6.120. Manual transect and automated bat activity surveys have confirmed that the EIA Site supports low-moderate levels of foraging and commuting activity dominated by common and widespread bat species considered to be of Local importance. Habitats considered most important to a local bat assemblage, include hedgerow boundaries delineating the EIA Site. Such habitats will largely be retained and buffered from the development footprint whilst improved grassland is of Negligible importance as a foraging resource given its small extent and limited botanical and structural diversity. There will, still, however, be minor loss of the hedgerow resource amounting to 40m to facilitate site access with potential for fragmentation of a potential dispersal corridor for a commuting bat assemblage. Such impacts to a bat assemblage are considered adverse, permanent, irreversible and long-term at Local level.

6.121. With respect to those habitat features to be retained, degradation through damage and disturbance during the construction phase could result in the further loss of roosting and breeding sites in addition to habitat important for foraging, dispersal and migration. In the absence of mitigation, the effects of such impacts upon bats are considered to be adverse, permanent and irreversible. The significance of such effects upon these species is considered to be of Local level significance.

6.122. Indirect disturbance (particularly light spill) upon potential tree roosts and commuting/foraging habitat may arise during construction. Such impacts can affect species through their physiology (such as through increased heart rates, metabolism and stress), and through their behaviour (such as through forced dispersal and/or displacement). Impacts could result in the abandonment of roosts, foraging territories and of commuting and dispersal corridors, which could significantly affect those species supported by the EIA Site. Such disturbances arising can be intermittent, frequent, and/or constant throughout the construction period. However, given that the majority of the works will be undertaken during daylight hours, the usage of artificial lighting will likely be limited to the early morning and early evening hours, with greater requirements for artificial lighting during the winter months. Overall, potentially adverse effects arising from indirect disturbance upon the local bat assemblage, although minor and temporary in the short-medium term, are considered to be significant at Site level only.

Badger

6.123. Surveys of the EIA Site for badger identified an inactive outlier sett within a hedgerow along the northern boundary of the site. Improved grassland, which dominates the EIA Site provides a foraging resource for this species whilst native hedgerows delineating the boundaries of the EIA Site provide potential wildlife corridors for the dispersal of this species between the EIA Site and wider landscape.

6.124. Given the proximity of the proposed development footprint to an inactive sett, impacts associated with physical loss/damage of the sett and/or disturbance to badger occupying it at the time of construction may arise if the sett were to become active again, and there remains the potential for harm/injury to this species following an increase in movement of construction traffic and entrapment within open excavations.

6.125. Land take associated with the development proposals will, furthermore, result in the permanent loss of agricultural land, which provides a foraging resource to badger, whilst construction of built development may limit dispersal of this species across the EIA Site.

6.126. Whilst construction will result in adverse effects to badger occupying the EIA Site and their setts, this species remains common and widespread within the county and the United Kingdom so that effects upon its conservation status are not considered significant.

Great Crested Newt

6.127. Land take associated with the development proposals will result in the permanent loss of approximately 6.35ha of semi-natural habitat, with habitat losses confined predominantly to the interiors of an improved grassland fields. This is in addition to the partial loss of hedgerows and associated trees to accommodate construction of access roads accounting for circa 40m. Such habitats are considered to be of some value to a medium great crested newt population identified onsite with respect to foraging, refuge and dispersal. Of the 6.35ha proposed for loss, circa 0.05ha represents 'core territory for great crested newt (i.e. those habitats occurring within 50m of a breeding pond), whilst a further 5.56ha comprise 'intermediate habitats', i.e. those habitats (i.e. those occurring between 50m and 250m of a breeding pond). Such losses predominantly comprise improved grassland of sub-optimal value to great crested newt given its limited structural diversity.

6.128. Whilst such impacts are unavoidable, the extent of core habitat loss in particular has been reduced as far as possible, with proposed retention of a grassland buffer around the circumference of the central moat ranging between circa 8m and 53m in width whilst a further 1.08ha is to be reinstated as grassland habitat upon completion of construction activities including drainage features. Hedgerow boundaries have, furthermore, largely been retained throughout the development with relatively minor habitat losses to facilitate access. Nevertheless, the reduction of available habitats supporting a medium great crested newt population is considered adverse, permanent, irreversible long-term and of Local significance.

6.129. Additionally, increased levels of traffic movements by vehicles, machinery and plant throughout the construction phase could increase the potential risk of road casualties upon this species, particularly when constructing access roads and removing vegetation across which species disperse and forage. Such impacts considered adverse, permanent and irreversible at Local level.

6.130. With respect to aquatic habitats, pond P5 located centrally within the EIA Site will be retained within the development. Losses in respect of the wet ditch delineating the western boundary of the EIA Site are anticipated, however, with culverting of this habitat at its northern extent to facilitate construction of an access road necessary, combined with lengthening of an existing culvert at the southern extent of the EIA site. Such losses are considered adverse, permanent, irreversible and long-term at Site level.

6.131. There is also the potential for physical damage/degradation of the pond and bankside habitat given the proximity of the construction footprint for proposed drainage infrastructure. Such effects are considered adverse, permanent and potentially irreversible in the short-medium term. Such effects are considered to be of Local level significance.

6.132. Indirect impacts upon pond P5 and offsite ponds within close proximity to the southern boundary of the EIA Site (namely P2, P3 and P9) may also arise as a result of surface water runoff affecting water quality during the construction phase. Such impacts are considered adverse, temporary and reversible in the short-medium term at Local level.

6.133. Increased levels of traffic movements by vehicles, machinery and plant throughout the construction phase could increase the potential risk of road casualties upon this species, particularly when constructing access roads and removing vegetation across which species disperse and forage. Such impacts resulting in harm/injury to a great crested newt population are considered adverse, permanent and irreversible at Local level with such effects arising over the short-medium term.

Reptiles

6.134. Land take associated with the development proposals will result in the permanent loss of semi-natural habitat, with habitat losses confined predominantly to agriculturally improved grassland of limited importance for a common reptile population. Hedgerow boundaries also provide additional suitable habitat for low numbers of common reptiles with circa 40m to be removed to facilitate development. The reduction of available habitats with potential to support a common reptile population is considered adverse, permanent, irreversible, long-term and of Site level significance.

6.135. With respect to those habitat features to be retained, degradation through damage and disturbance during the construction phase could result in the further loss of habitat important for a common reptile population. In the absence of mitigation, the effects of such impacts upon reptiles are considered to be adverse, permanent and potentially irreversible with such effects arising over the short-medium term. The significance of such effects upon this species is considered to be of Site level significance only.

6.136. Increased levels of traffic movements by vehicles, machinery and plant throughout the construction phase could increase the potential risk of road casualties upon this species, particularly when constructing access roads and removing vegetation across which species disperse and forage. Such impacts resulting in harm/injury to a common reptile population in the event one is present is considered adverse, permanent and irreversible at Site level with such effects arising over the short-medium term.

Operation

6.137. Potential significant effects identified, which could arise as a result of the operation of the proposed development in the absence of mitigation include the following:

- Effects of light and noise/visual/human disturbance to designated sites, habitats and species;
- Increased risk of collision and predation to species; and
- Alteration of surface water run-off/groundwater flow/site drainage.

Statutory Designations

6.138. The HRA accompanying the JCS considered the impact of a number of vulnerabilities on the Cotswold Beechwood SAC, which are pertinent during the operational phase of the proposed development. In the absence of mitigation there is the potential for significant negative effects to arise upon qualifying features of the Cotswold Beechwoods SAC as a result of recreational pressures generated from an additional 190 houses, following occupation of proposed development. Such effects are considered adverse, permanent long-term and potentially reversible at the County level. Similarly, there remains the potential for such impacts to arise upon Range Farm Fields SSSI, designated for its grassland habitat, given its proximity to the EIA Site.

6.139. Traffic calculations have shown that few vehicles would be travelling along the A46 from the site, therefore there are expected to be no significant impacts on the air quality of the Cotswold Beechwoods SAC.

Non-statutory Designations

6.140. In the absence of mitigation, adverse impacts upon the central pond comprising a pLWS may arise as a result of contaminated surface water run-off combined with a change in water volume discharges to the moat following conversion of a greenfield site to residential use. Such impacts are somewhat reduced given the inclusion of a habitat buffer to comprise grassland and new shrub planting between the moat and built development, with such features likely to naturally attenuate/intercept a volume of surface water runoff. Nevertheless, such impacts are considered permanent, albeit reversible and long-term at Local level.

6.141. Increased recreational usage following occupation of the proposed development may affect

sensitive retained habitats including hedgerows and the central moat through disturbances arising from trampling, increased noise, lighting and litter, in addition to the introduction of non-native species from household/garden waste and nutrient enrichment of habitats as a result of pet ownership. Such effects are considered to be adverse, permanent, irreversible, long-term and of Local significance.

6.142. Similarly, an increase in residential dwellings could lead to an increase in disturbance through greater levels of recreational pressure upon other non-statutory designations within the wider landscape, including Robinswood Hill Country Park, LNR and LWS. However, inherent within the Proposed Site Plan is the provision of an area of open green space within the EIA Site amounting to 2.94ha, to provide alternative opportunities for play and recreation as well as for wildlife. In the absence of such mitigation, however, effects are considered adverse, permanent and irreversible at Local level.

Habitat IEFs

6.143. Across the EIA Site, there is the potential for adverse effects upon valued habitats associated with damage/degradation, pollution and disturbance/recreation during the operational phase of development. Such effects have been described in relation to non-statutory designations and are not repeated here.

Birds

6.144. Retained habitats supporting breeding and foraging birds are potentially at risk of disturbance during the operational phase of the development, in the form of light spill and noise. Nesting birds' sensitive to such disturbance could abandon nests and breeding territories and become displaced from other populations. In the absence of mitigation, adverse effects upon such species are considered permanent, irreversible, long-term and of Site significance.

6.145. Increased predation of wildlife may also arise following occupation as a result of cat ownership across the development. The unmitigated impact of increased predation upon birds can be characterised as an adverse effect which is probable to result, with such effects expected to be permanent and irreversible. The significance of such effects upon species is therefore considered to be of Site level significance.

Bats

6.146. In relation to bats, an increase in disturbance arising from increased human presence, vehicular use noise and light originating from residential dwellings may affect the behaviour of species utilising those habitats on-site. The usage of artificial lighting across the EIA Site could also result in detrimental effects upon bat species due to light spill upon adjacent habitats in use as foraging and commuting corridors. Such effects could result in the abandonment of roost sites and displacement of foraging and commuting routes across the proposed development, and may also result in the isolation of, and reduced interactions between, populations necessary to maintain genetic diversity. The continued ecological functionality of habitat corridors on-site may therefore be reduced. In the absence of mitigation, adverse effects upon bat IEFs are considered to be adverse, permanent, irreversible and long-term. Such effects are considered to be of Local significance.

6.147. Increased predation upon bats, particularly at roost sites, may also arise following occupation as a result of cat ownership across the development. The unmitigated impact of increased predation upon species can be characterised as an adverse effect which is probable to result, with such effects expected to be permanent and irreversible. The significance of such effects upon species is therefore considered to be of Site level significance.

Badger

6.148. In absence of mitigation, the effects of the operational development on badger may include an increased risk of collision with vehicles on new roads, in addition the potential increase in disturbance levels to active setts, where retained, as a result of increased levels of human activity. Whilst such impacts will result in adverse effects to badger occupying the EIA Site and their setts, this species remains common and widespread with the county and the United Kingdom should that effects upon its conservation status are not considered significant.

Great Crested Newt

6.149. Increases in visual/noise/human disturbance and lighting could result in adverse effects upon great crested newt, although such impacts are considered reduced given the retention of the majority of the hedgerow resource in addition to habitat buffering upon the central moat P5. In the absence of mitigation, adverse effects upon great crested newt are considered adverse, permanent, long-term, irreversible, and of significance at Local level.

6.150. Increased vehicular traffic arising following occupation could also increase levels of road-kill upon individuals moving across the EIA Site to offsite ponds. The unmitigated impact of increased risk of collision to great crested newt can be characterised as an adverse impact, with such impacts expected to be permanent and irreversible. The significance of such impacts upon species is considered to be of significance at Local level.

6.151. Detrimental impacts upon retained aquatic and terrestrial habitat onsite may also arise as a result of increased recreational pressure and any resulting physical disturbance following occupation of the EIA Site. Such impacts are expected to be permanent, albeit reversible, long-term and of Local significance.

6.152. Similarly, there is the potential for indirect impacts upon pond P5, arising from potential alterations to groundwater and surface water flows following the conversion of a green field site to residential use. The unmitigated effects of alterations to groundwater and surface water flows upon great crested newt can be characterised as an adverse, temporary and reversible impact. The significance of such unmitigated effects upon pond P5 is considered to be of Local significance.

Reptiles

6.153. Increases in visual/noise/human disturbance and lighting could result in adverse effects upon common reptiles, although such impacts are considered reduced given the retention of the majority of the hedgerow resource and habitat buffering to other key habitat features such as the central moat P5. In the absence of mitigation, adverse effects upon reptiles are thus considered adverse, permanent, irreversible, long-term and of significance at Site level only.

6.154. Increased vehicular traffic arising following occupation could also increase levels of road-kill upon reptile individuals moving across the EIA Site. The unmitigated impact of increased risk of collision to reptiles can be characterised as an adverse impact, with such impacts expected to be permanent and irreversible. The significance of such impacts upon species is considered to be of significance at Site level.

Cumulative and In-Combination Effects

6.155. This section sets out the cumulative and in-combination effects of the EIA Site along with other Proposed Development and other committed developments (i.e. those that have not been commenced but have a valid planning permission and those schemes which are in the planning process). The assessment of cumulative effects repeats the assessment process set out above, but considers the potential change caused by all schemes identified for cumulative assessment.

6.156. The following possible developments have been considered for potential significant cumulative effects;

- Land South of Winnycroft Farm – Barratts - 420 homes (Gloucester City – JCS A6) - planning permission, under construction;
- Winnycroft Farm – Linden - 217 homes (Gloucester City - JCS A6) – planning permission, under construction;
- Gloucester Business Park – Major Employment Site (Tewkesbury Borough EMP1) – planning permission, under construction;

- Land adjacent to Hucclecote Road and Golf Club Lane, Brockworth (Tewkesbury Borough BRO1) - 166 homes – emerging allocation, planning permission;
- Nerva Meadows, Brockworth – 106 homes (Tewkesbury Borough BRO2) – emerging allocation, planning submitted;
- North Brockworth Urban Extension (Tewkesbury Borough – JCS A3) – planning permission, under construction;
- Whaddon Grange – Taylor Wimpey, L&Q, Newland – 3,000 homes (Stroud District G2) – emerging allocation, no planning permission;
- Land South of Grange Road – Persimmon (Gloucester City) - 250 homes – planning permission, under construction;
- Hunts Grove (Stroud District) – 1,750 homes and 5.75 ha employment – planning permission, under construction;
- Colethrop Farm/Hunts Grove Extension (Stroud District PS30) – 750 homes – emerging allocation, no planning permission;
- South of Hardwicke (Stroud District G1) – 1,350 homes – emerging allocation, no planning permission;
- Javelin Park (Stroud District PS43) – 20ha employment site – under construction; and
- Quedgley East Extension (Stroud PS32) – 5ha employment site – under construction/ complete.

Statutory Designations

6.157. Potential cumulative effects upon Cotswold Beechwoods SAC include physical damage from an increase in recreational pressures and an increase in atmospheric pollution. By virtue of avoidance and mitigation associated with the Proposed Development, which would reduce any effects of recreational pressures to negligible levels and assumed avoidance and mitigation of potential adverse effects for the above schemes to meet planning policy and other legislative/regulatory requirements, no significant cumulative effects are predicted.

6.158. Owing to the scale and location of the proposed development, it is not anticipated to result in a significant increase in traffic along the A46, which passes within 200m of Cotswold Beechwood SAC. The cumulative effect with all the other developments will increase the number of daily trips along the A46 and increase the risk of atmospheric pollution. However, the habitats within 200m of the road are already subject to high levels of atmospheric pollution from the levels of traffic currently using the road and it is not predicted that the proposed development will significantly increase the cumulative number of vehicles beyond critical thresholds (e.g. >1000 Annual Average Daily Traffic). Therefore, no significant adverse effects are predicted.

