Environmental Impact Assessment (EIA) Screening Report

Land at Sodbury Road, Wickwar

October 2021

Contents

Contact
Michael Browne
michael.browne@turley.co.uk

Client
Bloor Homes

Our reference
BLOA3039

26 October 2021

1. Introduction

1.1 Turley is acting on behalf of its client, Bloor Homes (hereafter referred to as the 'Applicant'), who are preparing to submit an outline planning application (hereafter referred to as the 'Application') for up to 180 residential homes (Use Class C3), a local shop (Use Class E(a)), allotments, landscaping and access (hereafter referred to as the 'Proposed Scheme') on land to the east of the B4060 Sodbury Road, Wickwar (the 'Site').

1.2 The Site covers an area of approximately 7.89 hectares (ha) and is currently occupied by improved grassland / semi-improved grassland fields and arable farmland, with scattered trees, scrub and hedgerows located along the field boundaries. A set of overhead low voltage electricity transmission lines also run across the Site's northern extent.

1.3 The Site is bound to the north by agricultural buildings and land at South Farm; to the east by the B4060 Sodbury Road, residential dwellings and a commercial fencing supplier; and to the south and west by agricultural land. The Site is defined on **Figure 1: Site Location Plan**.

1.4 This report has been prepared in order to obtain a Screening Opinion from South Gloucestershire Council (SGC) in accordance with Part 2 of The Town and County Planning (EIA) Regulations 2017 (as amended)[1] (hereafter referred to as the EIA Regulations).

1.5 In accordance with Regulation 6, Paragraph 2 this EIA Screening Report includes the following information:

- A plan sufficient to identify the land (see **Figure 1: Site Location Plan**);
- A description of the development, including in particular;
  - A high level description of the physical characteristics of the development and, where relevant, of demolition works (set out within **Section 2**);
  - A description of the location of the development, with particular regard to the environmental sensitivity of geographical areas likely to be affected (see **Section 3**);
- A description of the aspects of the environment likely to be significantly affected by the development (set out within **Section 6**);
- To the extent the information is available, a description of any likely significant effects of the proposed development on the environment resulting from;

[1] Town and Country Planning (Environmental Impact Assessment) Regulations 2017, Statutory Instrument 2017 No.571 as amended by Statutory Instrument 2018 No. 695 and Statutory Instrument 2020 No. 505.

- The expected residues and emissions and the production of waste, where relevant (see **Section 6**);
- The use of natural resource, in particular soil, land, water and biodiversity (see **Section 6**); and

- Such other information or representations as the person making the request may wish to provide or make, including any features of the proposed development or any measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment (see **Section 6**).

1.6 Furthermore, this report has been prepared in line with Regulation 6, Paragraph 4 (including criteria set out in Schedule 3) and covered the following steps.

Identification of the characteristics of the Proposed Scheme (**Section 2**)

↓

Identification of the characteristics of the Site and surrounds (**Section 3**)

↓

Taking into account the characteristics of the Proposed Scheme and the Site and surrounds, identification of how Schedule 1 or 2 of the EIA Regulations applies (**Section 4**)

↓

An explanation of how the Proposed Scheme has been appraised within this report and how this report sets out the consideration of likely environmental effects and in-combination effects (**Section 5**)

↓

An appraisal of whether there would be any likely environmental effects, including the identification of any plain or easily achievable mitigation to avoid significant effects (**Section 6**)

↓

An appraisal of whether there would be any likely in-combination effects (**Section 7**)

1.7 Where, through the appraisal of likely environmental effects, mitigation has been identified, this has been collated and set out within a Schedule of Mitigation in **Appendix 1**.

1.8 As such, the information provided within this report is considered sufficient to inform SGC's Screening Opinion, in accordance with Regulation 6, Paragraph 2. The required contents of the Screening Opinion are outlined in Regulation 5 Paragraph 5[2].

1.9 In accordance with Regulation 6, Paragraph 6(a), SGC has three weeks within which to provide a Screening Opinion from the date of receipt of this request.

[2] Including a statement for the main reasons of the conclusion with reference to the relevant criteria listed in Schedule 3 and any features of the proposed development and measures envisaged to avoid, or prevent what might otherwise have been, significant adverse effects on the environment.

2. Characteristics of the Proposed Scheme

Overview of Site Preparation

2.1 All temporary and permanent works will take place within the boundary shown on **Figure 1: Site Location Plan**. This boundary shows the area within which planning permission will be sought.

2.2 It is envisaged that temporary fencing/hoarding will be erected around the perimeter of the Site at the outset of construction.

2.3 Initial access to the Site during construction will be from the existing field gate onto the B4060 Sodbury Road at the south-eastern extent of the Site, from which a formal access point will be created. A new vehicular access point will be created from the B4060 Sodbury Road at the Site's north-eastern extent. However, the new access will not be used at the outset of construction.

2.4 To facilitate the construction of the northern Site access, footpaths on the B4060 Sodbury Road will be widened and the existing pedestrian refuge will be shifted eastwards to improve the visibility and navigability of the proposed access junction. In addition, two trees[3] will also be removed and a set of overhead low voltage transmission lines will require grounding where built form is proposed. To construct the southern Site access two trees and a section of hedgerow[4] will be removed.

2.5 An ash tree[5] at the Site's north-western extent and further sections of species-poor hedgerows[6] across the Site will also require removal for the construction of the proposed internal primary road (linking the two Site accesses) and proposed built form. All other vegetation and hedgerows will be retained.

2.6 The Site's topography generally slopes gradually from the south-eastern to north-western, from approximately 90.5m Above Ordnance Datum (AOD) to approximately 83.0m AOD respectively.

2.7 Due to the existing topography, re-profiling will be required. As per the Phase 2 Ground Investigation Report[7], additional testing will be required to classify the reuse of surface materials. However, it is anticipated that material will be cut from the Westbury Formation and Cotham Member and Langport Member and Wilmcote Limestone Member[8]. It is likely that these materials would meet Class 2C for earthworks materials and would be suitable for use as fill material elsewhere on-Site[7]. As such, significant

[3] Which form part of G1 (Category B), as per the Stage 1 and 2 Arboricultural Impact Assessment Report. A Tree Preservation Order (TPO) has also been placed on the group.
[4] T18 (Category U), T19 (Category C) and H10.
[5] T16 (Category U).
[6] (From north to south) sections of H3, H2, H7, H18 and H10.
[7] Clarkebond (2021) Phase 2 Ground Investigation: South Farm, Wickwar.
[8] Typically consisting of a firm sandy/gravelly clay.

export/input of material is not anticipated and a general cut / fill balance will be achieved within the Site.

2.8 Ground conditions are considered likely to be suitable for conventional strip foundations as no significant geotechnical risks were identified by the Phase 2 Ground Investigation Report[7].

2.9 Prior to commencement of construction works, all existing on-Site utilities and services will be identified and where required disconnected and/or diverted and made safe and appropriate notices/licenses sought.

2.10 Welfare facilities and other temporary infrastructure required (i.e. Site compound, material laydown/storage etc.) will be set up at a designated location within the Site, as determined by the appointed contractor.

2.11 Construction working hours[9] would be 07:30 to 18:00 Mondays to Fridays; 08:00 to 13:00 on Saturday; and it is anticipated that there will be no construction on Sundays or Bank Holidays, except with the agreement of SGC.

Development Principles

2.12 The Proposed Scheme is for up to 180 residential homes, a local shop, allotments, new play facilities, public open space, landscaping and access.

2.13 The maximum height of buildings on-Site will be up to 2.5 storeys (10m above finished floor levels (AFL)) for the proposed dwellings and up to 2 storeys (9m AFL) for the proposed local shop. Proposed dwellings will be developed at a net density of approximately 40 dwellings per ha (dph).

2.14 Two operational access points will serve the Site (as discussed above), at the north-eastern and south-eastern extents of the Site, onto the B4060 Sodbury Road. An internal primary road will link the three proposed parcels of residential development and the local shop.

2.15 Approximately 3.2ha of public open space will be delivered, including a Local Area of Play (LAP) in the northwest of the Site and a Local Equipped Area of Play (LEAP) in the south-western part of the Site. Buffers are proposed for these play spaces to create distance from proposed built form and so improve their safety. Approximately 0.08ha of the Site will be for allotments, located in the north-eastern corner of the Site, with a pumping station proposed in the north-western corner.

2.16 As part of the surface water drainage strategy, an attenuation basin is proposed at the western Site boundary. This will be fed by a proposed drainage swale from the eastern Site boundary. In line with the local guidance the drainage design will be for the 1%

[9] In accordance with South Gloucestershire Council guidance: '*Nuisance from building sites*' guidance. Available online: https://www.southglos.gov.uk/environment-and-planning/pollution/pollution-control-noise/nuisance-from-building-sites/ [Accessed 27/09/2021].

Annual Exceedance Probability (AEP) (1 in 100 year storm) with an uplift in rainfall intensity of 40% in order to mitigate the impacts of climate change.

2.17 All future lighting installations will be designed and installed in line with relevant standards and guidance[10].

2.18 The residential dwellings and local shop will contain appropriate waste storage facilities / areas in line with SGC requirements.

Timescales

2.19 Subject to gaining planning permission initial site works and construction is anticipated to commence in 2023/2024 and be completed across a build period of 4 years. The Proposed Scheme will be fully operational in approximately 2027/2028.

[10] CIE 150: 2017 - Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations, 2nd Edition; ILP GN01 - Guidance Notes for the Reduction of Obtrusive Light 2020; BS 5489-1 : 2020 - Code of Practice for the Design of Road Lighting; and ILP Guidance Note 08/18 Bats and Artificial Lighting in the UK.

3. Characteristics of the Site and Surrounding Area

3.1 Publicly accessible information (i.e. nationally held environmental data sets) and the following draft application reports (which will be submitted with the forthcoming Application) have been used to inform this EIA Screening Report and the description of the Site and surrounding area:

- Archaeological and Heritage Baseline Assessment[11];
- Ecological Baseline Report[12];
- Flood Risk Assessment and Drainage Strategy[13];
- Heritage Impact Assessment[14];
- Landscape and Visual Baseline and Appraisal[15];
- Noise Assessment[16];
- Phase 2 Ground Investigation[7];
- Stage 1 and 2 Arboricultural Report[17]; and
- Transport Assessment[18].

Location and Setting

3.2 The Site is bound to the north by agricultural buildings and land at South Farm; to the east by the B4060 Sodbury Road, residential dwellings and a commercial fencing supplier; and to the south and west by agricultural land.

