SUMMARY OF ECOLOGICAL WORKS

Claverton Down Campus, University of Bath

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1. Introduction

1.1 Ecosulis has undertaken a suite of ecology surveys at the University of Bath, as well as providing advice and consultation. This letter report outlines all works completed to date, any key findings, and recommendations. The majority of work completed by Ecosulis included advice given in relation to bats on site, specifically the greater and lesser horseshoe bats which are associated with the nearby Bath and Bradford-on-Avon SAC. Ecosulis has also been involved in the production of the Landscape Ecology Management Plan (LEMP), providing advice in relation to ecology and biodiversity on campus. Below is a list of all relevant works completed to date that will be discussed within this report:

- J006306 Claverton Down Campus Masterplan, PEA and Bat Surveys (2017)
- J006566 University of Bath Horseshoe Bat Activity Surveys (2019)
- J006567 University of Bath Winter Bat Survey (2019 - 2020)
- J006586 University of Bath Input into LEMP (2019 – present)

2. J006306: Claverton Down Campus Master Plan, PEA and Bat Surveys (2017)

2.1 In 2017 Ecosulis carried out an update ecology survey of both the main campus and Sulis club, as well as bat activity surveys. The purpose of this was to inform the proposed master planning of the south-eastern area of the campus.

Main campus PEA

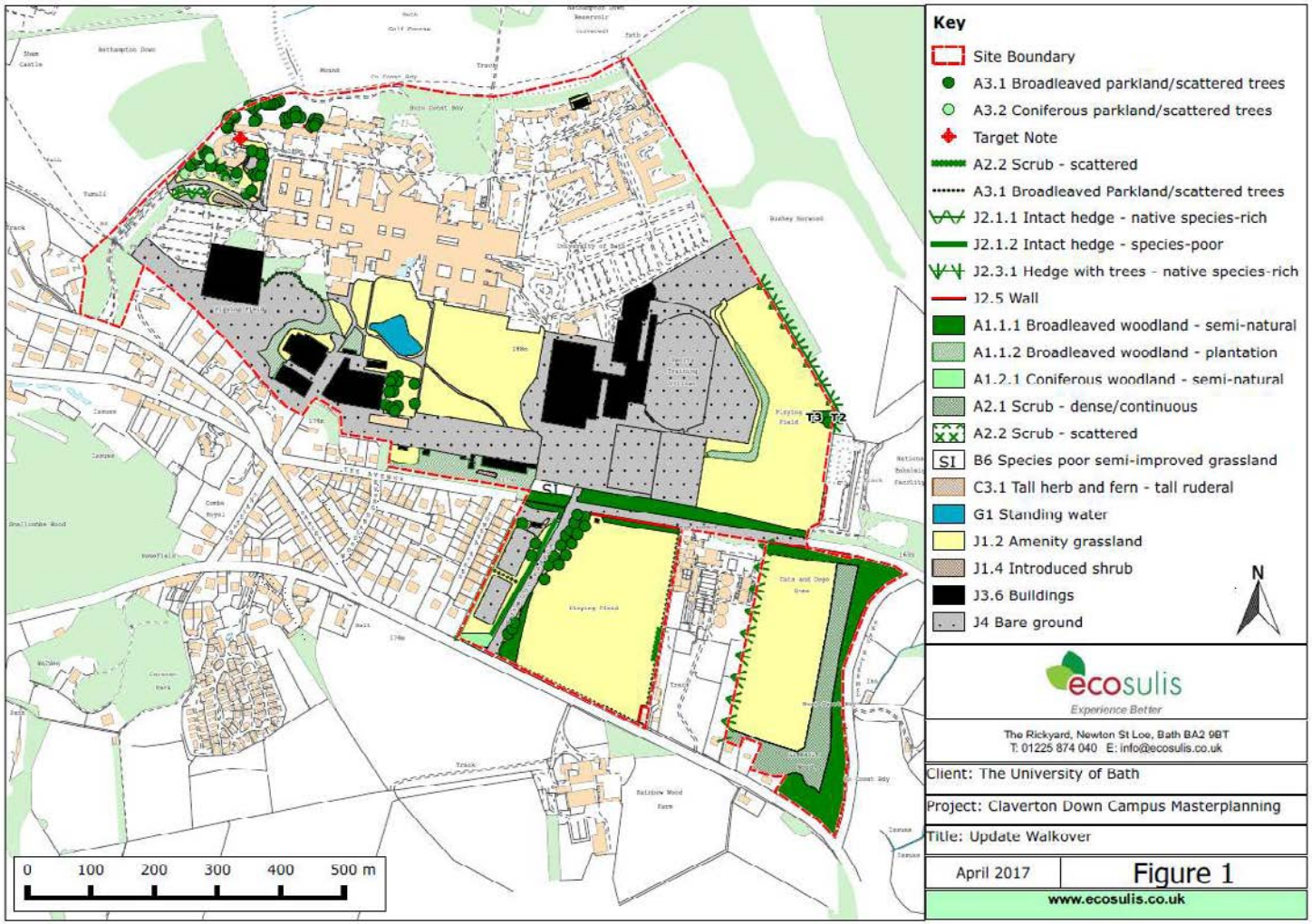
2.2 The preliminary ecological appraisal of the main campus (Figure 1) found that the main habitat types on site were: buildings, hardstanding, semi-improved grassland, amenity grassland, standing water, scattered trees, woodland, bare ground, hedgerows, and stone walls. All habitats on site were managed as such provide limited opportunities for wildlife.