6.159. Potential cumulative effects upon Range Farm Fields SSSI could arise from an increase in physical damage from recreational pressures. The avoidance and mitigation measures and assumed avoidance and mitigation within the above schemes should ensure there is no significant cumulative effect.

Non-statutory Designations

6.160. Potential cumulative effects upon Robinswood Hill Country Park, LNR and LWS include an increase in recreational pressures. By virtue of avoidance and mitigation associated with the Proposed Development (including alternative recreational space onsite), which would reduce any effects of recreational pressures to negligible levels and assumed avoidance and mitigation of potential adverse effects for the above schemes to meet planning policy and other legislative/regulatory requirements, no significant cumulative effects are predicted.

Habitats and Species

6.161. Potential cumulative effects on habitats and species include a loss of suitable habitat for birds, bats, great crested newts and reptiles. The landscape proposals within the development ensure that there will be no overall net gains in biodiversity and no significant loss of habitats for such species. It is expected that mitigation within the other schemes that come forward will also meet planning policy requirements to achieve net gains in biodiversity and mitigate the potential construction and operation impacts upon species. Therefore, there is not expected to be any significant cumulative impacts upon habitat or species IEFs.

Mitigation and Enhancement

6.162. This section sets out the principles of the avoidance, mitigation or compensation measures required to reduce any potential ecological effects to insignificant levels. Overall, many potential adverse effects have been avoided or reduced through inherent mitigation incorporated into the Proposed Site Plan accompanying the application, along with the spatial separation between designated sites and habitats.

6.163. Not all potential adverse effects can be avoided or reduced in severity through inherent mitigation alone. This section identifies any additional mitigation measures required to avoid, reduce or offset the potential for such significant adverse effects. The key mechanisms described will include measures to:

- Conform with relevant and pertinent legislative requirements, particularly those associated with legally protected species; and
- Deliver and maximise opportunities for biodiversity enhancement and gain through the proposed development.

6.164. The key mechanisms which will be implemented are:

- Detailed Design Measures: The detailed planning application includes plans that illustrate the inherent mitigation measures incorporated within the scheme, including the implementation of a sensitive drainage strategy in accordance with national and local planning policy to ensure no impacts upon aquatic features. This is combined with the proposed retention of the central moat and the majority of the hedgerow habitat with such habitats considered to be of Local importance. There will also be the inclusion of new tree and shrub planting utilising native species (unless proven to be resilient to climate change and/or wildlife friendly), preferably of local provenance, to compensate for the loss of habitats elsewhere. Additional detailed design measures recommended include the implementation of a sensitive lighting strategy during both the construction and operational phases to ensure no/limited light spill upon sensitive habitats, as well as the installation of bird and bat roost features upon trees and new building where appropriate;

- Ecological Construction Method Statement (ECMS): Further detailed measures will be set out with respect to the management and control of the construction phase of the development to ensure protection of IEFs. The ECMS will aim to set out in detail those measures, which will require implementation with respect to the protection and enhancement of all IEFs and biodiversity in general during the construction phase of the proposed development. It is proposed that the methodologies prescribed within the ECMS will be overseen by an appointed Ecological Clerk of Works (ECoW), whose scope and remit will be set out within the ECMS, and any future district licence granted by Natural England in respect of great crested newt. The ECMS will also identify clearly the responsibilities of key personnel including the Site Manager(s) and the ECoW. The ECMS and appointment of the ECoW could be secured by way of a suitably worded planning condition; and

- Ecological Management Plan (EMP) and Mitigation Strategies (Including Derogation Licensing) – A detailed mitigation strategy for great crested newt will be prepared to inform a District Licensing Scheme should planning consent be forthcoming and will set out the recommended compensation, mitigation and enhancement measures to be implemented as part of the proposals, to ensure no significant adverse effects will arise upon the favourable conservation status of this species following occupation. This will be further supported by a site-wide EMP, which includes the post-construction management of landscape, arboricultural, and biodiversity elements in order to ensure that a holistic approach is adopted.

6.165. The proposed further mitigation measures in respect of the potentially adverse effects arising during the construction and occupation of the completed development are described below.

Construction

6.166. All necessary ecological surveys are considered current at the time of submission, however, where relevant and depending on development timescales and phasing, certain detailed species surveys may require updating prior to commencement of development. The findings will be used to inform the measures set out below.

6.167. Detailed measures to protect habitats and species during the construction phase will be set out within an ECMS, which can be secured through an appropriately worded pre-commencement condition attached to any future planning consent.

6.168. In general, the ECMS will include mechanisms to ensure the sensitive siting of work compound(s) and storage areas, including the storage of any fuel, chemicals, plant or machinery, sensitive clearance of the EIA Site and the use of artificial lighting (including security lighting). A timetable of all key tasks to be undertaken as part of pre-construction and construction work will be provided, taking into account all species and habitat sensitivities.

Non-statutory Designated Sites

6.169. To protect water quality within pond P5 located within Winnycroft Farm South pLWS during the construction phase, appropriate pollution control measures will be employed with reference to the guidance as issued by the Department of Environment, Food and Rural Affairs and the Environment Agency relating to: pollution prevention for business[4] ad store oil[5]. By following guidance it will ensure that detrimental impacts to P5 as a result of surface run-off arising during the pre-construction and enabling works phases, are fully avoided.

6.170. In addition, no construction activities (with the exception of proposed landscaping installation of drainage infrastructure) will be permitted within 10m of the pond. No waste arising from ground works will be stored within 10m of the pond. This includes any waste material, earth or debris, which may enter the stream. In addition, no plant or machinery should be parked within 10m of the bank when not in use, with refuelling taking place within a protected bund at a designated point well away from the pond. Any fuel spills will be reported to the Site Manager and acted on immediately to ensure these do not reach the pond. A procedure for checking and corrective action, including regular inspections and monitoring, will be put in place for the duration of proposed works.

6.171. In addition to potential effects arising from site drainage during the construction phase, there remains the potential for damage/degradation of habitats associated with pLWS and an increase in noise and lighting.

6.172. The ECMS will contain measures to physically protect retained habitats onsite and adjacent through the establishment of Ecological Protection Zones (EPZs). This will include specifications

[4] Available at Pollution prevention for business Published 12 July 2016 Updated 2 May 2019

[5] Available at Oil storage regulations for businesses Published 6 May 2015 Updated 4 August 2020

for protective fencing and signage to prevent activities such as the incursion by vehicles or personnel, fires and stockpiling of materials, together with the identification of responsibilities for maintaining this fencing/signage during the demolition and construction period. Generally, protective fencing will be erected as recommended within BS 5837: 2012 Trees in relation to design, demolition and construction. Protective fencing will incorporate the full root protection area of hedgerow/trees feature to be retained and will be protected and maintained throughout the duration of all site enabling and pre-construction activities. In respect of the central moat, protective fencing will encompass the recommended 10m buffer around the circumference of the waterbody.

6.173. No works (other than planting), including the storage of materials, plant and machinery, will be carried out within or immediately adjacent to all areas of protective fencing/areas marked for protection as described above, so as to ensure no detrimental impacts to sensitive features arising from physical damage and/or pollution. The digging of trenches and pits for new tree and scrub planting adjacent to areas of protective fencing, where this lies inside root protection areas, will be carried out by hand only, in accordance with best practice guidance as stipulated within BS 5837:2012.

6.174. The ECMS will also include the restriction of construction activities to daylight hours as far as possible to mitigate effects of increased visual and noise disturbance, with the use of temporary, artificial lighting avoided during the hours between dusk and dawn, and directional and low-level lighting utilised away from sensitive habitat corridors to mitigate effects relating to increased use of artificial lighting.

6.175. The construction phase of proposed development is anticipated to have the potential for adverse, permanent, long-term, irreversible effects at Local level associated with the loss and fragmentation of hedgerow habitat and associated trees.

6.176. The Proposed Site Plan has sought to minimise losses as far as possible with retention of circa 97% of the total hedgerow resource. This will be combined with the buffering of such features from built development through the inclusion of habitat buffers, incorporating as a minimum the root protection zones of retained vegetation. To mitigate for proposed habitat loss, new hedgerow planting is proposed within the centre of the EIA Site, amounting to circa 60m in addition to the inclusion of new shrub and tree planting across the EIA site including in associated with proposed areas of open green space.

6.177. Combined with implementation of mitigation as discussed in relation to non-statutory designations above, no potential residual impacts are anticipated upon IEFs to be retained (the hedgerow, associated trees and moat).

Species IEFs

6.178. Protection of species during construction will be ensured through the provisions of the ECMS and relevant Natural England district licences in respect of great crested newt and badger, where

required. As a general measure aimed at protecting species, 'toolbox talks' will be provided by a suitably qualified ecologist to the principal contractor appointed by the developer, for distribution to all employees involved in any enabling works/vegetation clearance, to ensure that identification and protection of the relevant species and their habitats is understood prior to commencement.

6.179. Construction activities will be limited to daylight hours as far as possible to minimise disturbance to foraging and commuting habitats of value to bats, birds, badger, great crested newt and common reptiles and the use of lighting restricted. Where this is not possible (i.e., for security purposes) lighting will be directional, timed and low-lux, with internal/external shields installed as necessary to ensure minimal light spillage upon retained habitats, both within and adjacent to the development edge. Timed lighting will be programmed to ensure adequate dark periods between dusk and dawn across the EIA Site, particularly adjacent to peripheral vegetation.

6.180. In addition to the habitat protection measures described above, which will deliver much of the necessary species' protection, further measures for each species group are summarised below.

Birds

6.181. The construction works are considered to have the potential for an adverse, permanent, irreversible, long-term effect at Site level associated with the loss/degradation of suitable nesting and foraging habitat. Retained bird nesting habitats will be included within EPZs. This is considered to ensure the avoidance of impacts upon the local breeding bird assemblage given their likely association with those habitats retained including hedgerows and associated trees and scrub.

6.182. Given the protection afforded to all breeding birds, their nests, eggs and young, sensitive vegetation clearance (and building demolition) required during the pre-construction and construction phases of development should be timed to avoid the main bird breeding season (i.e. March to August inclusive). Should this seasonal constraint prove impracticable, then vegetation clearance/building demolition outside of this period should only commence following the advice and under supervision of a suitably qualified ecologist. Pre-commencement checks for active nests will be required prior to any vegetation clearance occurring during the main bird breeding season, with appropriate buffers marked out around active nests or nests under construction, until all eggs have hatched and chicks fledged. Such protection measures in relation to breeding birds should be included within the ECMS prepared for the EIA Site.

Bats

6.183. Retained trees with bat roost potential will be included within EPZs throughout construction. Where trees with bat roost potential are to be lost to/impacted by development, in the absence of roosting bats, a development licence from Natural England will not be required. Nevertheless, due to the transitory nature of tree roosting bats in particular, precautionary measures are required.

Specifically, an update aerial inspection of bat roosting features previously identified will be undertaken by a suitably qualified and Natural England bat licensed ecologist and/or arboricultural contractor, and within no more than 48 hours of works. Should a bat roost be confirmed within any trees to be impacted by the proposals, then a development licence from Natural England will be required prior to works commencing, with sufficient replacement roosting habitat provided. Where no roosts are found but bat roosting potential remains, such trees should be subject to a 'soft' felling methodology by a suitably qualified arboricultural contractor with experience of working with bats, following the advice of the suitably qualified and licensed ecologist and supervised where necessary.

Badger

6.184. Development of the EIA Site will require the likely disturbance of an active, outlier badger sett. Given the widespread distribution of this species and its conservation status the potential for significant effects is considered negligible. Nevertheless, badger and their setts receive protection under the Protection of Badgers Act 1992, which protects badgers from deliberate harm and injury. The protection afforded to badgers is primarily due to animal welfare issues and not due to concerns over their unfavourable nature conservation status.

6.185. Given the ability of badger to establish new setts in a relatively short space of time and/or for setts to go in and out of use, an update badger survey should be undertaken prior to commencement of development to establish the current status of the onsite sett and/or determine whether any new setts have been excavated In the interim. Where active setts are identified, direct impacts to and disturbance of an active badger setts should be avoided through establishment of appropriate working buffers, specific to relevant development activities in accordance with Natural England Standing Advice and published guidance, with such buffers ranging between 10m–30m. Where this is not possible and proposed development will encroach within 30m of active setts such that disturbance could potentially occur, an application to Natural England seeking the grant of a badger licence will be required in order to permit construction works to proceed lawfully. In this instance, a proposed mitigation strategy proposed is based on the following principles:

- Exclusion of badgers from the sett using one-way gates where confirmed active at the time (restricted to the period between July and November inclusive);
- Sett monitoring (minimum 21 days) of closed setts, to ensure badgers have not regained access to any setts (to be undertaken between July and November inclusive);
- Excavation of the badger sett with all tunnels dug back to end/or as far as necessary to located them outside of the construction footprint; and
- Commencement of excavation/groundworks within 30m of the sett upon exclusion of badger, with removal of badger gates and reopening of any retained tunnel entrances following satisfactory completion of potentially disturbing development activities.

6.186. In addition to the above and in respect of the presence of badgers more generally, the following measures will apply throughout the construction phase of the development:

- All machinery will be operated by trained personnel only;
- There will be no working at night; and
- All trenches/excavations will be covered up overnight and a means of escape provided to avoid wildlife becoming trapped.

6.187. Land take associated with the development proposals will, furthermore, result in the permanent loss of improved grassland, which provide a foraging resource to badger, whilst construction of built development may limit dispersal of this species across the EIA Site. Inherent within the Proposed Site Layout, however, is the proposed retention of circa 97% of hedgerow boundaries in addition to the retention and enhancement of circa 0.63ha of grassland habitat around the central moat, combined with creation of new grassland habitat along the eastern boundary of the EIA Site in association with a proposed earth bund.

6.188. New tree and shrub planting is, furthermore, proposed to reinforce and enhance retained hedgerows along the northern, southern and western boundaries of the EIA Site combined with creation of circa 60m new hedgerow habitat within the central open space. Such planting will strengthen retained wildlife corridors and maintain ecological connectivity along the boundaries of the EIA Site, with new hedgerow and shrub planting, providing further cover for protected and notable species.

Great Crested Newt

6.189. The removal of terrestrial vegetation suitable for great crested newt will be undertaken in accordance with the measures detailed within an approved Natural England District Licence. Pre-commencement mitigation for great crested newt may include the following:

- A toolbox talk to site personnel provided by a suitably qualified ecologist regarding great crested newt identification, legislation, reasonable avoidance measures and what to do if they are found on the EIA Site;
- Installation of great crested newt exclusion fencing around the perimeter of the retained habitat surrounding the pond;
- Phased vegetation clearance of the EIA Site including the cutting of vegetation to no lower than 150mm, which is to be left for 48 hours. A second directional cut should be undertaken towards offsite areas of retained habitat; and
- Installation of great crested newt exclusion fencing around the construction footprint to prevent great crested newts entering the EIA Site.

6.190. As detailed above in relation to non-statutory designated sites, appropriate pollution control measures will be employed with reference to Environment Agency standards[6] relating to: GPP1 Good Environmental Practices; GGP55 Works and maintenance in or near water; PPG6 Pollution prevention guidance for working at construction and demolition sites; GPP8 (safe storage and disposal of used oils); and GPP21 Pollution incident response planning to ensure that detrimental impacts to P5 as a result of surface run-off arising during the pre-construction and enabling works phases, are fully avoided.

6.191. In addition, the ECMS will contain measures to physically protect retained habitats onsite and adjacent through the establishment of EPZs. This will include specifications for protective fencing and signage to prevent activities such as the incursion by vehicles or personnel, fires and stockpiling of materials, together with the identification of responsibilities for maintaining this fencing/signage during the demolition and construction period. Generally, protective fencing will encompass a 10m buffer around the circumference of the waterbody to prevent damage/degradation during the construction phase.

6.192. No works (other than planting), including the storage of materials, plant and machinery, will be carried out within or immediately adjacent to all areas of protective fencing/areas marked for protection as described above, so as to ensure no detrimental impacts to sensitive features arising from physical damage and/or pollution. The digging of trenches and pits for new tree and scrub planting adjacent to areas of protective fencing, where this lies inside root protection areas, will be carried out by hand only, in accordance with best practice guidance as stipulated within BS 5837:2012.