3.3 The Site predominantly comprises improved grassland (located within a large central field parcel, and two smaller field parcels within the north-eastern and north-western extents of the Site), semi-improved grassland (a small parcel in the south-eastern corner) and arable farmland (a large parcel located within the south of the Site). These

[11] EDP (2021). Land at South Farm, Wickwar, South Gloucestershire: Archaeological and Heritage Baseline Assessment.
[12] EDP (2021). Land at South Farm, Wickwar: Interim Ecological Baseline Report.
[13] Clarkebond (2021). Flood Risk Assessment and Drainage Strategy: South Farm, Wickwar.
[14] EDP (2021). Land at South Farm, Wickwar: Heritage Impact Assessment.
[15] EDP (2021). Land at South Farm, Wickwar: Landscape and Visual Baseline and Interim Appraisal.
[16] Wardell Armstrong (2021). Bloor Homes: Land at Wickwar: Noise Assessment.
[17] RSK Biocensus (2021). Bloor Homes: Wickwar: State 1 and 2 Arboricultural Impact Assessment Report.
[18] Clarkebond (2021). TA01 - Transport Assessment: South Farm, Wickwar.

field parcels are predominantly bound by a number of hedgerows with some scattered trees/scrub, fencing, walls and wet/dry drainage ditches.

3.4 In the wider locality, the Site is located at the south-western extent of the village of Wickwar. The spine of the village is formed of the B4060 Sodbury Road and High Street (also the B4060), which converge at a three-armed roundabout at the north-eastern corner of the Site.

Historic Land Use

3.5 The Site is shown on the 1838 Tithe Map of Wickwar Parish[11] as comprising the same configuration of agricultural land parcels as in the present day. A small pond, however, was mapped in the centre of the Site. At this time, the village of Wickwar and small parcels of woodland neighbouring the now the B4060 Sodbury Road lay to the north of the Site.

3.6 Ordnance Survey (OS) mapping published in 1886[19] provides greater detail on the field boundaries and identifies a further field boundary/drain running from southeast to northwest through the aforementioned field pond.

3.7 Aside from the later removal of the field boundary and infilling of the pond within the central field parcel, little change has been observed at the Site since this time. The exact date of the installation of the overhead low voltage transmission lines in the northeast of the Site is unknown.

3.8 In the surrounding area, Wickwar has expanded to the south, with recent residential development along the B4060 Sodbury Road to the east of the Site, including the construction of approximately 80 dwellings at Tyndale Reach[20] and the ongoing construction of approximately 90 dwellings at Saxon Gate[21].

Connection and Access

3.9 Existing vehicular access to the Site is via a field gate at its south-eastern extent from the B4060 Sodbury Road and a gate from the yard of South Farm on the northern Site boundary.

3.10 As noted above, to the north of the Site the B4060 Sodbury Road runs to a roundabout junction with High Street and Amberley Way. High Street continues further north and forks at the northern urban extent of Wickwar into The Downs (B4509) and Station Road (B4060) to the northwest and northeast respectively. From The Downs and the B4058, access is gained to Junction 14 of the M5 (6.3km northwest), which connects to the cities of Bristol and Gloucester. To the south of the Site, the B4060 Sodbury Road connects via a number of minor roads to the towns of Yate and Chipping the B4060 Sodbury (approximately 3.9km and 5.1km south respectively).

[19] OS (1886). Gloucestershire Sheet LXIV.SW. Surveyed 1879 to 1881.
[20] Ref: PK16/4006/O by Bellway Homes.
[21] Ref: PK17/4552/O by Linden Homes.

3.11 No Public Rights of Way (PRoWs) cross the Site. However, there are a number within the vicinity including Footpath LWR/23, which cuts through the yard of South Farm approximately 50m north of the Site, connecting the B4060 Sodbury Road to Footpath LWR/31 and Westend Road approximately 930m west. A further two PRoWs (LWR/21 and LWR/22) abut the B4060 Sodbury Road to the east of the Site and connect to Pincots Lane to the southeast. The nearest bus stops to the Site are located on the B4060 Sodbury Road. These bus stops are served by Service 85, which departs every two hours to the town centre of Wotton-under-Edge approximately 6.4km northeast and to the town centre of Yate circa 5km to the south.

3.12 The closest rail station to the Site is Yate Station, situated approximately 5.3km to the southwest. Regular regional services to Gloucester, Worcester, Warminster and Weymouth Stations are available from Yate Station.

Local Air Quality, Lighting and Noise Environment

3.13 SGC have declared two Air Quality Management Areas (AQMAs) within its administrative area for exceedances of nitrogen dioxide (NO_2), which comprise sections of the local road network in Kingswood (Bristol) and Staple Hill. The Site is not located within either of the AQMAs, with the nearest (Staple Hill AQMA) being located approximately 13.4km southwest of the Site.

3.14 In the most recent monitoring period, 2018[22], SGC undertook continuous and non-continuous monitoring of NO_2 at no. 1 and no. 105 monitoring sites respectively. The nearest monitoring site (non-automatic monitoring site no. 159) is located approximately 720m north of the Site (at the roadside of High Street). In 2017 and 2018 (the only years when data was collected at site 159) annual mean concentrations of NO_2 of 27.2µg/m^3 and 26.7µg/m^3 respectively were well below the air quality objective (AQO) of 40µg/m^3.

3.15 No site-specific air quality monitoring has been undertaken. However, it is considered that the air quality monitoring undertaken at site no. 159 is likely to represent the pollution produced by traffic on the B4060 Sodbury Road adjacent to the Site.

3.16 Baseline noise monitoring was undertaken to inform the Noise Assessment[16] at three locations at/close to the eastern Site boundary: adjacent to South Farm (ML1); within the yard of the adjacent commercial fencing supplier (ML2); and the south-western part of the Site near to the B4060 Sodbury Road (ML3).

3.17 Monitoring determined the noise environment at the Site was influenced by road traffic on the B4060 Sodbury Road, tractors and forklifts (including engine noise and reversing alarms) and occasional bangs/drop noises from the South Farm and the commercial fencing supplier. Measured noise levels are presented within **Table 3.1**.

[22] SGC (2019). 2019 Air Quality Annual Status Report (ASR). Available online: https://www.southglos.gov.uk//documents/2019-SGC-Air-Quality-Annual-Status-Report.pdf [Accessed 28/09/2021].

Table 3.1: Measured Noise Levels

Noise Monitoring Location	Daytime* dB(A) $L_{eq,\ 16hour}$	Night-time dB(A) $L_{eq,\ 8hour}$	Night-time dB(A) $L_{max,f}$**
ML1	48	47	N/A
ML2	49	44	N/A
ML3	62	54	76

**Daytime hours are taken to be 07:00 - 23:00.*

***In accordance with professional practice guidance[16], the 10th highest $L_{Amax,\ f}$ level during the night-time has been selected and used in the assessment for road traffic. The $L_{Amax,\ f}$ level is only relevant for the assessment of road traffic and therefore has not been considered at ML1 and ML2.*

3.18 There are no sources of lighting currently present on-Site. However, the lighting environment at the Site is anticipated to be on the border of E2 and E3 Environmental Zones[23] ('low to medium district brightness') due to the presence of lighting in the immediate surrounding area (i.e. street lighting along parts of the B4060 Sodbury Road, passing car headlights and lighting at the dwellings under construction to the east of the B4060 Sodbury Road).

Biodiversity

Designated Sites

3.19 The Ecological Baseline Report[12] prepared in support of the Application identified two statutorily designated sites within the Site's 2km potential zone of influence, being the Bishop's Hill Woods Site of Special Scientific Interest (SSSI), located circa 580m east and the Lower Woods SSSI, situated approximately 1.18km east.

3.20 A total of 10 non-statutory designated sites are located within the 2km potential zone of influence. The only site considered an important ecological feature with respect to the Site is the Tributary of Ladden Brook Site of Nature Conservation Interest (SNIC), located approximately 250m west of the Site.

Habitats

3.21 A Desk Study, Extended Phase 1 Survey and a detailed survey of hedgerow habitats completed in 2021[12] identified the following habitats within the Site:

- Arable land, improved grassland and poor semi-improved grassland;
- Dense and scattered scrub in patches around the agricultural buildings immediately north of the Site, associated with South Farm;

[23] Institution of Lighting Professionals (2020). Guidance Note 1 for the reduction of obtrusive light 2020.

- A coniferous tree line at the Site boundary in the north-eastern extent of the Site;
- Scattered trees within hedgerow boundaries;
- Hedgerows forming boundaries of agricultural fields; and
- Ephemeral wet and dry ditches of Site-level at field boundaries.

3.22 Generally the above habitats are considered to be of negligible ecologic. The scattered trees, hedgerows and ditches were found to be of Site / local level ecological value.

Protected/Notable Species

3.23 30 bird species were recorded during a breeding bird survey at the Site in 2021[12], of which 5 are on the Birds of Conservation Concern (BoCC) Red list, and 2 are on the Amber list. 5 of these BoCC species are also Priority species. Linnets (Red listed) were the only BoCC species recorded carrying nesting material, within the southern extent of the Site. Generally, dense scrub, native hedgerows and semi-mature/mature tree standards within and adjacent to the Site provides a suitable foraging and nesting resource, and buildings within South Farm adjacent to the northern boundary provide nesting opportunities for some species.

3.24 With respect to bats, no evidence of bat roosts was identified during a visual assessment of trees within and close to the Site boundary. However, three trees were determined to have a moderate bat roosting potential[24], four trees a low bat roosting potential[25], and two trees a negligible bat roosting potential[26].

3.25 Manual and automated detector surveys for bat foraging/community activity were undertaken in 2021 and found 4 bat species within the Site; with the vast majority of activity being attributed to the common pipistrelle bat. Based on these surveys the bat population at the Site is considered to be of local ecological importance[12].

3.26 Dormouse surveys found no evidence of dormouse activity or nests across the Site, whilst evidence of wood mice (a non-protected species) was found within the deployed nest tubes.

3.27 A badger survey found boundary hedgerows to provide suitable cover for badger setts, and improved grassland to provide suitable foraging habitat. No setts were identified within the Site, however, four setts were identified in the surrounding area. If present, a badger population would only be of Site-level conservation value.

3.28 The network of ephemeral drainage ditches on-Site were considered to be of negligible importance to otter and water vole, and no evidence of these species was recorded

[24] Trees T2 – 4 as per the Ecological Baseline Report[12], and T22, T12 and T14 as per the Arboricultural Impact Assessment Report.
[25] T1, T5, T7 and T9 as per the Ecological Baseline Report, and T20, T16, an unrecorded tree and T19 as per the Arboricultural Impact Assessment Report.
[26] T6 and T8 as per the Ecological Baseline Report, and an unrecorded tree and T8 (the latter being located outside the Site) as per the Arboricultural Impact Assessment Report.

during an otter and water vole survey. However, evidence of otter activity was identified along the tributary of Ladden Brook, approximately 240m west of the Site. If present, an otter population would only be of Site-level conservation value.