2.3 It was found that the woodland, scattered trees, standing water and hedgerows on site provided good foraging and/or commuting opportunities for bats. Bat activity surveys were commissioned alongside the PEA to determine the activity of bats onsite. In addition to bat activity, it was found that some of the trees and buildings provided roosting opportunities, though further surveys were required in order to assess this.

2.4 There were opportunities for nesting birds within trees and hedgerows, however no further surveys were recommended. It was therefore recommended that vegetation clearance would avoid nesting bird season or require a pre-check by an Ecologist. Nest boxes and retention of trees were to be considered.

2.5 No evidence of other protected species was recorded during the survey visit. There were limited opportunities for foraging badger, small mammals, and reptiles, and therefore no further surveys were recommended. It was recommended as an enhancement that areas could be left unmanaged with additional planting of nut and berry plant species to improve the green corridors across the site.

Figure 1 - Phase 1 Habitat Survey Claverton Down Campus



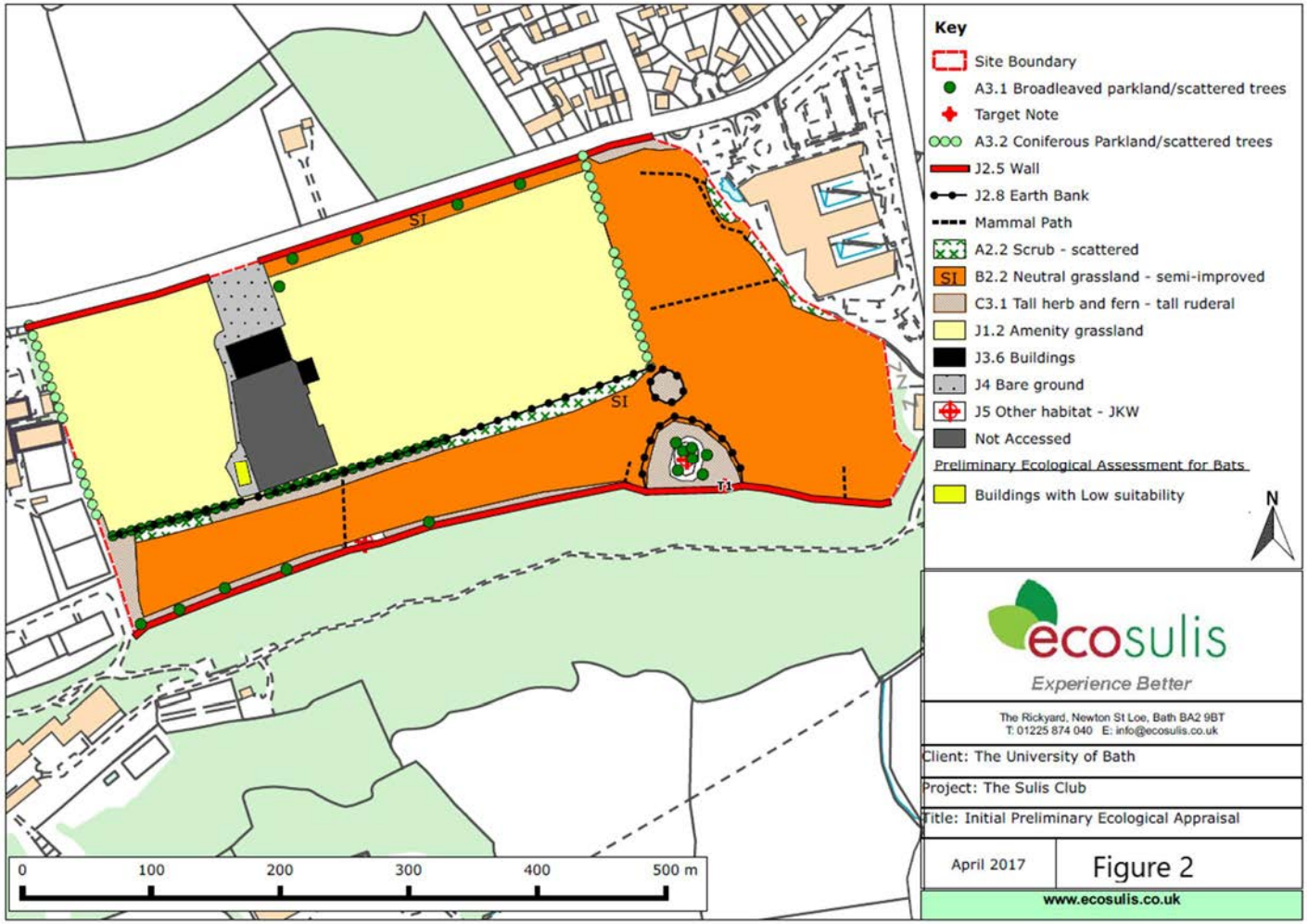
2.6 The preliminary ecological appraisal of the Sulis club (Figure 2) found the main habitat types on site were: broadleaved scattered trees, coniferous scattered trees, stone walls, semi-improved grassland, amenity grassland, buildings, and bare ground. There were limited opportunities for wildlife at the Sulis club.

2.7 It was found that semi-improved grassland and scattered scrub habitats in the surrounding area provided opportunities for commuting and foraging badgers. The south facing bank provided sett building opportunities, though no setts were recorded, only mammal paths. A precautionary method of working was advised within these suitable habitats.

2.8 It was found that the boundary habitats provided opportunities for commuting and foraging bats. Therefore, recommendations in relation to developments included a sensitive lighting plan and retention of the boundary habitats and their associated connectivity where possible. Due to the suitability for bats and the proximity to the nearby Bath and Bradford-on-Avon SAC, a suite of horseshoe bat activity surveys were recommended for the site, which would inform on any additional required recommendations.

2.9 The trees and hedgerows were found to provide opportunities for nesting birds, and it was therefore recommended that de-vegetation works would be undertaken outside of nesting bird season, or they would require a pre-check by an Ecologist.

Figure 2 - Phase 1 Habitat Survey of Sulis Club



2.10 In 2017 Ecosulis carried out a number of bat activity surveys for horseshoe bats, to inform the masterplan for the south-eastern area of the campus.

2.11 Low levels of bat activity were recorded across the site. The highest levels of bat activity were along the southern and eastern boundaries, within the central green belt and along The Avenue through the site.