6.193. The ECMS will also include the restriction of construction activities to daylight hours as far as possible to mitigate effects of increased visual and noise disturbance, with the use of temporary, artificial lighting avoided during the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitat corridors as well as the central moat to mitigate effects relating to increased use of artificial lighting.

[6] Available at Guidance for Pollution Prevention (GPPs) - Full list | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland

Reptiles

6.194. Common reptiles will be protected throughout the construction phase through the adoption of precautionary measures during site clearance, ensuring harm/injury to such species are avoided. More specifically, sensitive displacement of individuals through phased vegetation clearance of the EIA Site under an ecological watching brief will be undertaken where required, with the timing of such activities ideally confined to the period late March–early October inclusive so as to avoid the reptile hibernation season.

6.195. This will be combined with adoption of those measures in respect to protection retained habitats of value to common reptiles and restriction of construction activities to daylight hours as detailed above.

Operation

6.196. Detailed ecological management prescriptions for the long-term management of newly created and enhanced habitats in respect of protected species will be provided within a site-wide EMP, which will set out in detail the following additional ecological measures to compensate for proposed habitat loss across the site and further mitigate for potential operational impacts:

- The ecological management prescriptions for defined management compartments to be retained and/or created, including hedgerows, trees and shrubs, grassland habitats, pond P5, bat/bird/nest box features and hibernacula, with respect to their establishment and long-term management;
- The monitoring of habitat features in accordance with planning conditions and derogation licence(s) where appropriate;
- The management and maintenance of formal and informal footpaths, signage, dog/litter bins and other such items; and
- The monitoring of biophysical changes to habitats including management of sedimentation, water quality and water flow of sustainable drainage and hydrological features retained and created onsite, terrestrial succession and scrub encroachment, with identified remedial measures to address any significant issues.

Statutory Designated Sites

6.197. Overall and in the absence of mitigation, it is considered that proposed residential development of the EIA Site, alone, will likely give rise to impacts upon the SAC, arising from an increase in recreational pressure generated from an increase in housing provision. The SAC is located circa 2.4km from the Cotswold Beechwoods SAC and, therefore, within the visitor catchment for this designation. Such impacts are, however, reduced to some extent given the spatial separation of the Site from the SAC and limitations to access as follows:

- The proposals do not include any new recreational links to the designated woodland or the provision for any recreational activities, which would utilise the designated woodland;
- Access to the SAC from the Site on foot, e.g. for dog walking representing the greater proportion of all visitors in recent visitor surveys, would likely be minimal owing to the requirement to travel circa 3.5km via the most direct public footpath. Connecting footpaths include significant uphill sections required to reach the top of the Cotswold Escarpment. Such routes are thus not considered a likely and/or frequent choice for future residents; and
- Access to the SAC from the EIA Site by car is considered more likely, requiring a travel distance of circa 3.9km to the boundary of the SAC at its closest point. However, designated car parking facilitates are limited in size.

6.198. To mitigate for likely significant effects upon the Cotswold Beechwoods arising from increased recreational presses, the following avoidance/mitigation measures have been embedded within the Proposed Site Plan for the EIA Site:

- The retention and enhancement of the circa 0.63ha grassland habitat centrally within the EIA site to be delivered for amenity and wildlife, which aims to reduce casual footfall on surrounding sites by providing recreational opportunities immediately adjacent to the proposed housing;
- The inclusion of new habitat features within the development including shrub, tree and grassland planting to enhance new residents' connection with nature whilst delivering biodiversity benefits; and
- The maintenance of a public right of way (PRoW) within the development footprint itself with such routes extending beyond the development footprint to utilise existing PRoW across land to the north, south east and west.

6.199. Of particular, pertinence, the EIA Site lies directly south of strategic development A6, allocated within the JCS, which is in receipt of outline planning consent. Strategic development here will deliver extensive areas of open green space including parkland, community orchards and sports and recreation facilities, which can be directly accessed from the EIA Site via an existing PRoW to be enhanced and will provide a range of alternative recreational opportunities. The EIA Site is also located in close proximity to several areas of Public Open Spaces as well as a network of public footpaths within open countryside, which provide alternative recreational opportunities, thus reducing footfall within the SAC and other sensitive sites. These include, but are not limited to, the following facilities:

- Matson Park 550m from the EIA Site via Winnycroft Lane and Matson Avenue;
- Robins Wood Hill Country Park, SSSI and LNR comprises 100ha of parkland managed for people as well as wildlife and as such offers an extensive network of footpaths and

nature trails giving extensive views of the surrounding Countryside. Located 1.4km by foot or by car from the EIA Site, the Country Park provides relatively large parking facilities;

- Sneedhams Green directly adjacent to the Site; and
- Range Farm Fields SSSI connected by footpath links between Winnycroft Lane, circa 700km south-east.

6.200. In light of the provision of green infrastructure within the EIA Site combined with the maintenance of footpath links connecting the EIA Site with PRoW and open green space in the immediate landscape, it is considered that significant effects arising upon the Cotswold Beechwoods SAC as a result of increased recreational can be adequately mitigated. It is further recommended that an information pack is provided to every new home, detailing the location and sensitivities of the Cotswold Beechwoods SAC, guidelines and recommendation of how to avoid impacts and promoting alternative locations for recreational activities the latter detailed in brief above.

6.201. With respect to air quality the initial traffic calculations showed that very few vehicles are likely to be travelling from the Site along the A46.

Non-statutory Designated Sites

6.202. In respect of non-statutory designated sites encompassing sensitive aquatic features (i.e. pond P5), development will be implemented in accordance with a sensitive design strategy to mitigate against adverse effects arising from alterations to groundwater and surface water flow and to manage and remediate contaminated surface water runoff from development. In addition, the inclusion of habitat buffers around the pond, comprising retained/enhanced grassland habitat and new shrub planting, will further serve to naturally attenuate/intercept some surface water runoff from development,

6.203. With respect to significant adverse effects upon non-statutory designated sites arising from increased levels of recreational usage following occupation of the proposed development, these will be mitigated in a number of ways, including:

- The retention and enhancement of the central moat P5 and circa 0.63ha grassland habitat within the EIA site to be delivered for amenity and wildlife;
- Formal landscaping and tree planting across the built development footprint;
- The provision of footpath routes within the development footprint itself with such routes connecting to the existing PRoW network; and
- The appropriate maintenance and long-term management of PRoW running through the EIA Site, to include the provision of litter and dog bins where appropriate.

6.204. The above should be combined with the provision of stock fencing around the pond to deter unauthorised public access to the waterbody.

Habitat IEFs

6.205. The proposed development layout has sought to compensate for habitat loss through the provision of new planting along the eastern boundary of the EIA site and the new hedgerow within the centre of the EIA site amounting to 60m. This is in addition to the enhancement of the retained hedgerow resource through infill planting of gaps with a diverse native species mix. Such habitats will be offset from the development footprint through the provision of habitat buffers accommodating as a minimum the root protection zone of retained hedgerows and trees. Such habitat corridors will be subject to sensitive management over the long term and excluded from curtilage boundaries adjacent to minimise future mismanagement.

6.206. Also embedded within the Proposed Site Plan is the inclusion of areas of open green space proposed to accommodate species-rich meadow and wetland grassland for wildlife, amenity grassland for recreation, and new tree and shrub planting amounting to circa 37% of the EIA Site, providing new and diverse habitats for protected and notable species whilst also contributing to a delivery of biodiversity enhancement for the EIA Site (refer to Appendix 14.3 for Biodiversity Net Gain calculations). Indeed, a Biodiversity Net Gain (BNG) Assessment undertaken for the Proposed Site Plan has been calculated as follows:

- Total net unit change = +2.86 units; and
- Total net percentage change = 16.63% (net gain).

6.207. With respect to the biodiversity impact score of the proposed development for hedgerows specifically, this has been calculated as follows:

- Total net unit change = +3.89 units; and
- Total net percentage change = 31.33% (net gain).

6.208. Additional proposals for habitat creation include:

- The creation of species-rich meadow grassland habitat and scrub planting along the eastern boundary of the EIA Site following construction of an earth bund, which will increase available habitat to great crested newt whilst facilitating dispersal north to south;
- The enhancement of pond P5 to remove encroaching scrub and extensive reeds to prevent drying out and succession;
- The inclusion of tree and shrub planting across built development in association with the street scene to provide additional opportunities for protected and notable species.

6.209. Such features will be sensitively managed in the long-term to maximise species and structural diversity of habitats to be retained and created, through the implementation of a sensitive hay cutting regime, so as to promote a structurally diverse and species-rich grassland sward whilst ensuring the control of scrub encroachment. Such measures will also benefit the local bat assemblage, in addition to, great crested newt, common reptiles, nesting birds and invertebrates. It is further recommended for such planting to utilise a diversity of native species, preferably of local provenance, within any future planting mix, and to include species which bear fruit and are nectar and pollen rich. However, non-native species proven to be resilient to climate change should also be considered.

6.210. In addition, the scheme should also ensure the implementation of a sensitive lighting strategy to ensure no/limited light spill occurs within close vicinity of boundary hedgerows. Where lighting is required along road/pedestrian routes adjacent, lighting columns should be sited within the development footprint itself and directed away from habitat edges to minimise disturbance and light spill. Lighting should include directional, timed and/or low-lux lighting, utilising shields and/or hoods where required. Such measures could be secured via planning condition attached to any future consent.

Species IEFs

6.211. Those habitat creation and enhancement measures described above in relation to designations and habitat IEFs will compensate for proposed habitat loss across the EIA site and, furthermore, enhance opportunities for breeding, refuge, and/or dispersal of protected species to ensure the maintenance of their favourable conservation status over the long-term.

6.212. In addition, the scheme will also ensure the implementation of a sensitive lighting strategy, enabling the provision of key dark corridors across the EIA Site necessary to maintain dispersal, commuting and foraging routes across the EIA Site to the wider landscape. Such a strategy would ensure that permanent lighting is reduced as far as possible along such key wildlife corridors to be retained, strengthened and created. Where lighting is required along road/pedestrian routes adjacent, lighting columns should be sited within the development footprint itself and directed away from habitat edges to minimise disturbance and light spill. Lighting should include directional, timed and/or low-lux lighting, utilising internal/external shields and/or hoods where required. Such measures can be secured via planning condition attached to any future consent.

6.213. Additional species-specific measures to minimise operational impacts and provide enhanced opportunities for species breeding and refuge are detailed below.

Birds

6.214. The operational phase of development considered the potential for permanent and irreversible effects associated with an increase in predation by cats following occupation. Those habitat creation measures detailed, however, will, serve to increase suitable vegetation cover for a breeding bird assemblage whilst the use of thorny species including hawthorn and blackthorn within a planning scheme will deter predators, whilst also providing a foraging resource.

6.215. To provide additional habitat opportunities, durable bird boxes, including a range of designs to suit different species, are recommended and should be erected on retained mature trees and buildings.

6.216. It is recommended that the planting scheme for the EIA Site includes fruit bearing species that will provide a foraging resource throughout the year.

Bats

6.217. Subject to implantation of mitigation previously discussed above including adoption of a sensitive lighting strategy and habitat creation, effects arising from disturbance and increased predation are considered negligible.

6.218. Bat roost features (such as bat tubes/bricks and/or bat boxes), should also be incorporated into the exterior of buildings or installed on suitable retained trees where possible to enhance roosting provision within the EIA Site.

6.219. Additional planting of native species will be incorporated into the scheme. This should include night-scented plants such as honeysuckle, as well as a mixture of flowering plants which will flower throughout the year.

Badger

6.220. Operation of completed development is considered to have the potential for adverse, permanent and irreversible effects at Site level upon badger arising from increased risk of collision with vehicles on new roads and disturbance of retained active setts from increased human activity. Those habitat creation measures discussed above will serve to mitigate effects to an extent through the strengthening of hedgerow boundaries of value as wildlife corridors across the EIA Site.

Great Crested Newt

6.221. Proposals for habitat creation that are of benefit to great crested newts include:

- The creation of new species-rich hedgerow within the centre of the EIA Site amounting to circa 60m;
- The enhancement of the retained hedgerow resource through infill planting of gaps with a diverse native species mix;

- The creation of species-rich meadow grassland habitat and scrub planting along the eastern boundary of the EIA Site following construction of an earth bund to increase available habitat to great crested newt whilst facilitating dispersal north to south;
- The long-term management of retained grassland habitat around to pond through sensitive management aimed at enhancing structural diversity to deliver benefits to wildlife; and
- The creation of artificial hibernacula to increase cover and refugia to great crested newt.

6.222. Additionally, the design of road infrastructure should include the use of 'amphibian friendly' wildlife kerbs, in addition to locating gully pots no less than 10cm away from the kerb line necessary to minimise entrapment of great crested newt within gully pots, thereby ensuring no harm/injury to a great crested newt population during the operational phase of development.

6.223. There is also the potential for damage/degradation of retained habitats of value to great crested newt, particularly following an increase in recreational pressures. As discussed above and inherent within the Proposed Site Plan if the provision of circa 2.94ha of open green space, which will be managed for amenity as well as wildlife. Footpaths links across such areas should be designed to direct new residents away from the pond and managed wildlife areas. This should be combined with the provision of fencing around the pond to deter unauthorised public access to the waterbody, particularly in respect of dogs.

6.224. Footpath links should be subject to maintenance and long-term management to include the provision of litter and dog bins where appropriate, thereby reducing indirect effects on habitats and protected/notable species present/potentially present.

Reptiles

6.225. That habitat creation, enhancement measures described above in relation to designations and habitat IEFs will compensate for proposed habitat loss across the EIA site and, furthermore, enhance opportunities for common reptiles.

6.226. This will be in addition to creation of formal hibernaculum within open green space adjacent to the pond to provide additional hibernation opportunities for reptiles and enhance the Site for this group more generally.

Residual Effects Assessment

6.227. Residual effects are those that are considered likely to remain after implementation of the mitigation measures set out above.

6.228. A summary of the residual effects during construction and operation is provided in Table 6.5 and 6.6 below. Subject to those mitigation measures outlined above, to be further detailed within the ECMS and within those method statements prepared as part of future Natural England development licences relating to protected species, residual effects anticipated during the construction phase with respect to Designated Sites, Habitat and Species IEFs have been reduced to Negligible levels.