3.29 No ponds are located within the Site. However, a water samples of ponds from the surrounding area were eDNA tested for the presence of great crested newts. A positive eDNA result was recorded at a pond approximately 100m north of the Site, however the species was undetected during a survey. The only pond in the vicinity found to support a small population of great crested newts is located approximately 630m northwest of the Site.

3.30 With respect to reptiles, the hedgerows and lightly-grazed semi-improved grassland on-Site are considered suitable to some common reptile species, however if present, these would likely to be confined to field margins. As such, a common reptile population would only be considered of importance at the Site-level.

Built Heritage and Archaeology

3.31 In terms of relevant designated heritage assets, there are no World Heritage Sites, Scheduled Monuments, registered parks and gardens or registered battlefields within 1km of the Site

3.32 There are no listed buildings within the Site. The closest listed buildings to the Site are the grade II listed 'South Farmhouse' (approximately 30m north); 'Ivy House' (approximately 180m north); and 'Castle Farmhouse' (approximately 200m north), and the grade II* listed 'Frith Farm' (approximately 450m southwest).

3.33 There are no Conservation Areas within the Site. Located approximately 335m north of the Site, Wickwar Conservation Area houses 58 listed buildings, 35 of which are grade II listed buildings and are located near or front onto High Street[14] (closest to the Site). To the north of High Street a number of listed buildings comprise tombs surrounding the grade II* listed 'Parish Church of the Holy Trinity'. The Site is not visible from these northern and central areas of the Conservation Area, however clear partial views of the Site's interior[15] can be seen from the west of the Conservation Area (agricultural land which represents the rural setting of Wickwar, as opposed to a feature of intrinsic heritage interest[14]).

3.34 With respect to archaeology, the 'Wickwar settlement (South)' HER monument is located partly within the north-eastern extent of the Site and may have once contained development related to the post-medieval settlement that extended along the B4060 Sodbury Road.

3.35 Analysis of HER records[11] indicates a low potential for buried remains dating from the Prehistoric periods to be located within the Site. However, if present, these remains would likely be discrete features that could be archaeologically recorded or preserved in-situ.

3.36 The Site was considered to have a moderate potential for Roman period remains, likely to be of low significance (e.g. buried remains of infilled ditches or pits) which could be archaeologically recorded.

3.37 Remains of medieval, post-medieval and modern agricultural activity are very likely to be present within the Site, however these features would likely be limited to infilled furrows, drainage ditches or former boundary ditches, and so be of low or very low archaeological significance.

Landscape and Visual

3.38 The Site is not within any statutory landscape designations such as an Area of Outstanding Natural Beauty (AONB) nor is it within any designated/protected views.

3.39 The Site lies within National Character Area 118 '*Bristol, Avon Valleys and Ridges*', characterised by alternating ridges and broad valleys, with some steep, wooded slopes and open rolling farmland.

3.40 The South Gloucestershire Landscape Character Assessment from 2014[27] identifies the Site as being located within Landscape Character Area (LCA) 5 'Wickwar Ridge and Vale', described as '*a diverse undulating landscape covered with a mix of farmland, woodland and common*.'[15]

3.41 Outside the Site, as per the description of LCA 5, the settlement of Wickwar is placed on a slightly elevate ridgeline.

3.42 In terms of visual amenity, the landform surrounding the Site is generally flat, and so long-distance views are given from PRoWs, open land/the M5 to the south/west. Clear inter-visibility is also available between the Site and dwellings situated on the B4060 Sodbury Road to the east[15].

Ground Conditions and Contamination

3.43 The British Geological Society's (BGS's) Geology of Britain map[28] indicates that the Site is underlain by a mix of bedrock geology, comprising intern Sandstone Formation - Sandstone in the north-eastern corner; Westbury Formation And Cotham Member - Mudstone in the centre; Avon Group - Interbedded Limestone and Mudstone in the west; and Langport Member and Wilmcote Limestone Member - Interbedded limestone and mudstone in the south-eastern extent. There are no superficial deposits recorded as underlying the Site.

3.44 During Phase 2 investigations[7], Made Ground was only encountered at three trial pits in the centre of the Site at depths of 0.6 – 1.3m below ground level (bgl), comprising dark brown/orange gravelly sandy silt/clay and brick fragments.

3.45 The underlying bedrock strata are categorised as Secondary A and B aquifers, and the Site is not located within a Source Protection Zone. No groundwater was encountered during intrusive ground investigation works, and slow seepage was encountered in all

[27] Submitted in support of the Application as part of Appendix 2 of the Landscape and Visual Baseline and Appraisal[15].
[28] British Geological Society (no date). Geology of Britain viewer. Available at: http://mapapps.bgs.ac.uk/geologyofbritain/home.html [Accessed 28/09/2021].

exploratory holes. No significant infiltration was observed during infiltration/soakaway testing.

3.46 The Site where the estimated probability of homes being above the action level of 200Bqm^{-3} is between 5 and 10%, and therefore basic radon protective measures are required for new dwellings.

3.47 A Preliminary Conceptual Model identified risks associated with unrecorded Made Ground (including those from infilled ponds), naturally occurring contaminants and elevated levels of zinc within natural soils to be low.

Water Environment

3.48 There drainage ditches at the western boundary of the Site. The closest waterbody to the Site, a tributary of Ladden Brook, is located approximately 250m west.

3.49 The Environment Agency flood mapping[29] (flood risk from rivers and seas) indicates that the Site is located within Flood Zone 1 so has a low probability of flooding (defined as '*land having a less than 1 in 1,000 annual probability of river or sea flooding*').

3.50 The majority of the Site is considered to be at low risk of surface water flooding except for a small area at the western Site boundary and within the southern part of the Site which are classified to be of medium/high risk13.

3.51 The Site is not located within an area at risk in the event of catastrophic reservoir failure[30]. The Site is situated within an area classified as at less than 25% of the area is susceptible to groundwater flooding[31].

Community and Socio-Economics

3.52 The Site is located within the Ladden Brook ward, which at the 2011 Census had a population of those aged 16 – 64 of 2,457[32]. Of these, 81.9% were economically active, which was similar to the SGC average of 82.5% and higher than the average for England and Wales (76.8%). The proportion who were in employment (78.9%) was again similar to the SGC average (78.5%) and above the average for England and Wales (71.0%).

[29] Flood map for planning (no date). Available at: https://flood-map-for-planning.service.gov.uk/confirm-location?easting=372467&northing=187631&placeOrPostcode=GL12%208NT [Accessed 29/09/2021].
[30] Flood map for planning (no date). Available at: https://check-long-term-flood-risk.service.gov.uk/map [Accessed 25/10/2021].
[31] South Gloucestershire Council (2011). Preliminary Flood Risk Assessment. Available at: https://www.southglos.gov.uk/documents/cos110168.pdf [Accessed 25/09/2021].
[32] Nomis (2011). 2011 Ward Labour Market Profile E36000613: Ladden Brook. Available at: https://www.nomisweb.co.uk/reports/lmp/ward2011/1140851301/report.aspx [Accessed 30/09/2021].

3.53 The latest data (2019) from the Indices of Multiple Deprivation[33] shows that the Lower Super Output Area (LSOA) in which the Site is located (South Gloucestershire 003D) is amongst the 10% least-deprived neighbourhoods in the country (ranked 30,897 out of 32,844 LSOAs).

3.54 The closest GP Surgery to the Site is Wellington Road Family Practice (approximately 4km southwest). The closest primary school is Alexander Hosea Primary School (approximately 600m northeast), whilst the closest secondary school is Brimsham Green School (approximately 3.8km southwest).

Hazards

3.55 There is a low risk of Unexploded Ordnance being present at the Site.

3.56 The south-western corner of the Site falls within a Health and Safety Executive (HSE) Outer Consultation Zone. There are no Control of Major Accident Hazard (COMAH) sites within or adjacent to the Site[34].

[33] Indices of Deprivation (2019). Available at: http://dclgapps.communities.gov.uk/imd/iod_ index. 32,844 LSOAs).html [Accessed 30/09/2021].
[34] https://notifications.hse.gov.uk/COMAH2015/Search.aspx.

4. Schedule of the Proposed Scheme

4.1 In line with the EIA Regulations, the Proposed Scheme has been appraised against the development descriptions contained within Schedule 1 and Schedule 2.

4.2 Based on the characteristics of the Proposed Scheme (**Section 2**), it is not considered that the Proposed Scheme would constitute Schedule 1 development.

4.3 As established in **Section 3**, the Site is not located within a 'Sensitive Area'[35], within the meaning of the EIA Regulations. The thresholds set out within Schedule 2 should therefore be considered.

4.4 Following an appraisal against Schedule 2 of the EIA Regulations, the Proposed Scheme is considered to fall under Schedule 2 10(b) - *Urban development projects* as more than 150 dwellings are proposed, and the Site area (approximately 7.89ha) is greater than 5ha; exceeding the thresholds under both 10(b)(ii) and 10(b)(iii).

4.5 As outlined within the EIA Regulations and Planning Practice Guidance, the exceedance of the threshold/criteria does not automatically determine that the Proposed Scheme is EIA Development, but rather that the *'proposal needs to be screened by the local planning authority to determine whether significant effects on the environment are likely and hence whether an Environmental Impact Assessment is required'*[36].

4.6 The selection criteria for Schedule 2 development are detailed within Schedule 3 of the EIA Regulations and are as follows:

- Characteristics of development;
- Location of development; and
- Types and characteristics of the potential impact.

4.7 The characteristics of the Proposed Scheme were set out in **Section 2** and the location of the Site in **Section 3**. The following sections consider the types and characteristics of the potential impact, termed as an appraisal of likely environmental effects.

[35] Sites of Special Scientific Interest and European sites; National Parks, the Broads and Areas of Outstanding Natural Beauty; and World Heritage Sites and scheduled monuments.
[36] Planning Practice Guidance Paragraph: 017 Reference ID: 4-017-20170728.

5. Approach

5.1 The appraisal of likely environmental effects, set out within **Section 6,** has been based on baseline information presented within **Section 3** and has considered likely environmental effects arising from the Proposed Scheme, as detailed within **Section 2**. The appraisal has focused on environmental effects and whether any of these are considered '*likely*' and '*significant*' at receptors, with consideration to the following factors in Regulation 4, Paragraph 2 (and expanded on in Schedule 4, Paragraph 4) of the EIA Regulations:

- Population and human health;
- Biodiversity;
- Land, soil, water, air and climate;
- Material assets, cultural heritage and the landscape; and
- The interaction between the above factors.