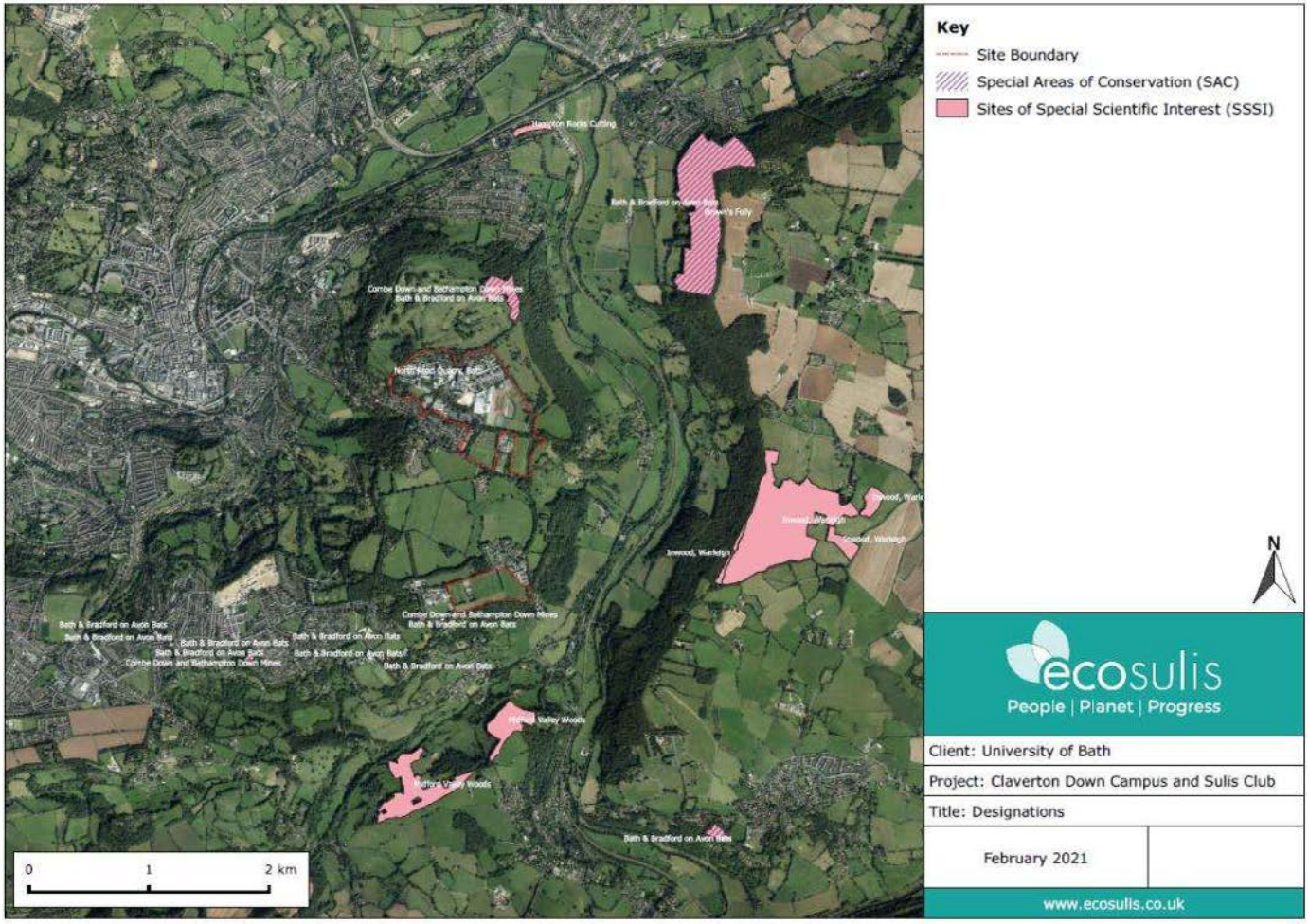
2.12 A total of eight species were recorded, including common pipistrelle, soprano pipistrelle, noctule, *Nyctalus/Eptesicus* species, *Plecotus* species, *Myotis* species, and two Annex II species: lesser horseshoe and greater horseshoe.

2.13 Recommendations were as follows:

- Boundary habitats are to be retained with an appropriate buffer (10m for woodlands, 5m for hedgerows).
- Mature trees around the lake and green finger should be retained as dark corridors.
- Lighting levels should not exceed the current levels, a lighting scheme will be required.
- The LEMP should incorporate retention of habitat and additional planting of native species.

2.14 A map highlighting the nearby designations, including Special Areas of Conservation and Sites of Special Scientific Interest are shown in Figure 3.