Table 6.5: Summary of Significance of Effects – Construction

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
Non-statutory Designations	*Habitat degradation and damage during construction and landscaping works leading to physical impacts to tree roots.*	*Permanent, irreversible, short-medium term*	*Local*	*Adverse*	*The construction phase will adhere to sensitive working methodologies including the implementation of protective fencing to be set out within the ECMS to ensure full protection of the valued resource.*	*Negligible*
Non-statutory Designations	*Disturbance impacts due to elevated noise and lighting.*	*Temporary, reversible, short-medium term*	*Site*	*Adverse*	*Construction activities will be restricted to daylight hours as far as possible, with use of temporary, artificial lighting to avoid the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitat corridors with such measures set out within an ECMS.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
Non-statutory Designations	*Surface/ground water runoff and pollution reversible effect at local level.*	*Temporary, reversible, short-medium term*	*Local*	*Adverse*	*The construction phase will adhere to those sensitive working methodologies and pollution prevention guidelines set out within an ECMS.*	*Negligible*
Habitats (Hedgerows/Trees)	*Habitat loss and fragmentation*	*Permanent, irreversible, long-term*	*Local*	*Adverse*	*Provision of new hedgerow planting amounting to circa 60m linear metres to compensate for habitat loss, combined with habitat buffering, enhancement and sensitive long-term management of retained/newly created tree/hedgerow features. This is combined with provision of open green space incorporating grassland/shrub/tree planting amounting to 2.94ha.*	*Negligible*
Habitats (Hedgerows/Trees)	*Habitat degradation and damage during construction and landscaping works leading to*	*Permanent, irreversible, short-medium term*	*Local*	*Adverse*	*The construction phase will adhere to sensitive working methodologies including the implementation of protective fencing to be set out within the ECMS to ensure full protection of the valued resource.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
	physical impacts to tree roots.					
Habitats (Hedgerows/Trees)	*Disturbance impacts due to elevated noise and lighting.*	*Temporary, reversible, short-medium term*	*Site*	*Adverse*	*Construction activities will be restricted to daylight hours as far as possible, with use of temporary, artificial lighting to avoid the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitat corridors with such measures set out within an ECMS.*	*Negligible*
Habitats (Standing Water)	*Surface/ground water runoff and pollution*	*Temporary, reversible, short-medium term*	*Local*	*Adverse*	*The construction phase will adhere to those sensitive working methodologies and pollution prevention guidelines set out within an ECMS.*	*Negligible*
Habitats (Standing Water)	*Habitat degradation and damage during construction and landscaping works leading to physical impacts*	*Permanent, potentially irreversible, short-medium term*	*Local*	*Adverse*	*The construction phase will adhere to sensitive working methodologies including the implementation of protective fencing to be set out within the ECMS to ensure full protection of the valued resource.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
	to bankside habitats					
Habitats (Standing Water)	*Disturbance impacts due to elevated noise and lighting.*	*Temporary, reversible, short-medium term*	*Site*	*Adverse*	*Construction activities will be restricted to daylight hours as far as possible, with use of temporary, artificial lighting to avoid the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitats with such measures set out within an ECMS.*	*Negligible*
Birds	*Loss of habitats used for breeding, foraging and shelter.*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Provision of new hedgerow planting amounting to circa 60 linear metres to compensate for habitat loss, combined with habitat buffering, enhancement and sensitive long-term management of retained/newly created tree/hedgerow features. This is combined with provision of open green space incorporating grassland/shrub/tree planting amounting to 2.94ha with such habitats providing a nesting and foraging resource for a bird assemblage.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
Birds	*Physical degradation and damage to retained habitats used for breeding, foraging and shelter.*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*The construction phase will adhere to sensitive working methodologies including the implementation of protective fencing to be set out within the ECMS to ensure full protection of the valued resource.*	*Negligible*
Birds	*Direct harm/injury.*	*N/A*	*Site*	*Negligible (subject to legal compliance)*	*Sensitive clearance measures will be set out within the ECMS to ensure no harm to breeding birds.*	*Negligible*
Birds	*Disturbance impacts due to elevated noise and lighting.*	*Temporary, reversible, short-medium term.*	*Site*	*Adverse*	*Construction activities will be restricted to daylight hours as far as possible, with use of temporary, artificial lighting to avoid the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitat corridors with such measures set out within an ECMS.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
Bats	*Loss of tree T6, T12 and T13 with low bat roost potential*	*Permanent, irreversible, long-term*	*Local*	*Adverse*	*Re-inspection of trees with bat potential together with sensitive clearance measures (which may require implementation under a derogation licence to be approved by Natural England), as detailed within the ECMS will be followed to ensure no harm to roosting bats.*	*Negligible*
Bats	*Loss of habitats used for foraging and dispersal.*	*Permanent, irreversible, long-term*	*Local*	*Adverse*	*Provision of new hedgerow planting amounting to circa 60 linear metres to compensate for habitat loss, combined with habitat buffering, enhancement and sensitive long-term management of retained/newly created tree/hedgerow features. This is combined with provision of open green space incorporating grassland/shrub/tree planting amounting to 2.94ha with such habitats providing a commuting/foraging resource for bats.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
Bats	*Physical degradation/damage to retained habitats used for roosting, foraging and dispersal*	*Permanent irreversible, long-term*	*Local*	*Adverse*	*The construction phase will adhere to sensitive working methodologies including the implementation of protective fencing to be set out within the ECMS to ensure full protection of the valued resource.*	*Negligible*
Bats	*Disturbance impacts due to elevated noise and lighting.*	*Temporary, reversible, short-medium term*	*Site*	*Adverse*	*Construction activities will be restricted to daylight hours as far as possible, with use of temporary, artificial lighting to avoid the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitat corridors with such measures set out within an ECMS.*	*Negligible*
Badger	*Loss/damage/disturbance to an active, outlier sett*	*N/A*	*Site*	*Negligible (owing to conservation status)*	*Where impacts cannot be avoided, closure of active, outlier sett in accordance with a Development license from NE.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
Badger.	*Harm/injury and increased collision risk from construction traffic*	*N/A*	*Site*	*Negligible (owing to conservation status)*	*Sensitive construction measures will be set out within an ECMS to ensure no harm to badger.*	*Negligible*
Badger	*Loss of habitats used for foraging and dispersal*	*N/A*	*Site*	*Negligible (owing to conservation status)*	*Provision of new hedgerow planting amounting to circa 60 linear metres to compensate for habitat loss, combined with habitat buffering, enhancement and sensitive long-term management of retained/newly created tree/hedgerow features. This is combined with provision of open green space incorporating grassland/shrub/tree planting amounting to 2.94ha with such habitats providing a foraging resource for badger.*	*Negligible*
Great Crested Newt	*Loss of terrestrial habitats used for dispersal,*	*Permanent, irreversible, long-term*	*Local*	*Adverse*	*Entry to a district licence scheme to ensure that there is no overall impact on the favourable conservation status of the species. Enhancement of pond and*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
	foraging, and hibernation				*adjacent retained grassland through sensitive management to promote structural diversity. Provision of new hedgerow planting amounting to circa 60 linear metres to compensate for habitat loss, combined with habitat buffering, enhancement and sensitive long-term management of retained/newly created tree/hedgerow features. Sensitive clearance measures as set out under district licence to be approved by Natural England.*	
Great Crested Newt	*Physical degradation/ damage to retained habitats comprising foraging, and hibernation*	*Permanent, irreversible short-medium term*	*Local*	*Adverse*	*The construction phase will adhere to sensitive working methodologies including the implementation of protective fencing to be set out within the ECMS to ensure full protection of valued resources.*	*Negligible*
Great Crested Newt	*Increased risk of collision from traffic due to increased*	*Temporary, irreversible, short-medium term*	*Local*	*Adverse*	*The ECMS will set out requirements to restrict construction activities to daylight hours as far as possible. Additional sensitive methodologies and protective*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
	vehicle, machinery and plant movement across the Site and adjacent to sensitive habitats.				*measures set out within the ECMS to control traffic and movement will further reduce the likelihood of such impacts occurring. Sensitive clearance measures (which will require implementation under district licence to be approved by Natural England).*	
Great crested newt	*Pollution incidents arising during construction may impact upon the water quality and hydrology of the central moat*	*Temporary, reversible, short-medium term*	*Local*	*Adverse*	*The construction phase will adhere to those sensitive working methodologies and pollution prevention guidelines set out within an ECMS.*	*Negligible*
Birds	*Disturbance impacts due to elevated noise and lighting.*	*Temporary, reversible, short-medium term.*	*Site*	*Adverse*	*Construction activities will be restricted to daylight hours as far as possible, with use of temporary, artificial lighting to avoid the hours between dusk and dawn, with directional and low-level lighting used away*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
					from sensitive habitat corridors with such measures set out within an ECMS.	
Reptiles	*Harm/injury*	*Permanent, irreversible, short-medium term*	*Site*	*Adverse*	*Sensitive clearance measures will be set out within the ECMS to ensure no harm to common reptiles.*	*Negligible*
Reptiles	*Loss of habitats used for dispersal, foraging, basking and hibernation*	*Permanent, irreversible, long-term.*	*Site*	*Adverse*	*Provision of new hedgerow planting amounting to circa 60 linear metres to compensate for habitat loss, combined with habitat buffering, enhancement and sensitive long-term management of retained/newly created tree/hedgerow features. This is combined with provision of open green space incorporating grassland/shrub/tree planting amounting to 2.94ha.*	*Negligible*
Reptiles	*Physical degradation/damage to retained habitats comprising*	*Permanent, irreversible short-medium term*	*Site*	*Adverse*	*The construction phase will adhere to sensitive working methodologies including the implementation of protective fencing to be set out within the ECMS to ensure full protection of the valued resource.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Beneficial/ Adverse /Negligible)	Mitigation/Enhancement Measures Proposed (To be secured by: Design/S106/CIL/Condition)	Significance of Residual Effects (after mitigation) (Beneficial/ Adverse/ Negligible)
	foraging, basking and hibernation					
Birds	*Disturbance impacts due to elevated noise and lighting.*	*Temporary, reversible, short-medium term.*	*Site*	*Adverse*	*Construction activities will be restricted to daylight hours as far as possible, with use of temporary, artificial lighting to avoid the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitat corridors with such measures set out within an ECMS.*	*Negligible*

Table 6.6: Summary of Significance of Effects - Operation

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
OPERATION						
Statutory Designations	*Increased recreational use affecting sensitive habitats through trampling, increased noise and litter.*	*Permanent, irreversible, long-term*	*Local*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term. Provision and sensitive design of informal and formal open space and footpaths across to divert recreational use away from sensitive habitats. Inclusion of appropriate signage, dog bins, styles and fencing around pond.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
Non-statutory Designations	*Alterations to groundwater and surface water flow and unforeseen pollution incidents.*	*Temporary, reversible, long-term*	*Local*	*Adverse*	*Protection through sensitive drainage strategy in accordance with local and national policy.*	*Negligible*
Non-statutory Designations	*Increased recreational use affecting sensitive habitats through trampling, increased noise and litter.*	*Permanent, irreversible, long-term*	*Local*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term. Provision and sensitive design of informal and formal open space and footpaths across to divert recreational use away from sensitive habitats. Inclusion of appropriate signage, dog bins, styles and stock fencing around pond.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
Non-statutory Designations	*Disturbance (noise and lighting)*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of a sensitive lighting strategy.*	*Disturbance (noise and lighting)*
Habitats (Hedgerows/ Trees)	*Increased recreational use affecting sensitive habitats through trampling, increased noise and litter.*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term. Provision and sensitive design of informal and formal open space and footpaths across to divert recreational use away from sensitive habitats. Inclusion of appropriate signage, dog bins, styles and stock fencing around pond.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
Habitats (Hedgerows/ Trees)	*Disturbance (noise and lighting)*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of a sensitive lighting strategy.*	*Negligible*
Habitats (Standing Water	*Increased recreational use affecting sensitive habitats through trampling, increased noise and litter.*	*Permanent, irreversible, long-term*	*Local*	*Adverse*	*Provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term. Provision and sensitive design of informal and formal open space and footpaths across to divert recreational use away from sensitive habitats. Inclusion of appropriate signage, dog bins, styles and stock fencing around pond.*	*Negligible*
Habitats (Standing water)	*Disturbance (noise and lighting)*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of a sensitive lighting strategy.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
Habitats (Standing Water)	*Alterations to groundwater and surface water flow and unforeseen pollution incidents.*	*Temporary, reversible, long-term*	*Local*	*Adverse*	*Protection through sensitive drainage strategy in accordance with local and national policy.*	*Negligible*
Birds	*Indirect disturbance of nesting and foraging habitats through light spill, noise and visual disturbance.*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of a sensitive lighting strategy.*	*Negligible*
Birds	*Predation by cats*	*Permanent, irreversible, long-term,*	*Site*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
					key habitat. Commitment to sensitive habitat management and monitoring over the long term. Inclusion of bird nest boxes within the scheme.	
Bats	*Indirect disturbance (light spill, visual and noise)*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of a sensitive lighting strategy.*	*Negligible*
Bats	*Predation by cats*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitats, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
Badger	*Indirect disturbance (light spill, visual and noise)*	*Medium* *Temporary*	*Site*	*Negligible (owing to conservation status)*	*Implementation of a sensitive lighting strategy to minimise light spill across retained habitats.*	*Negligible*
Badger	*Increased risk of collision*		*Site*	*Negligible (owing to conservation status)*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term.*	*Negligible*
Great Crested Newt	*Indirect disturbance (light spill, visual and noise)*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
					offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term. Implementation of a sensitive lighting strategy to minimise light spill across retained habitats. Provision and sensitive design of informal and formal open space and footpaths across to divert recreational use away from sensitive habitats. Inclusion of appropriate signage, dog bins, styles and stock fencing around pond.	
Great Crested Newt	*Increased risk of collision from traffic due to increased vehicle movement across the site, and adjacent to sensitive habitats.*	*Irreversible, long-term, permanent at site level*	*Site*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term. The use of wildlife friendly drop kerbs and gully pots.*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
Great Crested Newt	*Surface/ground water pollution and runoff*	*Permanent, potentially irreversible, long-term*	*Local*	*Adverse*	*Implementation of development in accordance with an EMP including provision of a 10m buffer area surrounding the pond. Great crested newts are to be mitigated for under a district license to ensure the favorable conservation status is maintained.*	*Negligible*
Reptiles	*Indirect disturbance (light spill, visual and noise)*	*Permanent, irreversible, long-term*	*Site*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term. Implementation of a sensitive lighting strategy to minimise light spill across retained habitats.*	*Negligible*
Reptiles	*Increased risk of collision from*	*Irreversible, long-term,*	*Site*	*Adverse*	*Implementation of development in accordance with an EMP including provision and long-term*	*Negligible*

Receptor/ Feature Affected	Description of Likely Effect	Magnitude of Change/Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/ Adverse/ Negligible)
	traffic due to increased vehicle movement across the site, and adjacent to sensitive habitats.	*permanent at site level*			*management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat. Commitment to sensitive habitat management and monitoring over the long term.*	

Summary

6.229. The Environmental Dimension Partnership Ltd (EDP) has assessed the potential ecological effects the development proposals may have on the EIA Site and its surroundings. The assessment includes a review of the current baseline conditions found within the area and identifies measures to avoid, mitigate and/or compensate where appropriate for significant effects that may arise as part of the proposals.

6.230. The assessment is based upon baseline ecology information collated by EDP between 2016 and 2022 including a desk study, Extended Phase 1 Habitat survey, habitat condition assessment and further detailed survey work with respect to bats, badger and great crested newt.

6.231. Of pertinence to the development proposals, the Cotswold Beechwoods SAC is located 2.4km south-east of the EIA Site, whilst Range Farm Fields SSSI is located 700m south of the EIA Site. There are also several non-statutory designated sites within the zone of influence of the EIA Site, the most pertinent of which include Winnycroft Farm South pLWS, which overlaps the EIA Site, and Winnycroft Farm pLWS adjacent to the northern boundary. However, neither land parcels have been formally designated in the years since they were originally assessed by the Local Planning Authority (LPA). Additionally, Robinshill Wood Country Park, LNR and LWS lies 920m north-west of the EIA Site and alongside those designations mentioned above are considered IEFs.

6.232. The EIA Site is dominated by improved grassland with patches of scrub and a wet ditch delating the western boundary of the EIA Site offsite to the west. Such habitats are of limited ecological importance and thus have been scoped out of the assessment. Native hedgerows, which delineate the boundaries of the EIA Site are, however, of greater ecological importance and provide suitable habitat for protected and notable species including a breeding bird assemblage, foraging/commuting bats, badger, great crested newt and common reptiles. In addition, a waterbody, pond P5, is centrally located within the EIA Site. Such habitats are considered of importance at Local level and were included as IEFs on this basis.

6.233. With respect to protected species, presence/absence surveys of the onsite pond and waterbodies within 500m of the EIA Site (where access was available) identified a medium great crested newt metapopulation. In addition, habitats inherent within the EIA site support a foraging/commuting bat assemblage dominated by common and widespread generalist species such as common pipistrelle bat, with a population considered of ecological importance at Local level. The EIA Site also provides suitable habitat for nesting birds, common reptiles and badger, with evidence of badger activity identified adjacent to the EIA Site.

6.234. The impact assessment has identified that certain actions could result in significant negative effects on these IEFs without mitigation. However, avoidance, mitigation and compensation measures to be delivered through the implementation of an ECMS, EMP and landscaping scheme are considered sufficient to ameliorate those significant effects identified to a residual level where no significant negative effects will arise.

6.235. Based on the impact assessment and in consideration of the IEFs, it is considered that the proposals will conform to the respective legislative protective afforded to these IEFs and with respect to national, regional and local planning policy requirements.

List of Figures and Appendices

6.236. Appendix 6.1 - Ecological Baseline Report (edp3746_r006)

6.237. Appendix 6.2 – Biodiversity Net Gain Assessment (edp3746_r007)

6.238. Appendix 6.3 - Information to Inform a Habitat Regulations Assessment (edp3746_r008)

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Glossary of Technical Terms

6.271. Amber Listed - Bird species listed under the amber list of Birds of Conservation Concern in the UK (Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747. Available online at https://britishbirds. co.uk/content/status-our-bird-populations).