5.2 Regulation 6, Paragraph 2I allows for the discussion and identification of project specific measures to avoid and/or prevent significant adverse environment effects, specifically stating;

'A person making a request for a screening opinion in relation to development where an application for planning permission has been or is proposed to be submitted must provide the following—…

…(e) such other information or representations as the person making the request may wish to provide or make, including any features of the proposed development or any measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment'.

5.3 As part of this appraisal, mitigation measures have only been considered if they are specific, easily achievable and if there is a high degree of confidence in their effectiveness and implementation.

5.4 As such, as part of the review of likely environmental effects set out in **Section 6**, mitigation measures have been considered in order to understand / ameliorate the environmental effects associated with the Proposed Scheme. Where mitigation has been identified at this stage, this has been clearly identified for the benefit of SGC with the use of a reference system within the text (use of M1, M2, etc.) that links to the Schedule of Mitigation provided as **Appendix 1** that contains a summary of all mitigation identified.

5.5 There are three types of mitigation: primary, secondary and tertiary. These are defined in **Table 5.1**. All three of these types of mitigation have been considered in **Section 6** and the Schedule of Mitigation (**Appendix 1**).

Table 5.1: Mitigation Types

Mitigation Category	Definition of Mitigation
Primary Mitigation	Inherent mitigation, comprising fundamental aspects of the project design.
Secondary Mitigation	Foreseeable mitigation, requiring further input and assessment in order to achieve the desired outcome of the assessment.
Tertiary Mitigation	Inexorable mitigation, in that it would be compulsory regardless of EIA.

Appraisal of In-Combination Effects

5.6 In line with Schedule 3 of the EIA Regulations, the '*cumulation of the impact with the impact of other existing and/or approved development'* has also been taken into consideration and is set out in **Section 7**. At present, there is no widely accepted methodology or best practice for the assessment of cumulative effects (especially at the screening stage).

5.7 In order to determine the likelihood of possible in-combination effects (i.e. effects with other existing/approved development), a qualitative appraisal has been undertaken. To identify *'existing and/or approved development'* (hereafter referred to as 'approved projects') for consideration of in-combination effects with the Proposed Scheme, a review of the SGC planning portal has been undertaken in order to identify projects in proximity to the Site (taken as circa 2km), based on the following criteria:

- Permitted application(s) either under construction or not yet implemented;
- Application(s) with a resolution to grant;
- Submitted applications(s) not yet determined but which have the potential to be determined prior to the determination of the application for the Proposed Scheme;
- All refusals subject to appeal procedures not yet determined; and
- The project being of a relevant scale: the threshold for consideration has been set as the Schedule 2 criteria in the EIA Regulations, at which there is a potential for 'likely significant effects'. However, it is recognised that this needs to be applied with caution.

5.8 Projects identified, which met these criteria have been considered against the following points (where sufficient information allows):

- Is there or likely to be a concurrent construction or operational phase with the Proposed Scheme; and

- Is there potential that the Proposed Scheme shares common sensitive receptors with the identified approved projects.

5.9 A high-level appraisal, taking into account the above approach, has been set out in **Section 7**. The appraisal has been undertaken on receptor category basis as in order for there to be a potential in-combination effect, there needs to be more than one potential effect on the same receptor at the same time.

6. Appraisal of Likely Environmental Effects

6.1 Given the nature of the Site and the Proposed Scheme, a number of environmental effects are not considered to be significant due to an absence of relevant receptors (**Section 3**) or source of effects (**Section 2**). In addition, for a number of environmental effects, although an effect may be possible, the anticipated change brought about by the Proposed Scheme is minimal. These effects are discussed below:

Construction

- **Loss of agricultural land / soils** – Post-1988 Agricultural Land Classification (ALC) data[37] identifies the Site as comprising entirely Grade 4 (poor quality) agricultural land. As only land of Grades 1 - 3a constitute Best and Most Versatile (BMV) agricultural land, no BMV land will be taken out of production as a result of the construction of the Proposed Scheme. To minimise the loss or degradation of soil on-Site it is assumed a Soil Management Plan will be in place (which will be managed as part of the CEMP [**M1**]), which will ensure the reuse of soil on-Site where feasible. Overall, the loss of agricultural land / soils is not considered to be significant.

- **Impacts to designated ecological sites** – The closest statutorily/non-statutorily designated ecological sites to the Site are the Bishop's Hill Woods SSSI (approximately 580m east), and Tributary of Ladden Brook SNIC (approximately 250m west). Considering the locations of these sites, and their separation from the Site by the B4060 Sodbury Road and large expanses of agricultural land, they are deemed sufficiently distance from the Site so that any potential contaminated runoff/pollution (which would be controlled through the CEMP [**M1**]) would not cause a significant effect. With respect to air quality, there are no statutorily designated sites within the criteria[38] for which an assessment of construction dust would be required. Therefore, impacts to designated ecological sites during construction are not considered to be significant.

- **Spread of non-native invasive plant species e.g. presence of Japanese knotweed** – No evidence for the presence of invasive species was identified during ecological surveys on-Site. Therefore this effect is not considered to be significant.

- **Changes to economic productivity and creation of additional construction jobs** – During construction the appointed contractor is unlikely to need to take on significant additional staff in order to complete the works, nor will the activities result in a noticeable indirect or induced effect on the local economy due to the modest scale of the Proposed Scheme. Therefore, changes to economic

[37] MAGIC (n.d.). Available online: https://magic.defra.gov.uk/MagicMap.aspx [Accessed 28/09/2021].
[38] Within 50m of the Site, and/or within 50m of routes used by construction vehicles, up to 500m from the Site entrance(s).

productivity and the creation of additional construction jobs are not considered to be significant.

- **Generation of waste** – During construction minor changes to the existing topography will be required to achieve appropriate development plateau levels. An approximate cut and fill balance will therefore be achieved within the Site and no significant import or export of material is considered to be required. It is also assumed that the appointed contractor will manage construction related waste in line with The Waste (England and Wales) Regulations 2011[39] and adoption of practice to minimise waste that will be documented in the CEMP [**M1**]. Therefore, the generation of waste during the construction phase is considered unlikely to be significant.

- **Changes to surface water flows and increase in flooding** – As described in **Section 3**, no waterbodies are located within the Site. However, a drainage ditch lies at the western boundary. The Site is located within Flood Zone 1 (i.e. low probability flooding) yet the western Site boundary and a small part of the Site's southern extent are at a medium/high risk of surface water flooding. A temporary drainage system will be installed at the Site during construction to manage the surface water until the operational Drainage Strategy has been implemented. As such, changes to surface water and increased risk of flooding are unlikely to be considered significant.

Operation

- **Exposure of new residents to existing poor air quality** – Local monitoring undertaken by SGC at monitoring site 159 (at the roadside of High Street, approximately 720m north of the Site) indicates that mean annual concentrations of NO_2 were well below the AQO in 2017 and 2018[22] (27.2µg/m^3 and 26.7µg/m^3 respectively). Whilst time has passed since this monitoring was undertaken, it is considered unlikely that traffic on the B4060 Sodbury Road/High Street will have increased to such an extent that the AQO would be exceed in the vicinity of the Site. As such, the exposure of new residents to existing poor air quality is not considered to be significant.

- **Changes/degradation of designated ecological sites as a result of changes in air pollutant concentrations and the hydrological regime** – The Proposed Scheme will increase the number of vehicles accessing the Site from baseline levels. This may increase emissions to air that could change/degrade the designated ecological sites in the surrounding area, as described in **Section 3**. However given the distance between the roads where traffic generated by the Proposed Scheme will travel and any statutory designations is greater than 200m[40], changes in air quality pollutant deposition is not considered to cause an adverse effect. With respect to hydrology, as part of the Proposed Scheme runoff rates

[39]The Waste (England and Wales) Regulations 2011, Statutory Instrument 2011 No.988.
[40] The 200m threshold is set out in the LA 105 Air Quality Revision 0, Sustainability & Environment Appraisal, Design Manual for Roads and Bridges, November 2019. Available at: https://www.standardsfor highways.co.uk/prod/attachments/10191621-07df-44a3-892e-c1d5c7a28d90?inline=true. [Accessed 09/10/2021]

will be controlled through a drainage strategy, which will mimic greenfield rates. The use of SuDS [**M2**] will prevent any significant level variation in the downstream network (beyond any natural variation).In addition, appropriate pollution prevention measures will be incorporated within the drainage strategy Overall, effects to designated sites are not considered to be significant.

- **Impacts of climate change (including overheating of internal spaces) on the Proposed Scheme** – The impacts of a changing climate on the Proposed Scheme is largely dealt with by building regulations and appropriate design of the Proposed Scheme. Whilst the Proposed Scheme will accord with existing building regulations, existing building regulations do not fully account for some future climate scenarios. As such, effects (including overheating) can be appropriately designed out through the consideration of existing building regulations alongside future climate conditions [**M2**]. In addition, the surface water drainage systems [**M3**] will be designed to accommodate runoff arising from a 1 in 100-year rainfall event and 40% allowance to account for further effects of climate change. Therefore, effects related to the impacts of climate change on the Proposed Scheme (and its future users) are not considered to be significant.

- **Changes to light spill / glare due to operational lighting** – The Proposed Scheme will introduce lighting to the Site, associated with the future dwellings, Site accesses and internal road network. Although new lighting will alter the lighting environment on-Site, the change is not considered to result in a substantial change in lighting environment experienced by existing surrounding residential receptors, given the lit nature of the B4060 Sodbury Road in the vicinity of the Site, as a well as the retention of boundary vegetation that will provide a degree of screening. In addition, all future lighting installations will be designed and installed in line with relevant standards and guidance[41] [**M4**]. Therefore, changes to light spill / glare due to operational lighting is considered unlikely to be significant.

- **Changes to existing daylight and sunlight amenity, levels of overshadowing and environmental wind conditions** – The maximum building heights within the Proposed Scheme are up to 2.5 storeys as set out in **Section 2**. Given the limited proposed buildings heights (which are in keeping with the existing surrounding buildings), there is unlikely to be a material change to the existing microclimate as experienced by existing surrounding receptors and for future users of the Proposed Scheme. As such, effects relating to microclimate are not considered to be significant.