Figure 3 - Designations surrounding the site



3. J006656: University of Bath Horseshoe Bat Activity Surveys 2019

3.1 In 2019, Ecosulis carried out an update horseshoe bat activity survey. This was to further support the masterplan which is being revised. During both the activity surveys and static detector recordings, horseshoe bats were recorded foraging and commuting most frequently along the eastern boundary of the site. The western edge of the transect also had similar numbers of horseshoe bats. The results of the 2019 survey were similar to those of the 2017 survey. More records of horseshoe bats were captured along the southern boundary in 2019 than in 2017.

3.2 Overall, surveys recorded moderate levels of common bat species along the boundaries of the site and the central parkland area. The rest of the site is subject to low activity levels. The two most commonly recorded species across the site were *Pipistrelle* and *Nyctalus/Eptesicus* species.

3.3 The enhancement and recommendations for ecology on site are the same as they were in 2017.

4. J006567: Winter Bat Surveys 2019 – 2020

4.1 Winter Bat Surveys were carried out to provide additional supporting information regarding horseshoe bat activity on the site. Similarly, to the previous surveys, activity of greater and lesser horseshoe records was predominantly within the southern and eastern boundaries. The recommendations for enhancement and ecology are the same as summarised above.

4.2 These results highlight that bats are highly likely to be roosting within or close to the site, making use of the dark boundary areas all year round for foraging and commuting. Emphasising the importance of these habitats for bat species.

5. J006586: University of Bath Input into LEMP

5.1 In 2019, Ecosulis was commissioned to provide ecological input into the landscape ecology management plan (LEMP) being produced for the site. The following recommendations have been made by Ecosulis. Please refer to Figure 4 for principal area locations and recommendations.

Table 1- Principal area recommendations within the LEMP

Principal Area	Recommendations made by Ecosulis
Northern boundary (west)	• SINC – meadow habitat. Need to enhance this area for meadows, with occasional trees • Reduction in mowing regimes • Grassland left to grow around trees • Wildflower encouragement • Recreational areas subject to regular mowing • Minimal additional tree planting • Trees along northern boundary should be retained for bats and screening
Northern boundary (east)	• Woodland management • Tree thinning for understorey growth • Bat and bird assessment prior to works • Deadwood and bracken piles within woodland • Bat and bird nesting boxes
Eastern boundary	• Enhance buffer habitat – graded edge, no lighting onto buffers • Bat and bird assessment prior to works • Deadwood retained in situ if safe • Tree management along boundary
Eastern playing fields	• Bat and bird assessment prior to works • Deadwood retention where possible • Tree management to retain and strengthen corridors • Sensitive lighting scheme • Banks located next to pitches should be left to grow longer, with wildflower meadows
Convocation avenue	• Leave longer grassland edges and wildflower meadows are encouraged on banks for pollinators • Installation of bug hotels around footpaths • Grassland around trees left to grow to help green corridor, also encourages native seedbank re-establishment
Southern playing field east	• Buffer habitat already good, consider management to further enhance this. Wildflower strips around pitches. • Bat and bird assessment prior to works • Retention of deadwood where possible • Tree retention along boundaries • Sensitive lighting scheme • Additional native planting • Banks left unmanaged for wildflowers and longer grassland edges
Norwood avenue	• Planting native wildflowers for limestone grassland • Leaving wildflower areas unmown • Leave mature trees in situ where possible, including deadwood • Pre checks for bats and birds where trees require removal / felling • Replacement planting implementation with native species

Principal Area	Recommendations made by Ecosulis
The avenue	• Maintain continuous green corridor for horseshoe bats (and other wildlife) • Allow successional undergrowth where possible, or additional planting to strengthen corridor • Encourage graded edge to the northern boundary of the woodland vegetation, including additional shrubs and longer grassland edges
South west boundary	• Enhance vegetation for biodiversity – trees, bolster buffer • Grassland within the medical centre and surrounding the lacrosse pitch subject to reduce mowing to encourage herb species • Longer grassland around trees to encourage wildflowers • Arisings removed to compost areas to encourage herb diversity • Orchard planting and management in medical centre grounds, provides foraging for people and wildlife • Bat and bird assessments for trees • Deadwood retention
University park	• Designed for biodiversity and people • Install bug hotels • Nest boxes in trees • Interpretation boards • Outdoor study areas • Allotments for students • Maintain habitat for nationally scarce Hornet Clearwing in poplars • Varied grass management strategy • Light sensitive scheme • Retain and manage existing trees and successional planting • Re-design parkland to improve flow and encourage student use • Wildflower strip creation • Brash and deadwood piles should be retained for small mammals/insects • Grass cutting piles for reptiles • Aquatic vegetation in lake should be retained and subject to minimal management
Western boundary quarry road	• Very constrained – need to protect existing vegetation • Bat and bird assessment prior to any works • Deadwood retention where possible • Reduced mowing regimes • Arisings moved to compost areas
Woodlands / North Road	• Bat and bird assessment prior to any works • Deadwood retention where possible
Sulis Club	• Bat and bird assessment prior to any works • Green corridor enhancement and maintenance • Sensitive lighting scheme • Bat and bird boxes and bug hotels • Strengthening northern border with additional native planting • Leave semi-improved grassland as unmanaged or wildflower bed