6.272. Ancient Semi-natural Woodland (ASNW) - A designation relating to formally recognised ancient woodland, i.e. an area that has been woodland continuously since at least 1600.

6.273. Assemblage - A group of species making up part of an ecological community within any one area, e.g. all species of birds found on a site.

6.274. Aquatic - Primarily associated with lakes, rivers or streams. In the context of species, relates specifically to those living within water for at least one stage of their life.

6.275. Baseline - The existing (pre-development) ecological context of a study area, including notable and protected species and habitats. The ecology baseline is not static and changes over time based on management regime and other factors.

6.276. Biodiversity - The variety and variability of life on Earth or any particular area. Biodiversity is typically a measure of variation at the genetic, species and ecosystem level.

6.277. Breeding Bird Assemblage - Refers specifically to birds found within the site during the peak breeding season of March-July and displaying breeding behaviour.

6.278. Commuting - Travelling between roost and key foraging site.

6.279. EcIA Ecological Impact Assessment - The portion of the EIA specifically relating to ecological matters, undertaken with reference to standardised methodology published by the professional body for ecologists, the Chartered Institute of Ecology and Environmental Management (CIEEM).

6.280. Ecological Clerk of Works (ECoW) - A suitably qualified ecologist designated to supervise any clearance or building work which may affect sensitive or protected species or habitats. Generally present to ensure protected species are not injured and retained habitats are not encroached upon.

6.281. Effects - A predicted change in the environmental baseline as a result of the proposed development. Effects can be positive or adverse.

6.282. Effect-Receptor Pathway - Pathway (e.g. hydrological, direct or airborne) enabling possible positive or adverse effects upon IEFs.

6.283. Extended Phase 1 Habitat Survey - A habitat survey designed to map out broad habitat types and identify any possible protected species issues in order to enable further survey.

6.284. Forb - A flowering plant species not including grasses, sedges, rushes or woody vegetation.

6.285. Grassland - A habitat dominated by grasses.

6.286. Habitat - A community of plant species interacting with the physical characteristics of an area which is identifiable as a specific type, i.e. grassland.

6.287. Habitat Regulations Assessment (HRA) - An assessment of a site's effects upon designated European sites under the Conservation of Habitats and Species Regulations 2017, undertaken by the competent authority.

6.288. Important Ecological Features - Those features (habitats or species) deemed to be of local level value or higher.

6.289. Local Nature Reserve - A nature reserve statutorily designated at Local level.

6.290. Special Wildlife Site - A site with substantive nature conservation value designated at Local level.

6.291. Marshy Grassland - Wet grassland, often in depressions or at the bottoms of valleys, characterised by the presence of species tolerant of wet conditions, such as rushes and sedges.

6.292. Mitigation - Measures, including any process, activity or design that will avoid, reduce, remedy or compensate for the predicted effects of a development on the environmental baseline.

6.293. Natural England - The statutory body for nature in the UK, an executive non-departmental public body, sponsored by the Department for Environment, Food and Rural Affairs. Provides advice to the government on nature conservation and protected species and regulates licensing.

6.294. Section.41 Natural Environment and Rural Communities Act 2006 - Species and habitats "of principal importance for the purpose of conserving biodiversity" are covered under section 41 (England) of the NERC Act (2006) and therefore need to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.

6.295. National Nature Reserve - A statutory reserve designated by Natural England containing an area which is among the best examples of a particular habitat and is of national importance.

6.296. Notable Species - Species not legally protected but notable for conservation value and may feature in local plan policies.

6.297. Priority Species - Species covered under section 41 (England) of the NERC Act (2006).

6.298. Priority Habitats - Habitats covered under section 41 (England) of the NERC Act (2006). Priority Habitats cover a wide range of semi-natural habitat types identified as being the most threatened and requiring conservation action.

6.299. Protected Species - Species with legal protection.

6.300. Ramsar - Sites designated under the Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat.

6.301. Red Listed - Bird species listed under the red list of Birds of Conservation Concern in the UK (Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747. Available online at https://britishbirds. co.uk/content/status-our-bird-populations).

6.302. Riparian - Relating to rivers and their immediate surroundings.

6.303. Roosting - Residing within a structure or tree (bats) or elsewhere.

6.304. Schedule 1 - Bird species listed under Schedule 1 of the Wildlife and Countryside Act (1981 as amended), afforded additional protection from disturbance whilst nesting.

6.305. Special Area of Conservation - Designated under the Conservation of Habitats and Species Regulations 2017 as amended order to protect a significant habitat or assemblage of species and contributes to a national network of sites across the UK.

6.306. Special Protection Area - Designated under the Conservation of Habitats and Species Regulations 2017 as amended in order to protect a notable assemblage of birds and contributes to a national network of sites across the UK.

6.307. Species-rich Grassland - Grassland notable for the number of non-grass (forb) species present.

6.308. Terrestrial - To do with the land.

6.309. Toolbox Talk - An informal talk to inform contractors or site workers on the protected species and habitat interests of a site.

6.310. Wetland - Any habitat at the interface between land and water, including swamp, marsh, etc.

6.311. Wintering Bird Assemblage - A group of species of birds present within and reliant upon a site during winter.

7. Cultural Heritage

7.1. This chapter of the Environmental Statement (ES) has been prepared by The Environmental Dimension Partnership Ltd (EDP) and assesses the potential effects of the proposed development in terms of archaeology and cultural heritage resources (the historic environment). EDP is a Registered Organisation with the Chartered Institute for Archaeologists.

7.2. This chapter describes the assessment methodology, the baseline conditions currently existing within the site and surroundings, the likely significant environmental effects during the construction and operation phases of the proposed development, the mitigation measures required to prevent, reduce or offset significant adverse effects and likely residual effects after these measures have been employed. The chapter assesses the development as described in Chapter 4 of this ES.

7.3. This chapter is informed by desk-based assessment and site survey work carried out between 2016 and 2021. The results of these surveys are summarised in this chapter, with more detailed information included in Appendices 7.1 and 7.2 which comprise an Archaeological and Heritage Desk-Based Assessment (EDP, 2021), Geophysical Survey report (SUMO, 2017), Archaeological Trial Trenching report (Headland Archaeology, 2021) and a Water Environment Assessment: Tier 2 (JBA, 2021).

7.4. This chapter was prepared by Robert Skinner BA (Hons), MA, Principal Archaeology and Heritage Consultant, and was reviewed for Quality Assurance purposes, by Jo Vallender BA (Hons), MA, Associate Director. Robert Skinner is an Associate of the Chartered Institute for Archaeologists, Jo Vallender is a Member of the Chartered Institute for Archaeologists.

Legislative and Policy Context

7.5. The following paragraphs summarise the principal legislative instruments and planning policy framework that are of relevance to the assessment of effects on the historic environment. Greater detail regarding the legislation and policies, and their implications, is given in the Archaeological and Heritage Assessment at Appendix 7.1.

Legislation

7.6. The relevant legislation concerning the treatment of scheduled monuments is the Ancient Monuments and Archaeological Areas Act 1979 (HMSO 1979).

7.7. This act details the designation, care, and management of scheduled monuments, as well as detailing the procedures needed to obtain permission for works which would directly impact upon their preservation. The act does not confer any statutory protection on the setting of scheduled monuments although this is considered as a policy matter in Paragraph 200 of the NPPF.

7.8. Sections 66(1) and 72(1) of the Planning (Listed Buildings and Conservation Areas) Act set out the duties of Local Planning Authorities in respect of the treatment of listed buildings and conservation areas through the planning process.

National Planning Policy Framework

7.9. Chapter 16 of the revised NPPF (2021) sets out the government's approach to the conservation and management of the historic environment.

7.10. Key paragraphs are: Paragraph 194, which is concerned with applicant's submission requirements; Paragraphs 199 and 200, which are concerned with impacts on designated heritage assets; Paragraphs 201 and 202, which are concerned with the decision making process and Paragraph 203 which addresses effects on non-designated heritage assets.

Local Development Plan Policy

7.11. Local planning policy within Gloucester City comprises the adopted Local Plan made up of the Joint Core Strategy (adopted in 2017 between Gloucester City Council, Cheltenham Borough Council and Tewkesbury Borough Council) and the saved policies of the Gloucester Local Plan (1983). Local planning decision making also refers to the Second Stage Deposit Local Plan 2002 which was adopted for development control purposes in 2002.

7.12. This document will be replaced by the emerging Gloucester City Plan. The City Plan was submitted to the Planning Inspectorate in November 2020 and is not yet adopted.

7.13. Policy SD8 of the Joint Core Strategy is concerned with the historic environment. Within the emerging City Plan, in its current draft section E is concerned with the historic environment. Of relevance to the current application are Polices E1 and E2 although at present the City Plan is not adopted and these polices carry no formal weight.

Assessment Methodology

7.14. The following paragraphs outline the assessment process which was employed in determining the archaeological and heritage interest of the application site and in assessing the magnitude and significance of potential effects upon that.

Consultation

7.15. The consultation history which forms a background to the current Proposed Development is set out in detail in Paragraphs 1.21 – 1.24 of the Archaeological and Heritage Baseline Assessment report (Appendix 7.1) with relevant letters and emails appended to that report at **Appendix EDP 1**.

7.16. In brief, consultation has taken place initially in 2016 with the Gloucester City Archaeologist after which a geophysical survey was carried out in order to provide further information on the site's archaeological potential.

7.17. In 2017 consultation was carried out with the Inspector of Ancient Monuments at Historic England (HE) regarding the appropriate approach to be employed in respect of the scheduled monument located within the site, Moated Site at Sneedham's Green, specifically with regard to its setting.

7.18. HE expressed that *"housing close to and surrounding the moated area would in our opinion cause harm to the significance of the monument, by removing the connection with its rural landscape and setting"*. In this respect, HE stated that they would not support the proposal in its iteration at that time.

7.19. In September 2020 the Gloucester City Archaeologist requested that any application would have to be accompanied by a Water Environment Assessment in accordance with Historic England's guidance *Preserving Archaeological Remains Appendix 3 – Water Environment Assessment Techniques* (2016). An archaeological evaluation of the site was also requested as well as evidence to demonstrate that the site no longer contains any archaeological earthworks.

7.20. Once the Water Environment Assessment and archaeological evaluation were completed, a protracted discussion via email was carried out regarding whether the development proposals would be likely to affect the moat's water supply mechanism and therefore risk impacting upon any waterlogged remains located within it. These emails are appended to the Archaeological and Heritage Baseline Assessment report (Appendix 7.1). Whilst a drainage system has been designed which intends to maintain moat water levels the Gloucester City Archaeologist and Historic England have insisted on further geoarchaeological information on the moat ditch fills so as to understand the nature and significance of the moat deposits.

7.21. In January 2022 a Written Scheme of Investigation was agreed with the Gloucester City Archaeologist (ARCA, 2021) setting out a programme of geoarchaeological work. Once completed a report on this survey will be submitted as additional information in support of the application.

Archaeological and Heritage Desk-Based Assessment

7.22. The assessment has been informed by a baseline Archaeological and Heritage Assessment (Appendix 7.1) carried out in line with the Standard and Guidance for Historic Environment Desk-Based Assessment issued by the Chartered Institute for Archaeologists (CIfA, 2020).

7.23. The Archaeological and Heritage Assessment forms the basis of the assessment within the ES. It utilised baseline information derived from the following sources:

- Citations and supporting documentation acquired from Historic England for archaeological and/or heritage designations within the site, or located within the site's wider zone of influence;
- Information held by the Gloucester City Historic Environment Record (HER) on known archaeological sites, monuments and findspots within the site and within a wider study area;
- Historic maps and other relevant documents from online sources;
- Aerial photographs depicting the site and its environs, which are held by the Historic England Archive in Swindon;
- LiDAR data acquired from the Environment Agency;
- Observations regarding the presence or absence of above ground archaeological sites, features and/or remains within the redline boundary, as well as the likely survival and condition of below ground features in light of past and present land use, made during site walkover surveys carried out in February 2017 and December 2020.

7.24. In accordance with the National Planning Policy Framework (NPPF), the following designated and non-designated heritage assets have been considered:

- Registered Parks and Gardens;
- Listed Buildings;
- Scheduled Monuments;
- Conservation Areas;
- Previously recorded or hitherto unknown non-designated archaeological remains; and
- Non-designated standing buildings or other extant heritage assets.

7.25. The baseline archaeological assessment focused on a study area extending for 500m from the boundary of the site, as that was considered appropriate to understand the historic environment context for a proposed development of this size/scale and in this topographical location. For the settings assessment the study area was extended to 1km from the site.

7.26. The available information has been checked and augmented through site walkover/field surveys. These also aimed to determine the contribution made by the settings of designated heritage assets to their significance located in the site's wider zone of influence, in addition to determining the relationship (if any) to the proposed development site.

7.27. This aspect of the assessment was carried out in accordance with the Historic England guidance set out in Historic Environment Good Practice Advice in Planning, Note 3 (Second Edition), The Setting of Heritage Assets (HE 2017).

Geophysical Survey

7.28. Consultation with the Gloucester City Archaeologist in 2016 identified a need to better understand the site's potential to contain buried archaeological remains. As such, the entire site was subject to a geophysical survey (the report is located within Appendix EDP 1 forming Appendix 1.1 of that report). This entailed a magnetometer survey of all available and suitable areas within the site and for an extent of land beyond the site boundary, in line with a methodology set out in a Written Scheme of Investigation (WSI) (SUMO, 2016) approved in advance by the City Archaeologist.

7.29. The work was undertaken in accordance with the relevant best practice guidance, in this case the main documents being the Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines issued by English Heritage (EH 2008) and the Standard and Guidance for archaeological geophysical survey issued by the Chartered Institute for Archaeologists (CIfA 2016).

7.30. The aim of the geophysical survey was to provide sufficient information to enable an assessment to be made of the impact of any proposed development on any potential sub- surface archaeological remains, and for further evaluation or mitigation proposals, if appropriate, to be recommended. The general archaeological objectives of the geophysical survey were:

- To provide information about the nature and possible interpretation of any magnetic anomalies identified;
- To therefore model the possible presence/absence and extent of any buried archaeological features: and
- To prepare a report summarising the results of the survey.

Trial Trench Evaluation

7.31. Following further consultation with the Gloucester City Archaeologist in October 2020, it was agreed to undertake a programme of trial trenching to provide further information on the site's archaeological potential. The scope and methodology of the evaluation was set out in a Written Scheme of Investigation (WSI) (Headland Archaeology, 2020) approved in advance by the City Archaeologist in an email dated 01 December 2020.

7.32. The work was undertaken in accordance with the relevant best practice guidance, in this case the Standard and Guidance for archaeological field evaluation issued by the Chartered Institute for Archaeologists (CIfA 2020). A detailed methodology for the trial trenching is presented in the Trial Trench Evaluation Report at Appendix EDP 2 of the report at Appendix 7.1.

7.33. The objectives of the evaluation were to provide information about the archaeological resource within the site, including its presence/absence, character, extent, date, integrity, state of preservation and quality. Specifically, the trenching sought to understand the extent of disturbance caused to archaeological features when the site was subject to the raising of its ground level during the construction of the M5 motorway in the 1960s/1970s.

7.34. The work comprised the excavation of three trenches of 30m, 50m and 60m across specific locations within the site. The trenches were positioned to assess the extent of the made ground and the level of disturbance which occurred during the M5 construction works. A trench was also positioned to investigate a possible linear anomaly identified during the geophysical survey.

7.35. The trenching had to avoid the north-west corner and western edge of the site as these areas contain buried services on a north-south alignment.

Water Environment Assessment: Tier 2

7.36. Consultation with the Gloucester City Archaeologist and Historic England in October 2020 identified a need for a Water Environment Assessment in order to provide a robust baseline for the assessment of potential development impacts on the significance of the scheduled monument Moated Site at Sneedham's Green by providing information on the nature and origin of the water that fills the moat.

7.37. The assessment followed a specific evaluation methodology in relation to water environment assessment techniques adopting a tiered approach to assessment in order to understand the provenance and composition of the water present in the moat.