- **Risk of major accidents or disasters** – The probability, frequency and likelihood of natural disasters arising from climatic occurrences (i.e. hurricanes) are considered to be very low due to the natural climatic conditions of the UK within the global climate system. Whilst the south-western corner of the Site lies within

[41] Commission Internationale de l'Eclairage (CIE) 150: 2017 - Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations, 2nd Edition; Institution of Lighting Professionals (ILP) GN01 - Guidance Notes for the Reduction of Obtrusive Light 2020; British Standard (BS) 5489-1:2020 Design of road lighting – Lighting of road and public amenity areas. Code of practice. –and ILP Guidance Note 08/18 Bats and Artificial Lighting in the UK.

an outer consultation Zone Health and Safety Executive, no built form is proposed within this area. It is assumed that all buildings will be designed and constructed in line with fire preventative measures (i.e. fire doors, etc.) and all external façades and materials will meet the necessary fire resistance standards set out within Building Regulations Approved Document B[42] and by law. Furthermore, prior to occupation of all buildings all necessary emergency apparatus/instruments (i.e. smoke detectors/sprinklers) will be in place as required by law. As such, the risk of major accidents or disasters is unlikely to be significant. Appraisals of effects relating to flood risk, unstable ground conditions and contamination are presented within **Table 6.1**.

- **Increased demand for education provision (early years, primary, secondary)** – The Proposed Scheme includes up to 180 dwellings which will increase the population on-Site and therefore has the potential to increase demand on local education services, depending on the demographics of the residential properties. Due to the modest scale of the Proposed Scheme this increase in demand is considered to be limited and any capacity issues would be appropriately managed through a financial contribution to SGC, if considered necessary [**M5**]. As such, any increased demand for education provision is not considered to be significant.

- **Increased demand for healthcare infrastructure (GPs, dentists, urgent care)** – As above, the increase in population could increase demand on local healthcare services. Any capacity issues would be appropriately managed through a financial contribution to SGC, if considered necessary, and in accordance with SGC's policy guidelines [**M5**]. As such, increased demand for healthcare infrastructure is not considered to be significant.

- **Changes to economic productivity and creation of additional jobs** – The Proposed Scheme includes the provision of a local shop. Given the scale of the shop, the number of jobs created are not expected to result in significant employment opportunities. Therefore, the creation of additional jobs, whilst beneficial, is not considered to be significant.

- **Expenditure by new residents in the local economy** – New residents of the Proposed Scheme will spend in the local economy. However, given the modest scale of the Proposed Scheme (as only up to 180 dwellings are proposed), there is not likely to be a significant noticeable effect in the local economy due to additional household expenditure. Therefore, expenditure by new residents, whilst beneficial, is not considered to be significant.

- **Crime levels and community safety** – The Proposed Scheme will be designed in line with appropriate national guidance and standards with respect to crime prevention and safety [**M6**]. Furthermore, the Proposed Scheme will be in 24-hour use due to its residential nature, which will provide a level of security

[42] Ministry of Housing Communities and Local Government (2020). Fire safety: Approved Document B. Available at: https://www.gov.uk/government/publications/fire-safety-approved-document-b [Accessed 30/09/2021].

through surveillance. Therefore, the Proposed Scheme is not considered to result in a significant change to crime levels or decrease in community safety.

- **Increase in demand on public transport** – The residential units proposed will result in an increase in population using local public transport. However, given the Site's location within walking distance of two bus stops and modest scale (as only up to 180 dwellings are proposed), the increased demand on public transport is considered unlikely to be significant.

- **Increased demand/pressure on local waste facilities** – The residential dwellings and local shop proposed will generate waste during operation. Waste collection from the proposed dwellings will be provided in line with SGC requirements and practices [**M7**]. The collection of waste associated with the local shop will be appropriately arranged through private services by the occupant. Given this and the modest scale of the Proposed Scheme, the increased demand/pressure on local waste facilities is considered unlikely to be significant.

- **Changes to groundwater recharge** – As described above, the Proposed Scheme will increase the level of impermeable hardstanding across the Site which may reduce groundwater recharge. However, as noted in **Section 3**, no groundwater was encountered during ground investigation works and no significant infiltration was observed during testing. Given this, and the small area of the Site in the context of the wider underlying aquifer, changes to groundwater recharge are not considered to be significant.

6.2 Where a receptor and effect has been identified, an appraisal of likely environmental effects is provided within **Table 6.1**. The appraisal has focussed on possible effects during the construction and operational phases of the Proposed Scheme. Where possible, conclusions have been made as to whether the likely environmental effects are significant.

Table 6.1: Appraisal of Likely Environmental Effects

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
Construction Phase			
C1	Disturbance associated with noise, vibration, light spill/glare, dust, particulate matter and other pollutants generated by temporary on-Site construction activities and associated traffic	Local community Existing residents	The local community, comprising nearby commercial properties and members of the public using public areas (i.e. footpaths) / roads, and existing residents may experience temporary nuisance/disturbance throughout the construction phase of the Proposed Scheme, as a result of noise, vibration, light spill/glare, dust and particular matter emissions from machinery, plant or general construction activities. The tolerance and sensitivity of the receptors is considered to be varied, with transient receptors (i.e. users of the B4060 Sodbury Road) considered to have a lower sensitivity than residential properties, which are considered to be of higher sensitivity. Nevertheless, all effects are considered temporary and reversible. In addition, the identified effects are well understood and measures to avoid, reduce or offset are well defined by best practice measures set out in relevant guidance, including (but not limited to): • BS5228:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites[43]; • Control of Pollution Act 1974[44]; • ILP Guidance Note 1 for the reduction of obtrusive light 2020[23]; and • IAQM Guidance on the Assessment of Dust from Demolition and Construction[45].

[43] BSI (2014). Code of practice for noise and vibration control on construction and open sites – Part 1: Noise. BS 5228-1:2009+A1:2014. 1 Jan 2009.
[44] Control of Pollution Act 1974. 1974 c. 40.
[45] IAMQ (2014). Guidance on the assessment of dust from demolition and construction. Available online: http://iaqm.co.uk/wp-content/uploads/guidance/iaqm_guidance_report_draft1.4.pdf [Accessed 25/10/2021].

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			Best practice measures delivered via the implementation of a CEMP [**M1**] prepared by the appointed contractor and submitted to SGC for approval prior to the commencement of on-Site construction activities. As noted under C11 '*Changes to traffic flows on the local road network as a result of construction related traffic*', due to the modest scale of the Proposed Scheme, the number of construction traffic movements is unlikely to be significant. Through the application of the identified mitigation, disturbance associated with noise, vibration, light spill/glare, and dust/particulate matter and other pollutant emissions generated by temporary on-Site activities is not considered to be significant.
C2	Loss/disturbance to below ground heritage assets and historic Site features of interest	Unknown below ground heritage assets	As described in **Section 3**, there remains a potential for buried remains of the prehistoric period to be present, particularly within the western part of the Site (a possible headland bank). If present, this asset was considered by the Archaeological and Heritage Baseline Assessment[11] to be of low significance, and would likely have been damaged/lost as a result of historic ploughing at the Site. The Assessment considered it likely that a geophysical survey and archaeological trial trenching would be required to determine the presence or absence of below ground assets [**M8**]. If present, remains will be archaeologically recorded or preserved in-situ by way of mitigation [**M8**]. '*As such, the presence of archaeological remains would not constrain the site's development as proposed*'[11] and this effect is not considered to be significant.
C3	Change to/loss of valuable/notable habitat within the Site and indirect impacts on protected/notable species utilising on-Site habitats	Valuable/notable habitat	The Site is dominated by arable land and improved/semi-improved grassland which were considered by the Ecological Baseline Report[12] to be of limited ecological value. However, native hedgerows and mature tree were considered '*to be of good ecological value given their potential to support protected and notable species.*'[12] As part of the Proposed Scheme, the majority of trees and hedgerows will be retained as part of the proposed green space and appropriate measures will be put in place to protect retained vegetation

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			[**M1**, **M9**]. However, as described in **Section 2**, a number of these will be removed for the construction of the proposed dwellings/accesses. With respect to the trees T16, T18 and T19 which are scheduled for removal, their '*loss is negligible as the trees are category C and U with limited life expectancy and poor form*', as per the Stage 1 and 2 Arboricultural Impact Assessment Report[17]. Part of G1 will also be removed and minor incursions will be placed on the Root Protection Areas (RPAs) of the remainder of G1, T1 and G2 for the construction of the proposed northern access. '*This should not cause the trees unnecessary stress*' and '*it is highly likely that the tree roots will already have adapted to these foundations* [the hard surfacing of the B4060 Sodbury Road] *and no further root impacts are expected*.'[17] Overall, '*no significant impacts are expected providing the remainder of the RPA's are fenced off prior to works beginning.*'[17] Whilst these trees and some sections of hedgerows H3, H2, H7, H18 and H10 will be removed during construction, the Proposed Scheme has been designed to retain hedgerows of ecological value and trees with the potential to support roosting bats. If prior to construction a bat roost is detected, a suitable licence will be obtained from Natural England and roosting features will be provided [**M10**]. A described in **Section 3**, the Site's farmland and hedgerows present suitable habitat for breeding birds, badger and common reptiles[12]. In the context of the Proposed Scheme, much of the hedgerow vegetation across the Site and grassland in the west of the Site will be retained and enhanced [**M9**], and suitable alternative habitats are available for these species in the surrounding agricultural landscape should they be displaced. With consideration of the above, effects relating to the change to/loss of valuable/notable habitat are not likely to be significant.
C4	Direct loss/ disturbance to protected species/ notable species	Protected/notable species (bats, birds, reptiles and badgers)	As described in **Section 3**, assemblages of protected bird and bat species recorded within the Site were considered by the Ecological Baseline Report[12] to be of local ecological importance. The construction of the Proposed Scheme will result in the loss of grassland across the Site. However, the vast majority of hedgerows and trees with the potential to support roosting bats and nesting/breeding bird assemblages will be retained as part of the Proposed Scheme. These retained features and the network hedgerows in the surrounding area will continue to provide habitat for

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			these protected species. Appropriate checks will be undertaken for nesting birds prior to vegetation clearance [**M1**]. Furthermore, wildlife-sensitive lighting will be installed across the Site to ensure the maintenance/creation of dark corridors. '*Where further survey confirms presence of a bat roost, then works can only proceed in accordance with those methodologies approved under a European Protected Species Mitigation Licence from Natural England, with provision of compensatory roosting features*'[12] [**M10**]. With respect to badgers, common reptiles, otter and water vole, these species were considered to be only of Site-level nature conservation value, and no evidence of their using the Site for nesting/setts was identified during Site visits. Therefore, no specific measures were considered necessary for these species. With consideration of the above measures and the lack of utilisation of the Site, the direct loss/disturbance to protected species/notable species is not likely to be significant.
C5	Release of GHG emissions through embodied carbon, construction activities/plant/ machinery/traffic	Climate System	Construction of the Proposed Scheme has the potential to release GHG emissions from the use of plant and machinery, construction traffic and from the embodied carbon associated with the manufacture of construction materials. The exact likely emissions from construction is unclear without full knowledge of materials, their origins and machinery/plant being used. The possible emissions can be mitigated through careful sourcing of construction materials to reduce associated GHG emissions as well as the use of direct emission reducing practices on-Site. Such measures will be detailed within the CEMP [**M1**], which will outline carbon reduction targets/practices to be adopted throughout this phase. Overall, direct and indirect GHG emissions during construction are not clearly understood, though considering the modest scale of the Proposed Scheme and measures to be included in the CEMP, significant effects are considered unlikely.

