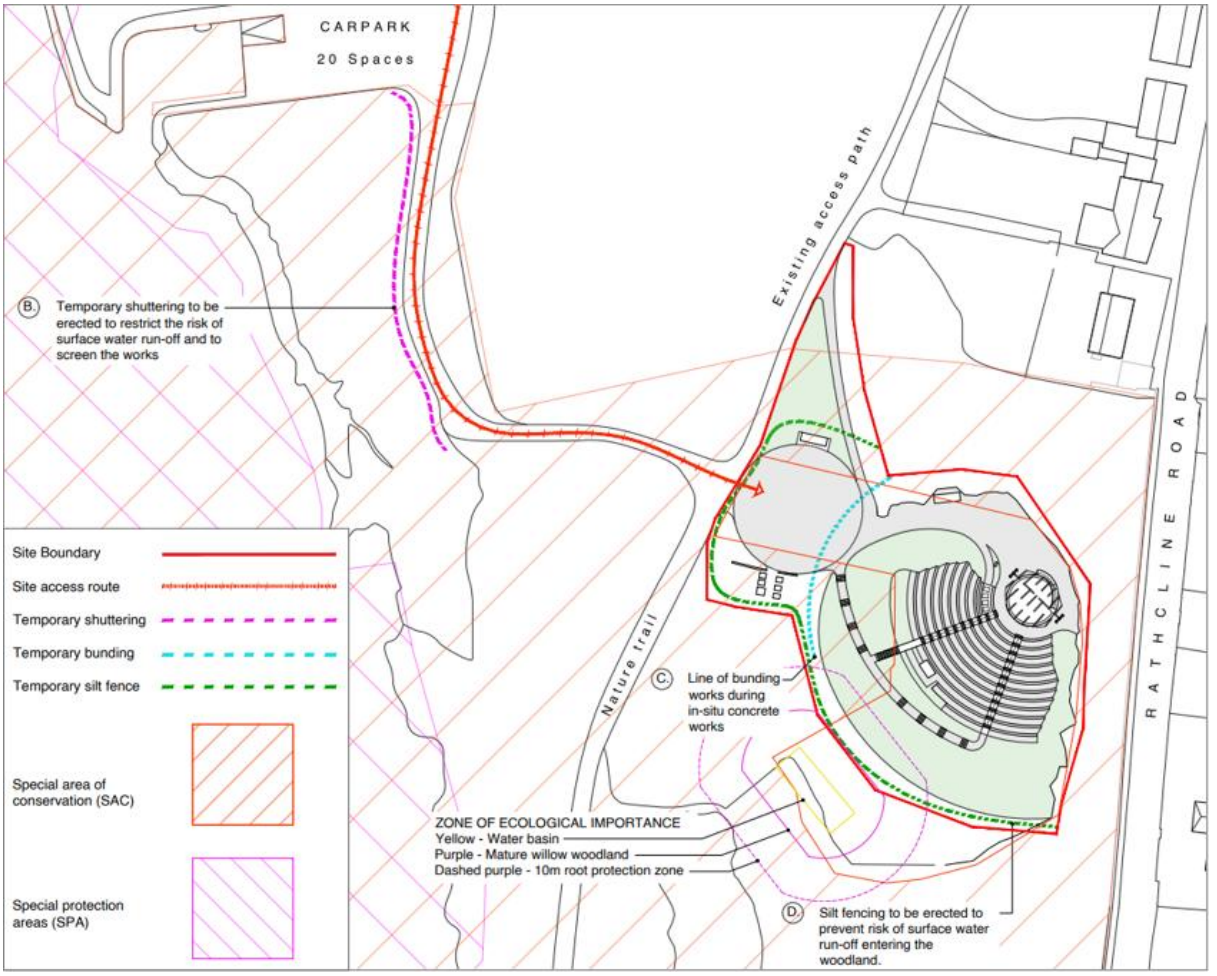

Figure 5.1 Protective measures for amphibian breeding habitat[11]

6. Conclusion

Bat and amphibian surveys have been carried out in support of the Request for Further Information received from An Coimisiún Pleanála (Case ID: 318314) for the proposed Lanesborough Outdoor Theatre, Co. Longford. Habitats of ecological value and sensitivity have been identified for both groups. These have been considered in the context of the proposed development and potential impacts have been assessed.

[11] Adapted from drawing "A10 Construction Management-@A1", see drawing set accompanying application for full scale version

Subsequently, tailored mitigation measures have been designed to prevent significant impacts to the local populations of bats and amphibians as a result of the proposed development. Upon implementation of these mitigation measures, there will be no significant effects to local bats or amphibian populations as a result of the proposed development.

Appendix I Contributor competencies

Lead author - Karen Dylan Shevlin is a senior ecologist with over 12 years' experience working in multiple capacities in ecology in Irish and international research institutions and organisations and holds a MSc in Biodiversity and Conservation from Trinity College Dublin (Dist. 2013). Karen has significant skills and experience in leading research and ecological surveys of bats, birds, insects, habitats and mammals, data analysis and managing resulting reports. Karen is also a specialist in ecological theory and the impacts/effects that altering natural dynamics may have on the surrounding environment. Karen has been the lead author and reviewed on many Appropriate Assessment Screenings, NISs, and EIARs for a range of public and private projects and plans ranging from residential and industrial projects to County Development Plans, to major wind turbine sites.

Reviewer - Paul Fingleton has an MSc in Rural and Regional Resources Planning (with specialisation in EIA) from the University of Aberdeen. Paul is a member of the International Association for Impact Assessment as well as the Institute of Environmental Management and Assessment. He has over twenty-five years' experience working in the area of Environmental Assessment. Over this period, he has been involved in a diverse range of projects including contributions to, and co-ordination of, numerous complex EIARs and EIA screening reports. He has also contributed to and supervised the preparation of numerous AAs and AA screenings.

Paul is the lead author of the current EPA Guidelines and accompanying Advice Notes on EIARs. He has been involved in all previous editions of these statutory guidelines. He also provides a range of other EIA related consultancy services to the EPA. Paul is regularly engaged by various planning authorities and other consent authorities to provide specialised EIA advice.