Figure 4 - Principal area locations within Claverton Down Campus

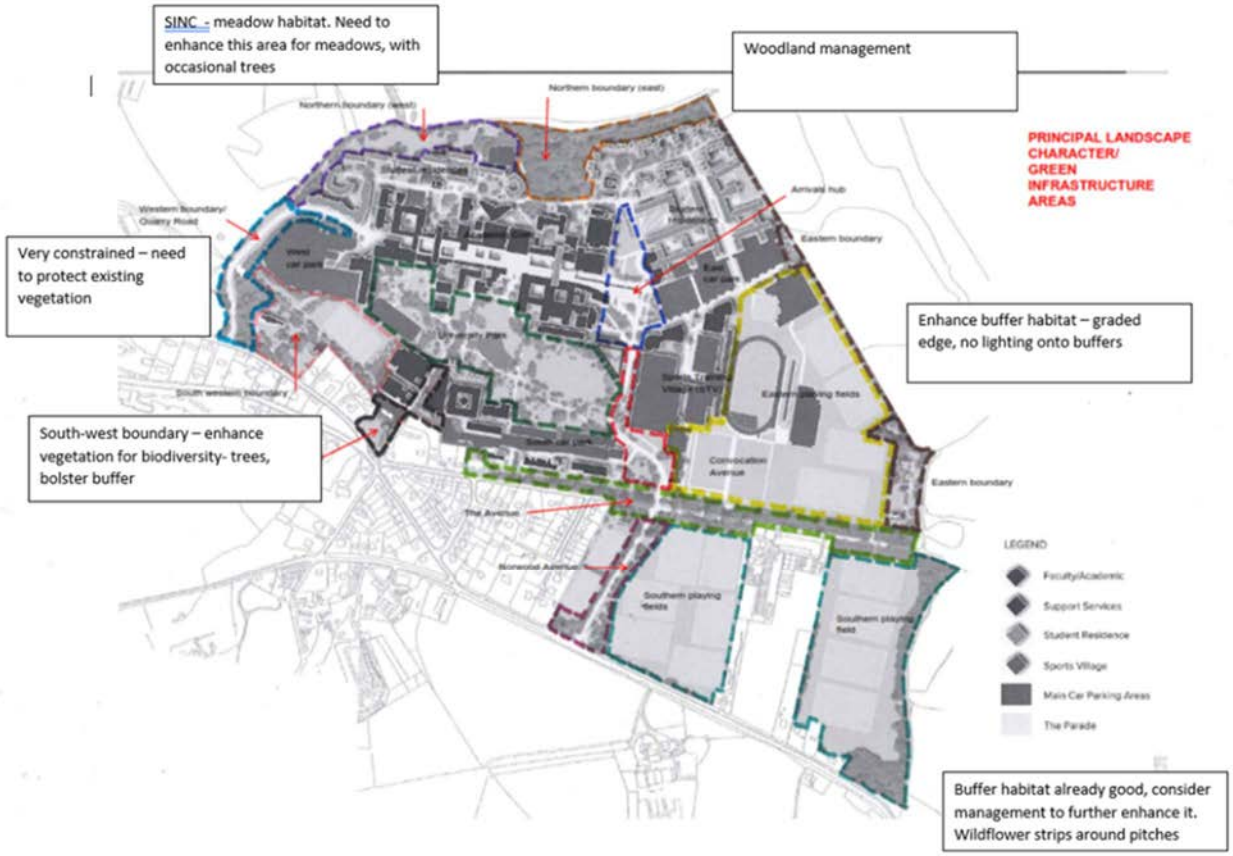


Figure 5 - Development Framework (wearedefine)