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
C6	Encountering unstable ground conditions	Future users of the Proposed Scheme	The Phase 2 Ground Investigation prepared in support of the Application identified the potential for shrinkable clay soils where trees will be removed during construction. In these areas foundations will need to be deepened and heave precautions adopted. Deeper foundations will also be adopted where Made Ground or soft soils are encountered. Conventional spread foundations are suitable for the proposed built form across the Site accounting for these requirements. Therefore, effects are not considered to be significant.
C7	Exposure to on-Site hazardous materials / vapours (specifically radon) and historic contamination	Construction workers Future users of the Proposed Scheme	No potential sources of asbestos or other contaminants have been recorded at the Site due to the absence of historic development. The risk of encountering naturally occurring contaminants (e.g. lead or arsenic) within shallow weathered soils was considered to be low. Made Ground was classified as non-hazardous. Appropriate measures will be included within the CEMP in case unexpected contaminants are identified during construction works [**M1**]. On this basis, no significant effects are considered likely. Basic radon protection measures will be required for the construction of proposed built form as the Site is located within an area where the estimated probability of homes being above the action level of 200Bqm^{-3} is between 5 and 10%[7] [**M11**]. With the implementation of basic radon protection measures, effects are not considered to be significant.
C8	Accidental release of contamination arising from construction activities	Construction workers	During the construction phase of the Proposed Scheme, there is a potential for spillages (such as oil, fuel, cement, chemicals etc.), soil erosion or the generation of suspended solids during construction activities (including excavations and plant/wheel washing) to contaminate the ditch at the western Site boundary. Such effects can be controlled through best practice measures, including (where applicable): bunded storage; designated wheel washing areas; settling basins; screening stockpiles of materials; dampening exposed soils as appropriate; and set out requirements for ongoing monitoring and liaison (with the local community, the Environment Agency and SGC as appropriate). Such measures will be

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			defined within a CEMP [**M1**] for submission and approval by SGC in advance of construction activities commencing on-Site. Therefore, considering the measures above, accidental release of contamination arising from construction activities is considered unlikely to be significant.
C9	Change to/loss of setting of designated built heritage assets	Above ground heritage assets	As described in **Section 3**, three Grade II listed buildings are located within proximity to the Site: South Farmhouse (approximately 30m north); Ivy House (approximately 180m north); and Castle Farmhouse (approximately 200m north)). The Grade II* listed Frith Farm and Bake House at South East is also located approximately 450m southwest[11;14]. The Archaeological and Heritage Baseline Assessment[11] prepared in support of the Application confirmed a historic and functional connection between the Site and South Farmhouse. However, it is considered that the Site now only makes a minor contribution to the asset's setting due to the presence of largely intervening modern barns located to the north of the Site boundary. Similarly, the Site is entirely screened from both Ivy House and Castle Farmhouse due to their separation by vegetation/agricultural sheds. There is no historical or functional connection between the assets and the Site, and therefore, the Site makes no contribution to their significance. With respect to the Grade II* listed Frith Farm, clear views of the Site are prevented by topography to the west of the Site. No historical connections are noted between the Frith Farm and the Site due to its historical connection with South Farm. Owing to the above, these listed buildings were not considered to be impacted by the construction of the Proposed Scheme[11;14]. Therefore, no significant effects are considered likely. The Site also lies in proximity to Wickwar Conservation Area, of which only the agricultural western part is visible from the Site (as described in **Section 3**. The rural character of this part of the Conservation Area is experienced from the western Site boundary. However, views of the Site from the Conservation Area become less visible with increasing distance. The north-western area of the Site was considered to '*contribute only to a very minor degree to the character and appearance of the*

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			Wickwar Conservation Area'[14]. As such, changes in the setting of Wickwar Conservation Area are not considered to be significant.
C10	Change to visual character and amenity as a result of construction activities/plant/ machinery on-Site	Local community	During construction, there will be a temporary change in the character and visual context of the Site, as viewed by the nearby residential properties and users of surrounding public amenity areas with inter-visibility with the Site. The presence of machinery and plant on-Site (specifically tall machinery) and construction activities may be perceived by the local community negatively and introduce a change to the Site's landscape character. Such effects will be short-term and temporary. The Landscape and Visual Baseline Appraisal[15] prepared in support of the Application made no assessment of construction phase effects. However, it is likely that the Proposed Scheme will be visible from the B4060 Sodbury Road, residential dwellings fronting onto it and PRoWs in the vicinity. It is envisaged that temporary fencing/hoarding will be erected around the perimeter of the Site, where necessary [**M1**]. This will help to screen low level construction activities. In addition, the adoption of general Site tidiness and sensible layout (which will be defined in the CEMP [**M1**]) to avoid more visually intrusive activities in close proximity to receptors, would all help to mitigate adverse visual effects. In addition, retained/enhanced boundary vegetation and proposed planting will reduce the change in character/visual amenity.
C11	Changes to traffic flows on the local road network as a result of construction related traffic	Local community	The construction phase of the Proposed Scheme will result in additional vehicular movements on the local road network as a result of movement of plant/machinery, workers (including subcontractors) and deliveries/collections. Due to the modest scale of the Proposed Scheme, the number of such movements is unlikely to be significant. To reduce adverse impacts associated with construction traffic, the CEMP will include the following traffic management measures [**M1**]: • Management and proposed routing of construction related traffic, including details of HGV booking/management systems;

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			• Delivery of large oversized plant/machinery to the Site should take place outside of peak highway hours (where possible); and • Vehicular parking only within the Site. With the adoption of identified best practice measures above in conjunction with the expected relatively low-levels of construction traffic, effects are considered unlikely to be significant.
Operational Phase			
O1	Changes in pollutant concentrations (NOx, NO_2, and PM_{10}) due to exhaust emissions from traffic generated by the Proposed Scheme	Local community	The Proposed Scheme will result in additional vehicular traffic movements to and from the Site, which in turn has the potential to result in an increase in pollutant concentrations (NOx, NO_2, and PM_{10}) from exhaust emissions. As described below under '*Changes to traffic flows on the local road network as a result of operational vehicles*' (O9), traffic generation from the Proposed Scheme is not expected to be significant. Therefore, it is unlikely that changes in pollutant concentrations from traffic will be significant.
O2	Release of GHG emissions	Climatic System	During the operational phase, GHG emissions will be released as a result of energy used for heating and lighting etc. as well as transportation. Residential dwellings and new buildings other than dwellings are required to meet specific standards covered within the Building Regulations (Part L1A and L2A respectively) which are focused on the conservation of fuel and power in order to improve dwelling/building efficiency (and therefore require less energy and generate less indirect GHG emissions). As such, the Proposed Scheme will be built in line with such standards as a minimum. As described below under '*Changes to traffic flows on the local road network as a result of operational vehicles*' (O9), traffic generation from the Proposed Scheme is not expected to be significant. The exact GHG emissions from the Proposed Scheme are not clearly understood, nor how these emissions would compare to regional and national carbon budgets. However, given the modest scale

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			of the Proposed Scheme the measures outlined above the release of GHG emissions is considered unlikely to be significant.
O3	Change to/loss of setting of built heritage assets	Built heritage assets	The assessment of effect C9, the '*Change to/loss of setting of built heritage assets*' is considered to be appropriate for the operational phase of the Proposed Scheme (i.e. the Proposed Scheme *'would result in a very minor degree of 'less-than-substantial harm*' to South Farmhouse[14], and no other designated heritage assets (including Wickwar Conservation Area) would be affected). As such, this effect is not considered to be significant.
O4	Change to landscape character as a result of new built form	Landscape character	The Landscape and Visual Baseline Appraisal prepared in support of the Application considered the change brought by the Proposed Scheme to the character of the Site and character of LCA 5 'Wickwar Ridge and Vale'. In terms of Site character, a high magnitude of change[15] would be brought by the conversion of agricultural land to residential development. Only a partial loss of Site character features would occur, however, as the majority of hedgerows and trees will be retained and enhancements to green / open space will be delivered as part of the Proposed Scheme. The proposed planting will help to soften on-Site features and appear as an extension of the tree-lined development to the north, as it matures. A low magnitude of change is predicted for LCA 5 as only a limited extent of the wider character area is considered to be affected by the Proposed Scheme[15]. '[The] *extent of perceived change would be geographically contained, resulting in a level of change which would be such that the integrity of the LCA would not be unduly harmed*'[15]. As such, the change to landscape character as a result of new built form is considered unlikely to be significant.
O5	Changes to visual amenity as a result of new built form	Local community	The Proposed Scheme will introduce new built form to the Site, which will change existing views of the Site.

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			The Landscape and Visual Baseline Appraisal[15] prepared in support of the Application identified twelve 'representative views' of the Site from the perspective of those who may experience a change in visual amenity as a result of the Proposed Scheme (i.e. PRoW users, road users and residential receptors). Whilst there will be changes at these viewpoints due to the presence of the completed / occupied Proposed Scheme, these would '*be experienced in the context of the recently extended urban context [of] south Wickwar with mitigation measures in place to protect amenity.*' The Appraisal further concluded that views from beyond a 700m radius of the Site would be limited due to intervening topography and field boundary vegetation and that, where views are available, the Proposed Scheme would be seen as part of the wider context of Wickwar. Overall, the Proposed Scheme was deemed to have been '*sensitively designed*' and ensured that '*the scale, form and appearance of the development would reflect and enhance the positive characteristics of the site's local context.*'[15] As a result, the Proposed Scheme is considered '*an acceptable extension to the existing settlement of Wickwar, which would not cause significant wide-ranging adverse effects upon its surrounding landscape context.*'[15]
O6	Changes to local noise environment as a result of noise generated by proposed on-Site uses	Local community Future users of the Proposed Scheme	Noise is likely to be produced from activities in the delivery/service yard of the local shop associated with the movement of equipment and goods. Given the modest scale of this yard, there is unlikely to be a significant effect on existing and future residential dwellings.
O7	Disturbance due to noise generated by existing off-Site sources	Future users of the Proposed Scheme	The Proposed Scheme includes residential uses that are susceptible to noise generated by off-Site sources. The Noise Assessment prepared in support of the Application[16] considered the road traffic noise on the B4060 Sodbury Road and industrial noise sources at South Farm to the north and the commercial fencing supplier to the east of the Site.