7.38. The report (JBA, 2021 at Appendix 7.2) constitutes a Tier 2 water environment assessment in accordance with the HE assessment guidance, Preserving Archaeological remains – Appendix 3, Water Environment Assessment Techniques (HE, 2016), which provides:

"*a basic qualitative assessment of water balance to identify groundwater levels, flow directions and identify key potential influences on the groundwater system*".

Geoarchaeological Survey

7.39. Consultation with the Gloucester City Archaeologist and Historic England in October and November 2021 resulted in a request for further information on the archaeological deposits associated with the scheduled monument through a borehole survey, assessing the deposits through paleoenvironmental analysis in order to provided further information on their significance. A Written Scheme of Investigation was agreed with the Gloucester City Archaeologist on 04 February 2022 and is at Appendix 7.3.

7.40. In summary, three borehole transects are proposed, with two across the extant, water filled part of the monument and one across the dry part targeting the former course of the now-buried southern extent of the moat. The boreholes will be manually drilled for those in the moat and machine drilled for those on dry ground. The boreholes will comprise a gouge auger survey with samples collected in three locations using Russian auger heads. The core sample will be photographed and described under laboratory conditions for palynological and plant macro-fossil assessment.

Significance Criteria

7.41. The evaluation of potentially significant effects on a heritage asset depends on a combination of its designation, the heritage significance or sensitivity of the asset and the magnitude of change that is predicted to result from the development. The assessment of likely significant effects as a result of the development takes into account both the construction phase and the completed occupation phase.

7.42. The assessment attributes 'sensitivity' to archaeological and cultural heritage assets, as shown in Table 7.1.

Table 7.1: Criteria for Assessing Receptor Sensitivity

Receptor Sensitivity	Criteria for defining receptor sensitivity
High	**Scheduled monument;** **Grade I or II* listed building;** **Grade I or II* registered park or garden and** **Other nationally important archaeological asset.**
Medium	**Grade II listed building;** **Grade II registered park or garden;** **Conservation Area and** **Other asset of regional or county importance.**
Low	**Locally important asset with cultural or educational value.**
Negligible	**Heritage site or feature with very limited values or interests.**

7.43. The classification of the magnitude of change to heritage assets is based on consistent criteria and takes account of such factors as the physical scale and type of disturbance and whether features or evidence would be lost that are fundamental to their historic character, integrity and therefore, significance.

7.44. Both physical and non-physical (e.g. visual) changes to heritage assets are considered. The magnitude of impact is assessed using the criteria in Table 7.2.

Table 7.2: Criteria for Assessing Magnitude of Change to Receptors

Magnitude of Change	Criteria for defining magnitude of change
High	**Change to the value of a heritage asset so that it is completely altered or destroyed.**
Medium	**Change to the value of a heritage asset so that it is significantly modified.**
Low	**Change to the value of a heritage asset so that it is noticeably different.**
Negligible	**Change to the value of a heritage asset that hardly affects it.**

7.45. Following the evaluation of the sensitivity of specific cultural heritage receptors, and the magnitude of the impact upon them, the significance of the effect will be assessed using the criteria outlined in Table 7.3 below.

Table 7.3: Criteria for Assessing Significance of Effects

Magnitude of Change	Sensitivity of Receptor				
		High	**Medium**	**Low**	**Negligible**
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

7.46. The assessment matrix defined in Table 7.3 is not intended to be 'prescriptive', but rather it allows for the employment of professional judgement to determine the most appropriate level of effect for each heritage asset that is identified.

7.47. Effects are categorised with regard to their nature (adverse, beneficial or neutral) and their permanence (permanent, temporary or reversible). For all forms of heritage asset (receptor); including archaeological sites and remains; historic buildings, places and areas; and historic landscapes; the sensitivity of the receptor is combined with the predicted magnitude of change to arrive at the significance of effect.

7.48. The combination of sensitivity and magnitude of change is undertaken with reference to the matrix in Table 7.3, with those effects defined as severe, major or moderate being deemed significant. All other effects are determined to be not significant in EIA terms.

Assumptions and Limitations

7.49. The Archaeological and Heritage Baseline Assessment was undertaken on the basis of the following assumptions regarding the limitations of the data.

7.50. It is assumed that the HER data, as curated by Gloucestershire City Council, and the Historic England data, is up-to-date and robust.

7.51. A complete understanding of the site's archaeological potential is hindered by below ground site conditions. Borehole records (reproduced in the report at Appendix 7.2) indicate the presence of 1 – 3.5m of redeposited made ground across most of the site with the thickest deposits at the south end, and thin or non-existent deposits in the north-west corner and around the moat. This material was deposited during the construction of the M5 motorway when aerial photographic evidence indicates that the site was scoured and used for the deposition of uplifted subsoils from the neighbouring motorway.

7.52. The archaeological trial trenching recorded a possible intermittent buried topsoil, suggesting that topsoil was not removed consistently across the site before the deposition, but also that the site's ground surface was scraped and damaged to some degree. The trial trenching did not identify any archaeological features located below the made ground and the known feature that was investigated, a former boundary ditch to the west of the moat, was found to be truncated and badly damaged, presumably by the same episode of clearance and deposition.

7.53. On the basis of this evidence, it was assumed that any buried archaeological remains within the site would be: (a) located beneath a layer of made ground of varying depth, and (b) at least partially damaged by the scouring or scraping of the ground surface that appears to have taken place when the M5 was constructed.

7.54. Due to the ground conditions, it was agreed with the Gloucester City Archaeologist that the site could not be effectively evaluated with trial trenches on a broad scale as the resulting trenches would be very deep and thus would have to be stepped in to create very wide excavations. This was deemed impractical and disproportionate given the likelihood that any archaeological remains within the site would be, at best, poorly preserved.

7.55. As such, the results of the assessment are limited in respect of the site's potential to contain buried archaeological remains.

7.56. Prior to the completion of the geoarchaeological survey, a further assumption has been made with regard to the scheduled monument, Moated Site at Sneedham's Green. In this respect it is assumed that the moat, which contains water, has the potential to also contain archaeological deposits that could be of high significance such as, waterlogged deposits dating from the medieval period that may contain waterlogged archaeological remains, such as preserved fabrics or wood. In this regard, the Proposed Development has been engineered with this assumption in place to take a precautionary approach.

7.57. It is understood that the geoarchaeological survey should be able to provide data that will help assess the archaeological significance of the deposits associated with the moat fills, and thus will be submitted as further information in support of the ES. Regardless of its results the development has been designed on a worst-case scenario assumption that the moat does contain significant archaeological deposits and thus the assessment presented in the Chapter has been written on this basis.

Baseline Conditions

7.58. This section of the ES chapter identifies the relevant archaeological and cultural heritage receptors (heritage assets) within the extents of the site and its wider zone of influence. It draws upon the results of the supporting baseline assessments and fieldwork reports at Appendix 7.1 and Water Environment Assessment at Appendix 7.2.

7.59. A detailed description of the baseline situation at and around the site is set out in the reports at Appendix 7.1 and 7.2. Provided below is a summary of the baseline assessment with regard to archaeology and cultural heritage, with the relevant receptors identified on supporting figures within the assessment reports.

7.60. Regarding the assessment of effects on the settings of heritage assets, this section details Steps One and Two of the process as per the Historic England guidance Historic Environment Good Practice Advice in Planning, Note 3 (Second Edition), The Setting of Heritage Assets (HE 2017).

Designated Heritage Assets

7.61. The site contains a scheduled monument, *Moated site at Sneedham's Green, 220m north east of Green Farm* (National Heritage List of England ref (NHLE): 1019399). This asset is described separately below.

7.62. There are no other designated heritage assets within the site nor does the site fall within part of a designated area (such as a conservation area).

7.63. Within the wider countryside, up to 1km from the site boundary are the following listed buildings:

- Grade II listed Thatch Cottage (NHLE: 1155001) located c.520m to the east of the site;
- Grade II listed Winnycroft Farmhouse (NHLE: 1245086) located c.600m to the north-east of the site;
- Grade II listed Winnycroft Farmhouse: Barn Approximately 20 Metres to the West (NHLE: 1245087) located c.600m to the north-east of the site;
- Grade II listed Winnycroft Farmhouse: Cider House and Attached Byre to West (NHLE: 1245088) located c.600m to the north-east of the site;
- Grade II listed Gloucester Country Club (NHLE: 1245729) located c.750m north of the site;
- Grade II listed Grove Court (NHLE: 1090748) located c.600m east of the site;
- Grade II listed Little Court (NHLE: 1408513) located c.750m north-east of the site;
- Grade II listed Milestone about 10m SW of King's Head Public House (NHLE: 1447092) located c.750m north-east of the site; and
- Grade II listed Command Post at Croft Farm (NHLE: 1407932) located c.700m south-east of the site.

7.64. For reasons set out in Paragraphs 4.14 and 4.15 of the report at Appendix 7.1 it is assessed that the land that forms the site does not comprise any part of the setting of these listed buildings and makes no contribution to the heritage value of any of them. The proposed development would also therefore not cause any change within the settings of these assets and they are not discussed any further within this chapter.

Moated site at Sneedham's Green, 220m northeast of Green Farm

7.65. The scheduled monument is described in detail in Paragraphs 4.4 – 4.12 in the report at Appendix 7.1 with the Water Environment Assessment at Appendix 7.2. In summary, the scheduled monument comprises a moated former manor site possibly dating from the 12th century that was the residence of the De Sneedham family.

7.66. The remains of the moat comprise a sub-rectangular or trapezoidal moat enclosing an island which may contain buried remains related to a medieval dwelling. This extant part of the monument is located with a fenced area defined by a post and wire fence. Only the northern side and parts of the western and eastern sides of the moat are extant, enclosing an area c.66m by 42m that is open on the south side. Prior to the 1960s the southern arm of the moat was incorporated into a post-medieval ditch boundary. During the construction of the M5 motorway the southern part was infilled and covered with redeposited spoil. Trial trenching suggests that this feature was probably heavily disturbed by the M5 works as the course of the ditch to the west of the monument was found to be badly damaged.

7.67. The remaining part of the moat is water-filled and may contain waterlogged archaeological deposits. Waterlogged deposits have the potential to include materials that would otherwise have decayed such as wood or textiles and therefore potentially have a high degree of archaeological significance.

7.68. The Water Environment Assessment concluded that the most likely water supply mechanism to the moat is a combination of direct rainfall, surface runoff, and some shallow groundwater seepage/interflow and did not identify conclusive evidence for the moat to be fed by a spring. There is no evidence that its water levels are truly perennial (i.e. that it is full all of the time), and it is possible that at times in its history it may have dried out.

7.69. The scheduled monument derives its heritage value primarily from its archaeological interest as defined by the extant moat, the deposits within it and any buried archaeological remains within the scheduled area that are related to the moated site. The monument also has a degree of historic interest as it illustrates the nature and appearance of the medieval landscape in the locality and is associated with the history of the De Sneedham family, the history of settlement at Sneedham's Green and with the general history of the medieval aristocracy of Gloucester. The scheduled monument comprises a heritage receptor of **High** sensitivity.

7.70. Whilst the majority of the monument's significance is derived from its physical remains, a smaller proportion is derived from its setting. Paragraphs 5.13 – 5.33 of the report at Appendix 7.1 describe in detail the setting of the monument and its contribution to its significance. This description is summarised here.

7.71. The remains of the moat are located within a fenced enclosure roughly at the centre of a field of pasture presently utilised for grazing livestock. The primary experience of the monument is as a linear pond, lined with and containing reeds and with scrub vegetation and trees at its eastern end located within a grassed field.

7.72. The field's present form is a product of the amalgamation of several fields, and loss of former boundaries, and deposition of spoil, during the construction of the M5 motorway. The spoil has caused the field's ground level to rise to the east and, adjacent to the monument, the edge of this layer is apparent as a gentle scarp looping around the moat, which then appears to sit within a shallow basin that is open to the west.

7.73. The monument's wider surroundings, beyond the site, consists mainly of farmland defined by hedgerows, although the southern extent of the Gloucester conurbation at Matson is located only c.180m to the north and houses at the urban edge as well as a light industrial building can be seen from the monument. Furthermore, the consented development, Land South of Winnycroft Farm, (part of the *Strategic Allocation A6 – Winnycroft* in the JCS), will result in the replacement of most of the farmland to the north and north-east of the site with housing and sports pitches and, the monument's setting to the north will lose its rurality and the site will adjoin the southern edge of Gloucester at Matson.

7.74. Change to the monument's setting from the adjacent allocation was acknowledged in Gloucester City Council's evidence base for the JCS Examination which related to how the moat's setting is no longer 'rural' and is now better described as 'urban edge'

7.75. To the west, beyond a field boundary, the Sud Brook and Winnycroft Lane, is open Common grassed land and, adjacent houses at Sneedham's Green.

7.76. Following the loss of ridge and furrow earthworks within the site during the construction of the M5 and the future loss of such earthworks at Land South of Winnycroft Farm, the only surviving element in the landscape that retains an historic association with the moated site is the settlement and open land at Sneedham's Green, along with the brook that runs along the site's western boundary. The Green is not easily experienced from the remains of the moat, with views for the most only glimpsed, the Green being part screened by the hedgerow that separates it from the site. As such, the association is not readily experienced and is mainly of a historic and spatial nature. Consequently, the presence of the Green and the historic settlement pattern that it reflects, makes only a low contribution to the heritage value of the moat.

7.77. The surrounding field in which the remains of the monument are experienced is neutral in terms of its heritage value, neither harming it, as the monument remains can still be appreciated, but not enhancing it, as, due to the 20th century changes to the field and its topography, the experience givens a false impression of its historic setting and none of the features formerly in the field that were associated with its history have survived. The surrounding field with its current topography and appearance is a product of the mid-late 20th century and does not represent the historic setting of the moated site. Indeed, the southern part of the moated site itself has been buried so the full extent of the monument is no longer visible.

7.78. Elements of the wider landscape retain a degree of rural character such as the Sud Brook, farm buildings and farmland around Snow Capel and Green farms, and the countryside backdrop of adjacent hills. This rural character, whilst related to the post-medieval and modern landscape rather than the medieval, does reflect the historic setting of the monument albeit without retaining any overtly medieval characteristics, and thus these elements of its setting contribute to the monument's heritage value to a very low degree.

7.79. Modern elements of the monument's wider setting are considered to result in negative effects on its setting. The presence of the motorway, by day creates an almost constant noise that disrupts the tranquillity of the countryside in this area, detracting from the monument's heritage value to a moderate degree.

Non-Designated Heritage Assets

7.80. The Archaeological and Heritage Assessment and Geophysical Survey identified the following non-designated heritage assets within the Site:

Remains of Post-medieval Ditch

7.81. The Archaeological and Heritage Assessment and Geophysical Survey identified that the site was crossed by a post-medieval ditch which, for some of its length incorporated part of the former Sneedham's Green moat. Part of this ditch located outside of the scheduled monument area was evaluated which identified that it had lost its form as a cut feature and was entirely disturbed, appearing as a dark mix of earth with remnants of a tree within it. It is likely that other buried parts of this former ditch have also been damaged or destroyed.

7.82. Any surviving buried remains that are well preserved will have limited heritage value representing a heritage asset of **Negligible** sensitivity.

Unrecorded Archaeological Remains

7.83. The Archaeological and Heritage Assessment considered evidence for the site to contain previously unrecorded archaeological remains. Evidence from an archaeological evaluation carried out on adjacent land to the north-east, in support of the planning application for development at *Land South of Winnycroft Farm*, indicated the presence of the buried remains of a small Late Iron Age and Roman period settlement located c.40m from the edge of the site. The presence of this archaeological site as well as other contemporary remains in the wider area suggests a moderate potential for contemporary buried remains, most likely related to agricultural activity to be present in the site.

7.84. Likewise, the Assessment identified potential for the site to contain buried remains related to medieval activity within the site, most likely remains related to the known agricultural landscape that surrounds the moated manor house of which formerly, prior to their destruction in the 1960s, ridge and furrow earthworks remained. Such remains might comprise infilled furrows and drainage ditches, including a possible drainage ditch related to the manor, located to the north-west of the moat.