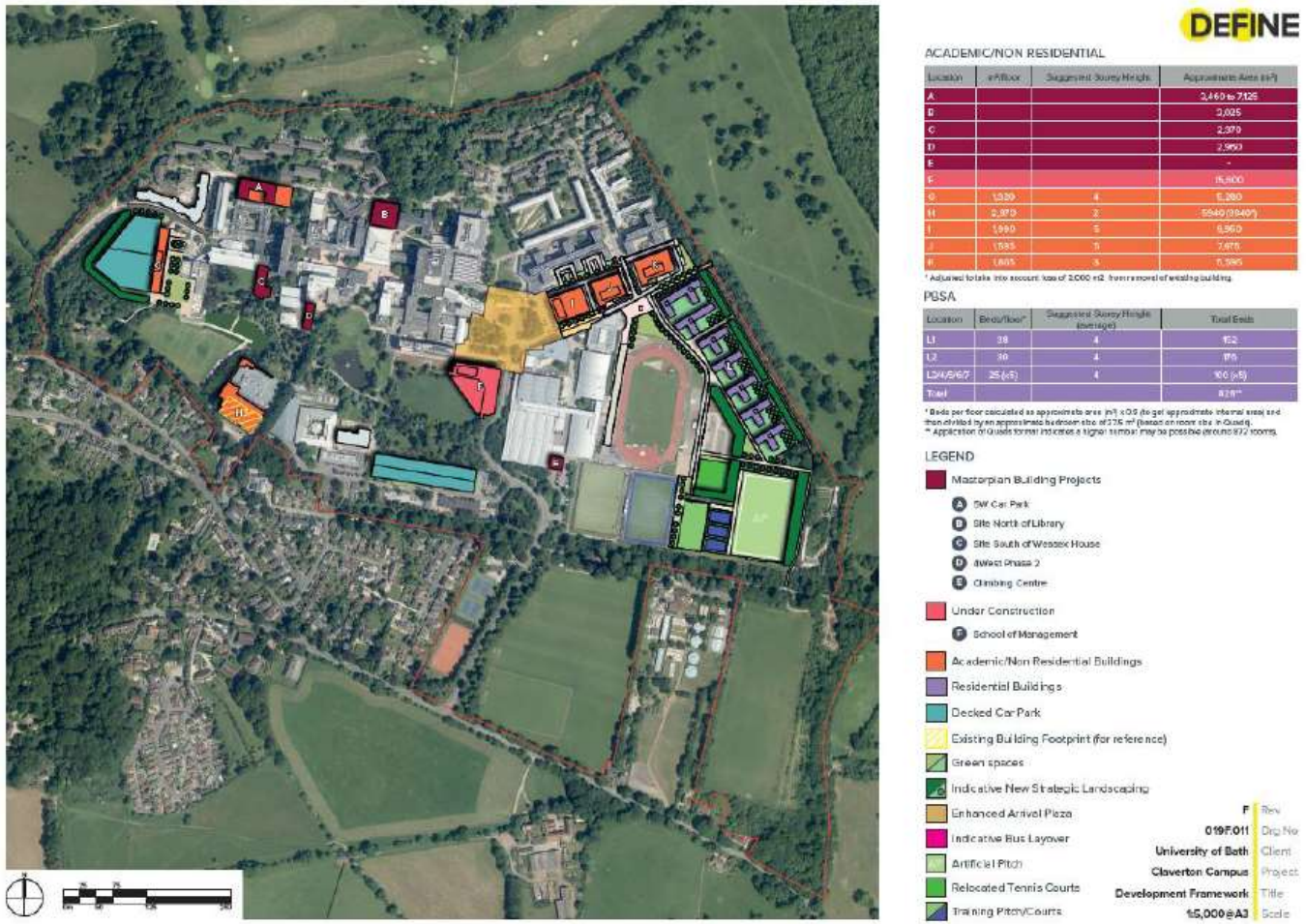
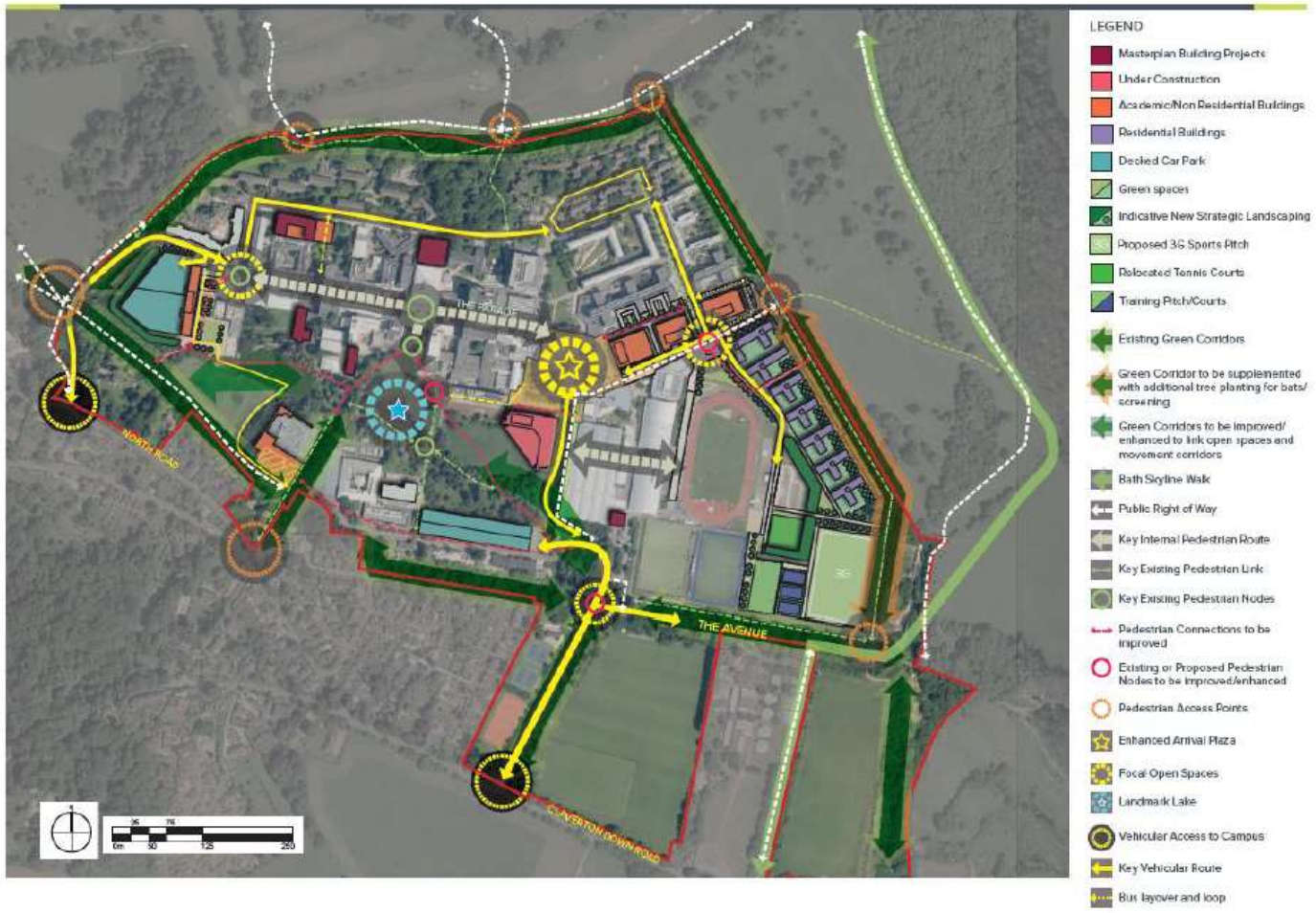


Figure 6 – Claverton Campus Masterplan



Appendix 1

Full Report PDFs


J006567 University of Bath - Winter Bat Surv


J006566 - Bath University Bat Activity


J006306 Claverton Down Campus Horses


J006306 PEA Letter Report The Sulis Club


J006306 Claverton Down Campus Updat