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			Road noise created by traffic on the B4060 Sodbury Road was found to be more dominant than industrial noise from the commercial fencing supplier at monitoring location ML2, adjacent to the supplier, meaning that noise produced from the premises was discounted from further assessment. Noise produced from South Farm (monitored at ML1) exceeded background noise levels by 21dB and 29dB during the day and night respectively, meaning that mitigation measures will be required for the proposed dwellings nearest South Farm in the northern part of the Site. Similarly, analysis of the monitoring undertaken at ML3 adjacent to the B4060 Sodbury Road concluded that acoustic design measures would be required to mitigate road traffic noise at outdoor and indoor areas of proposed dwellings in the eastern parts of the Site. To mitigate noise in outdoor areas, gardens will be orientated to face away from the B4060 Sodbury Road and South Farm and 1.8m-high close boarded fences will be installed around gardens [**M12**]. With the implementation of these measures, '*all plots will meet the upper guidance level of 55dB$L_{Aeq, 16hour}$ suggested by BS8233 for outdoor living areas*'[16]. Modelling indicated that standard thermal double glazing [**M12**] will ensure that appropriate internal noise levels are met, even with windows open, at dwellings located away from the B4060 Sodbury Road/South Farm. However, in dwellings close to the B4060 Sodbury Road/South Farm, these internal noise levels would only be met with windows closed, and so alternative ventilation will be installed in living rooms and bedrooms of dwellings in these parts of the Site [**M12**] to ensure that BS8233 guidelines are met. With the adoption of these mitigation measures, disturbance due to noise generated by existing off-Site sources is unlikely to be significant.
O8	Changes to noise environment as a result of traffic generated by the Proposed Scheme	Local community	The Proposed Scheme will result in additional vehicular traffic movements to and from the Site, which in turn has the potential to result in increased road traffic noise. As described below under '*Changes to traffic flows on the local road network as a result of operational vehicles*' (O9), traffic generation from the Proposed Scheme is not expected to be significant. Therefore, it is unlikely that changes in road traffic noise will be significant.

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
O9	Changes to traffic flows on the local road network as a result of operational vehicles	Local community	The Transport Assessment[18] prepared in support of the Application modelled the traffic generated by the Proposed Scheme using data gathered from the TRICS database from suburban developments of a similar scale to the Proposed Scheme in both the 'Residential - Private Houses' and 'Retail - Convenience Store' categories. This modelling found that during weekday peak morning hour period (08:00 - 09:00), 23 and 72 trips would be made to and from on-Site residential land uses whilst 42 and 37 trips would be made to and from the proposed local shop. This equates to 65 arrivals and 109 departures from the Site in total. In the peak evening hour period (17:00 - 18:00), 69 trips and 32 would be made to and from on-Site residential land uses, whilst 55 and 51 trips would be made to and from the local shop. This equates to 123 arrivals and 83 departures across the Site. The existing traffic flows were growthed using TEMPRO software to the operational year of 2027 and the development traffic flows were applied to the Site access junctions the B4060 Sodbury Road/Amberley Way roundabout junction to the northeast and the High Street/Station Road/The Downs priority junction further the north of the Site. All junctions were found to '*operate with significant reserve capacity and with acceptable levels of queuing and delay for all scenarios*'[18]. As such, the changes to traffic flows on the local road network as a result of operational vehicles are not considered to be significant.
O10	Changes to surface water flows and increase in flooding	Existing residents Future users of the Proposed Scheme Controlled waters	The Proposed Scheme will lead to an increase in the impermeable area (from hardstanding associated with the dwellings and roads) across the Site, which is currently greenfield land. This has the potential to increase surface water flows and flooding. The Flood Risk Assessment and Drainage Strategy[13] prepared in support of the Application determined the risk of surface water flooding for the majority of the Site to be low. However, areas of medium and high risk were identified at the western boundary (adjacent to the existing field drain) and in the southern half of the Site.

Ref	Likely Environmental Effect	Sensitive Receptor	Discussion of Likely Effect and any Requirement for Mitigation
			The surface water drainage strategy[13] for the Proposed Scheme will include an attenuation basin located in the west of the Site, fed by gravity adoptable surface water sewers from impermeable areas and a drainage swale [**M3**]. Surface water attenuated in the basin will then outfall to the field drain at the western Site boundary. Runoff will be restricted to the existing greenfield rates. The drainage strategy will be designed for the 1 in 100 + 40% climate change event (requiring the equivalent to approximately 4,089m^2 of on-Site storage) [**M3**]. Therefore, on the basis of the implementation of the drainage strategy outlined above, changes to surface water flows and increased risks of flooding to existing and future residential properties are not considered to be significant. It is assumed that the drainage strategy will contain appropriate pollution prevention measures (e.g. interceptors), thereby negating the potential for significant pollution effects to occur.

7. In-Combination Effects

7.1 In line with the methodology set out within **Section 5**, a review of SGC's planning portal has been undertaken and two approved projects are considered to meet the selection criteria for in-combination effects as set out in **Section 5**.

Table 7.1: Projects Identified for Appraisal

Application Number/Location	Description	Status	Distance from Site
PK17/4552/O Land South Of Horwood Lane Wickwar Wotton Under Edge South Gloucestershire GL12 8NY	Erection of up to 90 residential dwellings with public open space, landscaping, sustainable drainage system and vehicular access from Sodbury Road (Outline) with access to be determined. All other matters reserved	Under construction	Approx. 15m east
PK12/1913/O Land North Of Brimsham Park Yate Bristol South Gloucestershire	Mixed use development across 100.76 hectares of land comprising up to 2,450 new dwellings (Use Class C3), extra care housing (Use Class C2), 4.63 hectares of employment land (Use Class B1,B2) provision of a local centre, two primary schools, together with the supporting infrastructure and facilities including: new vehicular and pedestrian accesses, public open space and landscaping and proposal to underground the electricity powerlines. Outline application including access with all other matters reserved.	Under construction	2.3km southwest

7.2 The in-combination appraisal has identified the potential for in-combination effects using receptors categories, defined by the 'factors' categories outlined in Regulation 4, Paragraph 2 (expanded on in Schedule 4, Paragraph 4) of the EIA Regulations. The appraisal is not a complete in-combination assessment nor does it define if the in-combination effect is significant, rather it identifies where a potential in-combination effect may be present between the Proposed Scheme and the identified approved projects. The in-combination appraisal is outlined within **Table 7.2**.

7.3 In **Table 7.2** where a potential in-combination effect between the Proposed Scheme and approved project is considered to be possible, this has been identified with a tick (✓). In contrast, where a potential in-combination effects is considered unlikely, this

has been identified with a cross (X). Where it is uncertain if a potential in-combination effect is likely, this has been identified with a question mark (?).

Table 7.2: In-Combination Appraisal

Receptor Category	PK17/4552/O	PK12/1913/O
Population and Human Health	✓	✓
Biodiversity	?	X
Land	X	X
Soil	X	X
Water	X	X
Air	✓	X
Climate	✓	✓
Material Assets	X	X
Cultural Heritage	?	X
Landscape	✓	X

7.4 As shown in **Table 7.2**, there is the potential for in-combination effects on the population and human health, climate and landscape receptor groups. There is uncertainty regarding possible in-combination effects on the biodiversity and cultural heritage receptor groups.

7.5 There are potential in-combination interactions between the Proposed Scheme and both approved projects in relation to socio-economic benefits (e.g. the provision of additional housing and household expenditure etc.). Similarly, greenhouse gases will be produced during the construction and operation of all schemes.

7.6 Considering the proximity of the Proposed Scheme to the application at Land South of Horwood Lane, there are potential additional in-combination effects related to disturbance due to construction activities, increases in traffic on the local road network (and associated changes in noise and air quality) and potential changes to landscape character/visual amenity.

7.7 It should be noted, however, that significant effects in relation to receptors have not been identified in the appraisal of effects from the Proposed Scheme in isolation (see **Section 6**) due to the modest scale of the Proposed Scheme and the management / control of such effects through the adoption of standard / best practices measures. It has been assumed that each identified project would be required to include its own suitable mitigation.

8. Summary

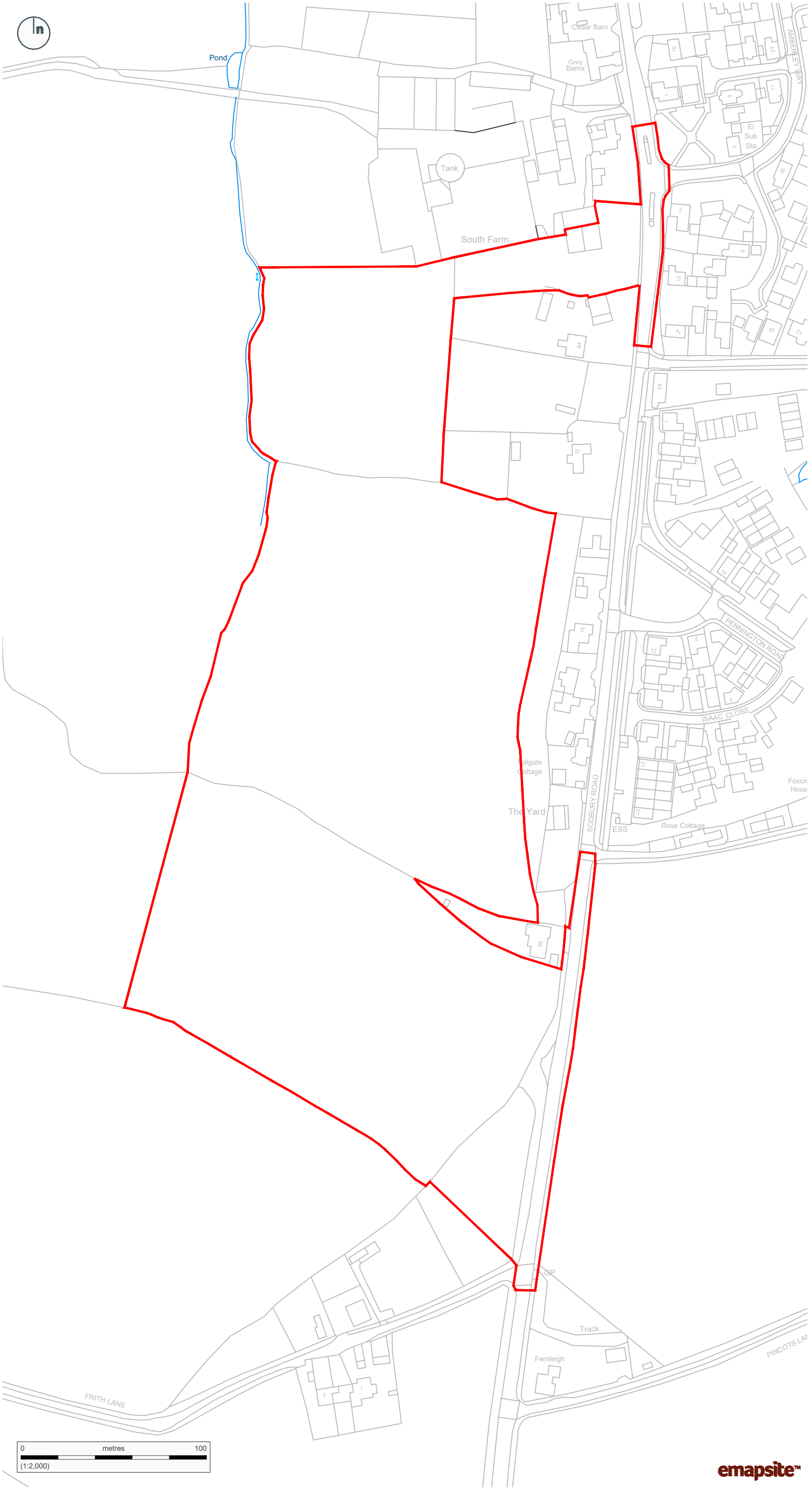
8.1 This EIA Screening Report has been prepared in order to obtain a Screening Opinion from SGC in accordance with Part 2 of the EIA Regulations and to provide all information required to support SGC in reaching their Screening Opinion, as set out in Regulation 6, Paragraph 2 of the EIA Regulations. The required contents of the Screening Opinion are set out within Regulation 5, Paragraph 5.