7.85. However, the Assessment also demonstrates how the site was clearly disturbed during the 1960s by work related to the construction of the M5 motorway with its surface scoured and degraded and with extant features infilled. As noted above, the trial trenching identified an intermittent possible buried topsoil beneath made ground deposits suggesting that topsoil had at least been partially removed during this episode. As such, it is considered that there is a strong likelihood that any unrecorded archaeological remains within the site will have been damaged or destroyed by this activity, especially those located at shallow depths or which were above the general ground level at this time, i.e. earthworks. Also, for most of the site, any remains would be buried beneath a 1-3.5m thick deposit of redeposited spoil.

7.86. Only the north-western corner and western edge of the site are thought to not be capped by a layer of made ground and so these areas may have been least affected by disturbance in the 1960s. As such, these areas are considered to have the greatest potential to contain undisturbed archaeological remains. The north-western and western edge of the site were not subject to archaeological evaluation as buried services runs through these areas form north – south.

7.87. Given the probable disturbance of remains within the site, it is likely that, if present, remains of the Iron Age, Roman or medieval periods would now possess only limited archaeological interest and, at most, would represent remains of **Negligible** or **Low** sensitivity.

7.88. Should buried remains that are undamaged exist within the site, for Iron Age or Roman period settlement remains these might, at most, comprise remains of **Medium** sensitivity.

Predicted Likely Effects (Before Mitigation)

7.89. The following paragraphs assess the likely significant effects of the proposed development on historic assets with only mitigation measures embedded into the design considered. These have been assessed in terms of effects during construction, where direct impacts may be anticipated, and also the occupational phases where impacts, in terms of an asset's setting, may be anticipated; and whether these effects are adverse or beneficial.

7.90. The extent and form of the Proposed Development is described in detail in Chapter 4.

Construction

7.91. The following section provides an assessment of the effects on archaeological and cultural heritage receptors during the construction phase.

7.92. It addresses only the direct, physical effects of construction activities contained within the boundary of the site and does not cover potential changes to the wider settings of heritage assets. These are addressed under the 'occupation' phase because, even though it is recognised that they will first arise during construction (with the potential installation of cranes etc.), they will emerge over time and will ultimately reach their fullest extent following the completion of the proposed development.

7.93. It is expected that effects on settings during construction will either be short-term because of the temporary nature of the activity or lower magnitude versions of effects which will be assessed in respect of the completed development.

7.94. Therefore, whilst the potential for construction activities at the site to have indirect (setting) effects on both designated and non-designated heritage assets is not dismissed, the chapter identifies and assesses them at the 'occupational' phase in order to capture the worst-case scenario; in other words when they have reached their maximum extent.

7.95. The magnitude of change is viewed in conjunction with the sensitivity of the heritage assets, to appreciate its overall significance. Assessing the significance of effects uses the matrix illustrated in Table 7.3.

Moated site at Sneedham's Green, 220m northeast of Green Farm

7.96. The Proposed Development would only result in two direct impacts within the scheduled monument area. For biodiversity enhancement purposes, the part of the monument that is located outside of the fenced area, will be seeded with a wildflower and grass mix. Preparation for this seeding will require the use of a rotavator to break up the surface of the topsoil. Typically, this will be down to c.20cm. the rotavator will only be applied to the part of the monument that is covered with made ground and so the action of the rotovator will not disturb any unrecorded archaeological feature related to the monument's archaeological interest which would be buried beneath.

7.97. The fence that encloses part of the scheduled monument will be replaced with a wooden post and split rail fence. The installation of the fence will require additional post holes to be dug within the scheduled monument area. These would be c.60cm deep and c.40cm in diameter. Whilst Scheduled Monument Consent will be required for this work, the potential for archaeological impacts would be very minimal and the fence will improve the appearance of the monument's setting (discussed below).

7.98. During construction, measures will be implemented to protect the scheduled monument from construction traffic and dust as well as monitor its water levels. These will be detailed in a Construction Management Plan.

7.99. With measures in place, it is anticipated that construction phase impacts will be restricted to the post holes described above. The limited below ground impact of these post holes would result in a Negligible magnitude of change which, to an asset of High sensitivity would result in a **Negligible** Adverse permanent effect that is not significant in EIA terms.

Remains of Post-medieval Ditch

7.100. Remains of the ditch located to the west of the moated site would be unaffected by development as they would be located beneath an area that is proposed as open space crossed by a footpath. The footpath would have very shallow foundations which would have no effect on any buried remains related to the ditch.

7.101. To the east of the moated site the ditch is buried beneath several metres of made ground. Building Foundations would comprise piles which would extend into the natural subsoil beneath the made ground with 1m depth foundations and service trenches above, which would not penetrate below the made ground in this part of the site. Piling into a large buried feature such as remains of the ditch would have little implication for its overall archaeological interest resulting in a minor and localised impact upon its deposits.

7.102. With reference to Table 7.2, this would result in a Negligible magnitude of change comprising 'Change to the value of a heritage asset that hardly affects it.' With reference to Table 7.3, a Negligible magnitude of change to an asset of Negligible sensitivity would result in a **Negligible** Adverse permanent effect that is not significant in EIA terms.

Unrecorded Archaeological Remains

7.103. As noted above, the site's potential for archaeological remains and their possible locations could not be fully explored. Development impacts would vary depending on the depth of the made ground deposit. It is proposed that piled foundations would be utilised across the site with piles extending below made ground depths into the natural subsoil below. Once piles are in, shallower foundations would be dug for each house platform down to c.1m depth with service trenches also at c.1m in depth. For most of the site aside from the north-western corner and western edge, only the piles would extend to depths that are below the made ground.

7.104. Pilling would not necessarily cause total loss of archaeological remains. Substantial features such as infilled ditches would likely retain their overall integrity if subject to piling. Whereas small discrete features could be at risk of total loss where they coincide with a pile, however, on account of the dispersed nature of piling, this is assessed as unlikely with those features located between the pile locations being unaffected. As such, the impact of piling on unrecorded archaeological remains is assessed as 'Low'.

7.105. In the north-western part of the site, and along the western edge, where the made ground deposit is thin or non-existent any archaeological remains located within the footprint of development foundations for houses or service trenches (1m deep) would probably be subject to total loss.

7.106. The table below (Table 7.4) illustrates the effects for different types of archaeological remains that might be present in the site and the different levels of impact upon them.

Sensitivity of Archaeology	Total loss due to being located within the development footprint (high magnitude of change)	Impacts from piling only (low magnitude of change)
Medium (i.e. well preserved Roman or Iron Age settlement remains)	**Major (significant effect)**	**Minor (non significant effect)**
Low (i.e. well preserved Roman or Iron Age agricultural remains. Well preserved medieval remains of archaeological interest. Poorly preserved Roman or iron age settlement remains.)	**Moderate (significant effect)**	**Minor (non significant effect)**
Negligible (i.e. Poorly preserved remains of any period.)	**Negligible (non significant effect)**	**Negligible (non significant effect)**

Operation

7.107. This section assesses the likely significant environmental effects of the proposed development following completion, with embedded design mitigation in place. It defines the sensitivity of heritage assets that are receptors to the indirect effect of development, i.e. changes to their setting, such that their sensitivity is affected. It then defines the significance of the effect on these receptors.

7.108. This part of the ES Chapter represents Steps 3 and 4 of the Settings Assessment Process (HE, 2017) as it relates to the effect of the Proposed Development on heritage receptors. Steps 1 and 2 of the process have been described in the Baseline Conditions section above.

7.109. In addition to setting effects, any physical effects are assessed in respect of the Sneedham's Green Scheduled Monument as a result of any changes to the water supply mechanism that feeds its moat.

7.110. The magnitude of change is viewed in conjunction with the value of the heritage assets, to appreciate and determine the overall significance of effect. Assessing the significance of effects uses the matrix illustrated in Table 7.3 above.

Scheduled Monument Moated site at Sneedham's Green, 220m northeast of Green Farm

Hydrological Impacts

7.111. The Water Environment Assessment identified no conclusive evidence that the moat is fed by a spring and, that its water supply is comprised of direct rainfall, surface runoff, and shallow groundwater seepage/interflow. As such, in order to ensure that the development will not result in the moat's water level dropping or flooding, the Proposed Development includes a deliberately designed system of surface water attenuation that is designed to retain existing ground water run off to the moat and ensures that the water supplied is cleaned of any additional pollutants from roads and houses. The system utilises an existing modern drainage channel to the west of the moat as an overflow to discharge water to the Sud Brook for the west. The proposals are illustrated on the plan Drainage Strategy (DDP, 2022, 3880-200). In summary, the system:

- Takes water from a water catchment area within the site, based on the present topography, that is designed to mimic the present water catchment area so that the same area of land would continue to drain surface water into the moat;
- Utilises buried, cellular storage tanks to receive the surface run off water that would be located c.10m to the north-east of the scheduled monument and at their deepest c.1.7m Below Ground Level. As run off from an impermeable surface (such as bult development) is quicker than the current impermeable situation the system would include a flow control chamber with a sump so as to restrict discharge rate in line with the existing field's run off rate;
- Discharges water at a headwall set back from the northern edge of the scheduled monument by c.10m. The headwall would have a cobbled, stone finish so as to ensure a naturalistic look, it would have a flow separator to minimise downstream erosion and outflow into a splayed, grassed area set with stone boulders in order to disperse the flow of water. The appearance of this feature is considered with reference to the setting of the monument in the section below; and
- The system would utilise Sustainable drainage features (SuDs) designed to remove contaminants from the water such as swales. These features would be subject to maintenance in line with SuDs maintenance guidelines (The SuDS Manual, Ciria, 2015)

7.112. With this mitigation in place DPP, the project's drainage engineers state that the moat will continue to be supplied with surface water as it is at present and of at least the same quality. The status quo will be maintained with the moat water subject to the same environmental factors as at present, i.e. as susceptible to drought as it is at present, albeit with the risk of flooding controlled. As such with the present situation preserved, the deposits within the moat will not be subject to any additional risk or impact as a result in the change in the moat's water supply mechanism resulting in no effect on its archaeological value.

Change to the Setting of the Scheduled Monument

Description of the Proposed Development

7.113. The Proposed Development is described in Chapter 4 and is illustrated on the plans Proposed Site Plan (O3S, 2020, 3250-O3S-ZZ-XX-GA-A-0030-S0-P17) and Landscape Masterplan (James Blake Associates, 2022: JBA 21/169-SK01).

7.114. The monument would be located within a green, open space with the moat remains at its centre. The extant parts of the moat would remain fenced with the present post and wire fence replaced with a timber split rail and post fence. Houses would be located on the northern, eastern, and southern side of the site, approximately 45m from the moat itself. The scheduled monument boundary would, at its closest point, be c.5m from the houses at its southern tip; a part of the monument that is underneath the made ground cap.

7.115. The houses would be set on cul de sacs emanating from a central curving spine road with access to Winnycroft Lane at the north-western edges of the site and an emergency access to the south-west. Those positioned on the inner edges would face towards the monument. These would be fronted by a walking route around the perimeter of the open space, which would be lit by street lighting. A walking route would also be created running along the western edge of the site.

7.116. The houses facing the monument and the open space around it are illustrated in the House Type Pack (O3S, 2022, 3250 Rev. P1). The Design and Access Statement (DAS; O3, 2022) provides further illustrative visualisations designed to give an impression of the interface between the built-up areas of the site and the open space. A Tier 1 house type is proposed for those fronting the open space which will possess a more refined architecture that other houses that will not be visible across the open space. Due to their prominence in views across the open space, the Tier 1 houses will utilise a material pallet that will reflect the colouration of the wider Cotswold vernacular utilising imitation stone with a buff finish on their front elevations, as well as dark weatherboarding and buff render. Roofs will be finished in grey materials with prominent chimneys.

7.117. The DAS illustrates a high-quality frontage onto the open space with the following characteristics:

- Creation of a ‘pedestrian priority environment’ with a footpath around the edge of the open space rather than a road and with parking for the houses adjacent to the open space to their rear. As such, cars will not be parked around the edge of the open space;
- Landscaping features such as trees and shrubs will be integrated with the houses so as to break up the frontage and create variety;
- Local stone walling will be used as a front boundary treatment for the Tier 1 houses; and
- The Tier 1 housing will comprise a mix of wide fronted cottages with paired dwellings with gables so as to create variety in the streetscape.

7.118. On the walking route, to the east of the scheduled monument (see Landscape Masterplan (JBA, 2022)) on ground that is higher than the moat and from where a perceptive view across it can be had, a space is proposed for heritage interpretation. It is anticipated that a board or other form of display would be positioned to describe what the viewer is seeing as they look across the moat with Sneedham's Green in the background.

7.119. Within the surrounding open space occasional trees and shrubs are proposed (outside of the scheduled monument area) as well as a hedgerow following the course of the former field boundary that once crossed the site. This feature would run along the south-west side of the scheduled monument (but outside of the scheduled monument) effectively marking its location in the landscape.

7.120. Another feature of the open space will be the outflow of the attenuation system which is proposed c.10m north of the scheduled monument. The appearance of this feature is illustrated on the plan Schematic Drainage into Moat (DDP, 2021, 3880-126 Rev. B). As described previously, its headwall would be finished in stone cobbles with the outflow area grassed and with occasional boulders. Also, within the open space would be features related to ecological mitigation and biodiversity enhancement comprising hibernacula and areas of enhanced grassland planted with wildflowers and grasses mix. This grassland would surround the fenced part of the moated site and cover the entirety of the southern part of the scheduled monument. Outside of the scheduled monument, areas designed for controlled public access will be mown into the grassland. By employing this technique access to the fenced part of the monument will be discouraged. The hibernacula would be low earthen mounds built up from ground level of approximately 1.5m x 3m none of these features will be located within the scheduled monument area.

7.121. Finally, the hedgerow to the west of the monument would be thinned out along part of it which is already scant in order to widen the breadth of the possible view out towards Sneedhams Green.

Impact upon the Monument's Setting

7.122. As noted above the monument is already located close to the urban edge, a process that is set to increase with the development of neighbouring land. Following the site's development, the monument would be within this urban environment.

7.123. Nonetheless, with the site's development, the proposed houses and related infrastructure would not result in the loss of any upstanding remains related to the monument and would be constructed across a land surface created in the 20th century that is already demonstrably out of character with the moated site's original setting.

The space around the Monument

7.124. A degree of openness would be retained around the monument, which would be perceptible in the open space proposed within the development, and the monument's extant remains would occupy a prominent position at its centre. In this respect, the monument would continue to be experienced within a grassed open space but with a backdrop to the north, east and south defined by the presence of houses.

7.125. Occasional shrubs, hedges and trees (located outside of the scheduled monument) would be located within the space around the monument including the instatement of a hedgerow respecting the course of a historic field boundary running adjacent to the western edge of the monument. These features would contribute to a park-like quality to the space whilst preserving the monument's prominence and open views from most directions due to their limited density. Furthermore, the wildflower and grasses of the enhanced grassland that would surround the monument as well as the timber fence proposed to replace the existing, would accord with a rural aesthetic, reminiscent of the rural character retained in the monument's present setting.

7.126. The hedgerow to the south-west of the monument has a further function related to the interpretation of the monument as it marks on the ground, where no mark presently exists, the former edge of the southern part of the moat. In this way, a viewer will be able to understand the former extent of the monument with the hedge acting as a reference point in the interpretation of the historic landscape.

7.127. It is noteworthy that the houses visible from the monument would be of a high-quality finish with attractive and varied architectural detailing, reflecting the local rural vernacular. Their frontages would overlook the green open space which would create a sense of place and, being overlooked and lit at night provide security for the area. The route way around this space would be via footways and no parked cars would be present around the edge of the open area.

7.128. Furthermore, the monument would be a central feature of the space, a foci for the open area. In this way, as described and illustrated in the DAS, the prominence of the scheduled monument is at the forefront of the approach to placemaking. It would be an aesthetic landscape feature with a history located at the centre of a space designed in such a way that it would be readily appreciable from the adjacent houses and footways.

7.129. Presently, although the field in which the monument lies is crossed by a PROW beyond this route the field is private farmland. Following development, the monument will be located within a public open space situated within a housing development an arrangement that will result in the monument being exposed to a far greater number of visitors than at present and the spaces at and around the monument may get used for informal recreational activity.