8.2 The characteristics of the Proposed Scheme and the Site and its surrounds have been set out within **Sections 2** and **3** respectively. Both sections have been used to inform the appraisal of likely environmental effects arising from the Proposed Scheme during the construction and operational phases (**Section 6**) in line with the methodology defined within **Section 5**, with specific consideration of mitigation, in line with Regulation 6, Paragraph 2(e) of the EIA Regulations and best practice. In line with the methodology set out within **Section 5**, where mitigation has been considered, this has been clearly defined within **Section 6** and catalogued into a comprehensive Schedule of Mitigation provided as **Appendix 1**.

8.3 A high-level appraisal of potential in-combination effects has been provided within **Section 7**. A review of SGC's planning portal, in line with selection criteria set out within **Section 5**, identified two projects where a potential in-combination effect could occur with the Proposed Scheme.

8.4 The high-level in-combination appraisal found that there is the potential for in-combination effects on the population and human health, climate and landscape receptor groups. There is uncertainty regarding possible in-combination effects on the biodiversity and cultural heritage receptor groups. It should be noted that significant effects to these receptors have not been identified in the appraisal of effects from the Proposed Scheme in isolation and each identified project would be required to include its own suitable mitigation.

Figure 1: Site Location Plan



KEY

Application boundary

CLIENT
Bloor Homes

PROJECT
Land at Wickwar

DRAWING
EIA Screening Redline Plan

PROJECT NUMBER
BLOA3039

DRAWING NUMBER	CHECKED BY
1002	**JB**
REVISION	STATUS
–	**DRAFT**
DATE	SCALE
October 2021	**1:2,000 @ A3**

emapsite™

Turley

Figure 2: Approved Projects Location Plan

Figure 2. Approved Projects Location Plan

Appendix 1: Schedule of Mitigation

In line with Regulation 6, Paragraph 2(e) of the EIA Regulations project specific measures to avoid and/or prevent significant adverse environmental effects (i.e. mitigation measures) have been considered when appraising likely environmental effects. The EIA Regulations state that the inclusion of such measures and the extent to which they avoid and/or prevent adverse environmental effects should be considered by the local planning authority when formulating a Screening Opinion.

In order to support SGC, the mitigation measures identified within **Section 6** have been collated into a single Schedule of Mitigation set out below. The aim of the Schedule is to provide confidence to the local planning authority that mitigation identified is sufficient to avoid or prevent significant adverse effects.

It is envisaged that the mitigation outlined will be secured by a suitably worded condition(s) / s106 obligation as part of any planning approval and the Schedule of Mitigation will be utilised by the Applicant and appointed contractor to control and deliver mitigation commitments.

Schedule of Mitigation

Mitigation Measure	Mitigation Ref.	Responsibility	Applicable Phase (C/O)[46]	Detail of Mitigation
CEMP	M1	Appointed Contractor	C	The CEMP should be prepared by the appointed contractor in advance of construction works and submitted to SGC for approval. The document should provide details and principles to avoid and effectively manage potential adverse effects upon the environment. The CEMP should include measures in line with all relevant government and industry standards, codes of practice and best practice measures, inclusive of but not limited to: • The Construction (Design and Management) Regulations 2015. Statutory Instruments 2015 No. 51); • CIRIA C741 Environmental Good Practice on Site Guide (2015); CIRIA C670 Site Health Handbook (2008); • B.S. 5228 1:2009 'Code of practice for noise and vibration control on construction and open sites'; • ILP Guidance Note 1 for the reduction of obtrusive light 2020; • IAQM Guidance on the Assessment of Dust from Demolition and Construction (2016); and • Guidance for Pollution Prevention (GPPs). Measures to be outlined in the CEMP that have been identified through the appraisal in **Section 6** will include: • A Soil Management Plan to ensure the reuse of soils on-Site;

[46] C - Construction, O - Operation

Mitigation Measure	Mitigation Ref.	Responsibility	Applicable Phase (C/O)[46]	Detail of Mitigation
				• Control of potential runoff/pollution to local watercourses / ground; • Control of waste and adoption of practice to minimise waste generation; • Measures to protect retained vegetation, including fencing around the root protection areas of retain trees in line with BS 5837:2012; • Clearance works will be undertaken outside of the nesting birds season (March to August inclusive); • Careful sourcing of construction materials to reduce associated GHG emissions as well as direct emission reducing practices on-Site; • Pollution prevention measures such as bunded storage, designated wheel washing areas, settling basins, screening stockpiles of material, dampening exposed soils and ongoing monitoring and liaison; • Use of hoarding to visually screen activities, adoption of general Site tidiness and sensible layout; and • Traffic management measures such as management and proposed routing of construction related traffic, delivery of large oversized plant/machinery and vehicular parking. •
Design of buildings to account for climate change	M2	Applicant / Design Team	O	The Proposed Scheme will be designed in accordance with Building Regulations and additionally with due consideration of future climate conditions, which will ensure the effects of climate change are dealt with.

Mitigation Measure	Mitigation Ref.	Responsibility	Applicable Phase (C/O)[46]	Detail of Mitigation
Surface Water Drainage Strategy	M3	Applicant / Design Team	O	The surface water drainage strategy will be designed to accommodate runoff arising from a 1 in 100-year rainfall event and 40% allowance to account for further effects of climate change. The Proposed Scheme will use SuDS, comprising an attenuation basin, fed by gravity adoptable surface water sewers and a drainage swale. Discharge will be limited to 25l/s, and calculations include an allowance for 10% urban creep. This should incorporate pollution prevention measures (e.g. oil interceptors).
Lighting Strategy	M4	Applicant / Design Team	O	All future lighting installations will be designed and installed in line with relevant standards and guidance, including: • CIE 150: 2017 - Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations, 2nd Edition; • ILP GN01 - Guidance Notes for the Reduction of Obtrusive Light 2020; • BS 5489-1:2020 Design of road lighting - Lighting of road and public amenity areas. Code of Practice; and • ILP Guidance Note 08/18 Bats and Artificial Lighting in the UK.
Financial Contributions	M5	Applicant	O	Contributions towards education / healthcare facilities, should they be required.
Site Security Design	M6	Applicant / Design Team	O	The Proposed Scheme will be designed in line with appropriate national guidance and standards with respect to crime prevention and safety (such as CCTV) to reduce crime.
Waste Storage	M7	Applicant / Design Team	O	Appropriate waste storage facilities will be provided for the proposed dwellings and refuse collection will be in accordance with SGC requirements. Such measures are

Mitigation Measure	Mitigation Ref.	Responsibility	Applicable Phase (C/O)[46]	Detail of Mitigation
				likely to be managed by an approved Waste Strategy, in line with Controlled Waste (England and Wales) Regulations, 2012 and local guidance. The collection of waste associated with the local shop will be appropriately arranged through private services by the occupant.
Archaeological Mitigation	M8	Project Archaeologist	C	Geophysical surveying / archaeological trial trenching to determine the presence or absence of below ground assets. If present, archaeological remains will be preserved by archaeological record.
Landscaping and Biodiversity Strategy	M9			A landscape and biodiversity strategy will be prepared and submitted to SGC for approval. This will include the following key design principles relating to landscaping and ecology: • Retention of hedgerow boundaries as far as possible with a focus on maintaining connectivity throughout the Site for the continued dispersal of wildlife; • Retain trees with potential to support roosting bats and protect through inclusion of habitat buffers incorporating root protection zones; • The implementation of a wildlife-sensitive lighting scheme across the Site necessary to ensure maintenance and creation of dark corridors on-Site whilst minimising light spill upon sensitive habitats adjacent; • The enhancement of the existing hedgerow network (where retained) through gap and infill planting utilising native hedgerow species of local provenance, and new tree/hedgerow planting across the Site; • The creation of species-rich wildflower grassland habitats subject to sensitive management within areas of informal green open space that compliments and connects with existing habitats in the local area; and

Mitigation Measure	Mitigation Ref.	Responsibility	Applicable Phase (C/O)[46]	Detail of Mitigation
				• Incorporation of a range of bat, bird boxes upon suitable trees and for integration within built form where appropriate so as to provide new roosting and nesting opportunities across the Site.
Bat Protection Strategy	M10	Project Ecologist	C	Further surveys of the Site will be undertaken to identify bat roosts. If a bat roost(s) is identified an appropriate Natural England protected species license will be obtained, prepared by a suitable ecological consultant. All further works to be undertaken in line with the Natural England Licence, overseen by an appointed Ecological Clerk of Works.
Radon Protection Measures	M11	Applicant / Design Team	C	Basic radon protection measures will be implemented as part of the Proposed Scheme.
Noise Mitigation	M12	Applicant / Design Team	O	Mitigation measures proposed to achieve internal noise levels in accordance with guidelines include: • Thermal double glazing of windows; and • Use of air brick ventilation and/or trickle vents on habitable rooms directly fronting the B4060 Sodbury Road/South Farm. Standard 1.8m high close boarded timber fencing will be installed around garden boundaries.

Turley Office
One Park Row
Leeds
LS1 5HN

T 0113 386 3800

Turley
Sustainability