7.130. As noted above, the extant and internal parts of the monument will continue to be located within a fenced area which should dissuade access to these parts. Access will be further discouraged through the planting of long grass species as part of the enhanced grassland planting across and around the edge of the monument. Within the open space, mowing will be used to encourage public use of the mown spaces only within specific areas, with mown grass spaces cut into the enhanced grassland. In this way, public activity within the public open space will be controlled and managed, and access to the extant parts of the monument will be discouraged.

Historic Landscape Interpretation and Conservation

7.131. A Heritage Management Plan (HMP; EDP, 2022b) has been produced which aims to set out how the monument's buried and extent archaeological remains will be protected and conserved, how the experience of the monument will be enhanced through interpretation including a wider appreciation of the monument's historic landscape setting, and how public access to the monument will be managed.

7.132. In order to accentuate the historic connection in the landscape between the monument and the settlement at Sneedham's Green to the west, the western aspect of the monument would remain open and, it is proposed to reduce the density of an already scant section of the field boundary hedgerow on the western edge of the site in order to open up views between the monument and the Green. This appreciation would be particularly apparent from both the walking route that would run along the site's western edge, and from the route around the edge of the open space.

7.133. The experience would be enhanced through the provision of heritage interpretation to the east of the monument from where views westward across the monument would be possible with the scant hedgerow to the west allowing a broader view to Sneedham's Green than at present. This interpretation would explain to the viewer what they are looking at and is anticipated that it would include some information on how the moat once looked and its medieval history and that of the wider landscape. This interpretation would be aided by the provision of the hedge described above, marking the former boundary along the edge of the monument thus allowing for an appreciation of its former extent. It is notable that the PROW that crosses the site is part of the Glevum Way walking route designed by the Gloucester Ramblers Group to incorporate heritage assets in the wider hinterland of Gloucester. The heritage interpretation would form a feature of that route further presenting and highlighting the historic environment to persons using it.

7.134. The development seeks to strengthen the legibility of the former extent of the monument and its historic connection with Sneedham's Green, an association is currently hard to appreciate, by enhancing the visual connection between the monument and its historic neighbour, drawing attention to the visual link and historic connection between the Green and the monument through the interpretation information.

Summary of Impacts

7.135. The presence of houses and their associated infrastructure and lighting in views across the open space around the monument would reduce the degree to which its setting reflects the appearance of the countryside, further diminishing that aspect of its setting. Nonetheless, it is apparent that the monument's present setting contains very little quality in this regard and the surrounding field does not contain any features or is part of a landscape that relates closely to the monument's historic setting or historic function. As described previously, and in detail in the Assessment report, the field in which it lies, in its current form and appearance, is largely a product of changes made in the 20th century when the M5 was constructed.

7.136. Furthermore, the development acknowledges the fundamental change in character to the monument's setting and instigates measures to reduce the loss of rural character. These include the retention of a green open space around the monument populated by enhanced grassland, the provision of shrubs, hedges and trees in that space, and the instatement of a hedgerow respecting the course of a historic field boundary.

7.137. Further consideration for the asset's rural setting comes across in the design of the adjacent surface water outflows designed to appear cobbled and adjacent to as a naturalistic group of stones. Whilst this feature would be a new modern feature in the close setting of the asset, its visual presence would be minimalised, and it would not stand out as overtly modern and structural. A similar assessment is reached in relation to the ecological hibernacula that would be present in the monument's wider surroundings. These low discrete features would be grassed and naturalistic and would not adopt a prominent modern appearance.

7.138. As such, whilst the monument's setting would lose a degree of openness and some of its present countryside character, resulting in a loss of significance, the change would be to a modern aspect of its setting (i.e. the field in which it is presently experienced) that contributes nothing positively to its significance. The loss of significance would largely be on account of the wider landscape of farmland and hedgerows becoming less appreciable from the monument and the adjacent surroundings adopting a modernised, urban character. Nevertheless, given the offset from the houses, the monument's above ground remains would continue to be appreciable within an open space that would retain a green appearance populated by trees, hedges and shrubs and would not include any prominent features built of modern materials.

7.139. Furthermore, the development will provide a HMP for the monument, which will set out a scheme for the monument's future conservation, which it presently does not have. It will also provide and enhance the experience of the monument within its historic landscape setting by identifying more clearly its former extent and increasing the strength of its visual connection with Sneedham's Green, all of which will be brought together and presented via interpretation information. As described in the HMP the aims and objectives of the document accord well with those of the Gloucester City Heritage Strategy 2019 – 2029 (GCC, 2019) insomuch as aligning with the overarching aim in that the Proposed Development will '*achieve effective and sustainable conservation, regeneration and management'* for the monument and that the interpretative aspect will '*realise fully its economic, community and cultural potential*'.

7.140. Overall, given the provisions regarding conservation, the interpretation of the monument and its wider historic landscape context to a public audience, and consideration for the asset's setting in terms of the character of its surroundings and their openness, the impact of the development on the monument's value is mitigated to a degree and a Negligible Magnitude of Change is assessed. A Negligible magnitude of change to an asset of High Sensitivity would result in a Negligible effect which would not be a significant effect.

Cumulative and In-Combination Effects

7.141. This section presents an assessment of cumulative effects arising from the Proposed Development. Cumulative effects are assessed in relation to effect interactions, with environmental effects identified by other disciplines having an impact upon heritage receptors, and in-combination effects arising from other committed and proposed development projects in the locality.

Effect Interactions

7.142. With regard to effect interaction, effects to heritage receptors from other disciplines have largely been discussed already above. In this regard, surface water drainage and its relevance to the maintenance of moat water has been factored into the heritage assessment. Also factored in are direct and indirect effects resulting from ecology mitigation and biodiversity enhancement measures and how they might affect the scheduled monument within the site.

7.143. Regarding the Landscape and Visual assessment, the effects assessed are not analogous with effects identified within the current chapter. However, it is considered that commentary on the Site's visibility in the LVIA reflects the nature of views to and from the Proposed Development to heritage assets, as referenced in the assessment outlined above.

7.144. No other disciplines assess effects that are considered to be of relevance to the significance of heritage assets.

In-combination Effects

7.145. In-combination effects are assessed from the Proposed Development in conjunction with allocations, committed planning permissions and pending planning applications in the local area.

7.146. Construction phase effects have been identified to potential archaeological heritage assets located within the Site boundary from construction phase impacts. Cumulative effects on archaeological remains are only applicable where remains found within the Site extend to adjacent sites where development is either anticipated (via allocation) or approved but not yet implemented. None of the known archaeological features within the site extend to beyond its boundaries. The extent of unrecorded remains is unknown.

7.147. Operational phase effects have only been identified to the Scheduled Monument *Moated site at Sneedham's Green, 220m northeast of Green Farm*. No other heritage assets in the wider landscape are assessed as subject to an effect from the Proposed Development.

7.148. Of all of the applications considered, only the adjacent site *Land South of Winnycroft Farm*, which is currently under construction was deemed likely to affect heritage assets that are also affected by the Proposed Development.

7.149. It is possible that unrecorded archaeological remains within the site might relate to archaeological remains found within the *Land South of Winnycroft Farm site.* As previously described, archaeology comprising a small Late Iron Age and Roman period settlement located c.40m from the edge of the site has been recorded by an archaeological evaluation (Cotswold Archaeology, 2014). These remains will be excavated as a form of mitigation prior to construction (Andrew Armstrong, 2022: Pers. Comm.). It is possible, but due to ground conditions at the site, not known, whether archaeological remains such as infilled boundary ditches or further settlement features related to this settlement also extend into the site. Should buried remains of this nature exist then they would be most likely to be on the north-eastern side of the site and thus subject to impacts from piled foundations (as described above) cut through the overlaying made ground resulting in a Minor Adverse effect that is not significant.

7.150. The *Land South of Winnycroft Farm* development would result in total loss of the archaeological remains within its site, but which would be mitigated through archaeological recording. The *Land South of Winnycroft Farm* site was not subject to EIA but it is assumed that after mitigation a Minor Adverse residual effect on archaeology would occur. This Minor Adverse effect would be in combination with a possible Minor Adverse effect on related remains within the site.

7.151. In terms of effects to the settings of heritage assets, the *Heritage Setting Assessment* (EDP, 2014; EDP1806_03d) submitted with the *Land South of Winnycroft Farm* application assessed the potential for effects on the Scheduled Monument *Moated site at Sneedham's Green, 220m*. It concluded that, on account of screening through the retention and enhancement of hedgerows and the limited presence of the scheduled monument, located in a hollow in the field, that the

development would result in no effect on its significance. As such, there will be no cumulative, in combination effect on the monument with the Proposed Development.

7.152. None of the other permissions and applications have identified effects on any of the heritage assets considered within the current assessment. As such, no further in-combination significant effects will arise from the Proposed Development.

Mitigation and Enhancement

7.153. Mitigation measures are designed and intended to eliminate or reduce potentially significant effects from the Proposed Development.

Construction

7.154. The Chapter has identified a potential significant effect on presently unrecorded archaeological remains where they are well-preserved and located in the footprint of foundations and service trenches where they are likely to be entirely lost. As discussed previously this would only occur in the north-western and western edge of the site where made ground deposits are shallow or not present.

7.155. The loss of such remains to development could be mitigated through a programme of archaeological recording requested through an archaeological condition of planning permission. It is anticipated that this archaeological work would be undertaken by a contractor following a Written Scheme of Investigation, the content of which will be agreed with Gloucester City Council, on the advice of the City Archaeologist prior to the commencement of the Proposed Development.

7.156. Given that the presence of archaeological remains within the site is not fully understood and that remains are likely to be disturbed, archaeological mitigation work would be likely to take the form of the monitoring and recording of groundworks for house foundations and service trenches associated with the construction of the Proposed Development within areas where total loss of remains is likely (such as the north-western part and western edge of the site), to allow for the identification, investigation and recording of any exposed archaeological or artefactual deposits; i.e. a watching brief. The results of the fieldwork and any post-excavation analysis undertaken would need to be presented in an appropriately detailed and illustrated report and the project archive curated accordingly. Details of scope, methodology, reporting and archiving would be set out in the WSI in agreement with the City Archaeologist.

7.157. Archaeological mitigation would not extend to the proposed piling as the deep piles where they impact the natural ground surface would not be possible to monitor for archaeological impacts. Furthermore, impacts on unrecorded archaeological remains from piling and impacts upon the known course of a post-medieval ditch from piling are not considered to result in significant effects and thus do not need to be subject to mitigation.

Operation

7.158. Regarding the non-significant effect identified to the scheduled monument *Moated site at Sneedham's Green, 220m northeast of Green Farm* mitigation measures are being embedded in the design and compensatory mitigation measures area proposed in the form of ongoing management of the monument's conservation. No further additional mitigation measures are proposed in relation to Operational Phase effects.

Residual Effects Assessment

7.159. The residual effects assessment assumes that the mitigation described in the section above and embedded mitigation measures proposed as part of the scheme will be implemented in full.

Construction

7.160. The programme of archaeological mitigation described above will serve to create a record of archaeological features and deposits within the Site. Although this would not entirely mitigate the loss of these assets, the record would serve to compensate for this loss. As such, following mitigation, an effect would still occur, however, the significance of effect would be reduced such that the effect would no longer be considered as significant.

7.161. With reference to Table 7.3, a High magnitude of change to an asset of Medium sensitivity would result in a **Major** Adverse permanent effect. Following the mitigation outlined above, this would be reduced to a **Minor** Adverse permanent residual effect that would not be a significant effect.

7.162. A High magnitude of change to an asset of Low sensitivity would result in a **Moderate** Adverse permanent effect. Following the mitigation outlined above, this would be reduced to a **Minor** Adverse permanent residual effect that would not be a significant effect.

Operation

7.163. No additional mitigation measures are proposed that would change the assessment as presented above in relation to operational effects. As such the effects identified above are unchanged and should be considered as residual effects.

Table 7.4: Summary of Significance of Effects - Construction

Receptor / Feature Affected	Description of Likely Effect	Sensitivity of Receptor (High, Medium, Low, Negligible)	Magnitude of Change / Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/Adverse/Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/Adverse/ Negligible)
CONSTRUCTION PHASE							
Scheduled Monument Moated site at Sneedham's Green, 220m	*Impact to ground surface from postholes for replacement fencing*	*High*	*Negligible, Permanent*	*Local*	*Negligible, Adverse*	*Archaeological mitigation by recording to be secured by condition (watching brief)*	*Negligible, Adverse*
Remains of post-medieval ditch	*Impacts on remains (such as they survive undamaged) due to piled foundations*	*Negligible*	*Negligible, Permanent*	*Local*	*Negligible, Adverse*	*None proposed*	*Negligible, Adverse*
Poorly preserved unrecorded archaeological remains	*Impacts on remains (such as they survive) due to piled foundations*	*Negligible or Low*	*Low, Permanent*	*Local*	*Negligible or Minor, Adverse*	*None proposed*	*Negligible or Minor, Adverse*
Well preserved unrecorded	*Impacts on remains (such as they*	*Low or Medium*	*Low, Permanent*	*Local*	*Minor, Adverse*	*None proposed*	*Minor, Adverse*

Receptor / Feature Affected	Description of Likely Effect	Sensitivity of Receptor (High, Medium, Low, Negligible)	Magnitude of Change / Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/Adverse/Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/Adverse/ Negligible)
archaeological remains	*survive) due to piled foundations*						
Poorly preserved unrecorded archaeological remains	*Total loss due to being located within the development footprint*	*Negligible or Low*	*High, Permanent*	*Local*	*Minor or Moderate, Adverse*	*Archaeological mitigation by recording to be secured by condition*	*Minor, Adverse*
Well preserved unrecorded archaeological remains	*Total loss due to being located within the development footprint*	*Low or Medium*	*High, Permanent*	*Local*	*Moderate or Major, Adverse*	*Archaeological mitigation by recording to be secured by condition*	*Minor, Adverse*

Table 7.5: Summary of Significance of Effects - Operation

Receptor / Feature Affected	Description of Likely Effect	Sensitivity of Receptor (High, Medium, Low, Negligible)	Magnitude of Change / Spatial Extent (High, Medium, Small, Negligible) (Permanent, Temporary)	Geographic Extent (International, National, Regional, County, District, Local)	Significance of Effect before mitigation (Major, Moderate, Minor) (Beneficial/Adverse/Negligible)	Mitigation / Enhancement Measures Proposed (To be secured by: Design/S106/CIL/ Condition)	Significance of Residual Effects (after mitigation) (Major, Moderate, Minor) (Beneficial/Adverse/Negligible)
OPERATION							
Scheduled Monument Moated site at Sneedham's Green, 220m northeast of Green Farm	*Change to the setting of the monument such that its heritage value is affected*	*High*	*Negligible, Permanent*	*Local*	*Negligible, Adverse*	*No additional mitigation proposed aside from embedded mitigation and compensatory mitigation*	*Negligible, Adverse*

Summary

7.164. This chapter assesses the likely significant effects of the Proposed Development in terms of archaeology and cultural heritage.

7.165. A baseline assessment, in the form of an Archaeological and Heritage desk-based assessment (Appendix 7.1), a geophysical survey (Appendix EDP 1 of the report at Appendix 7.1), trial trenching (Appendix EDP 2 of the report at Appendix 7.1.), a Water Environment Assessment (Appendix 7.2) and Geoarchaeological Survey (WSI at Appendix 7.3) have identified potentially sensitive archaeological and cultural heritage receptors (heritage assets) within the site.

7.166. The assessment established that the site contains a scheduled monument, *Moated site at Sneedham's Green, 220m northeast of Green Farm*. The Proposed Development will result in a negligible direct impact upon this monument from the digging of postholes for a new fence (Subject to Scheduled Monument Consent) and a surface water attenuation system is proposed that will ensure the monument's moat will continue to be supplied with surface run off water as it is at present, thus resulting in no effect on the monument's archaeological value.

7.167. Effects arising from change within the monument's setting from the operational phase of the development have been assessed concluding, with the addition of the positive management of the monument and interpretation as set out within a heritage management plan, a Negligible Adverse permanent non-significant effect. In terms of NPPF, this harm would be at the lower end of the spectrum of 'less than substantial harm' and, in accordance with Paragraph 202 of NPPF, should be 'weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.'

7.168. The assessment did not identify any other effects to designated heritage assets from the proposed development.

7.169. Within the Site, the assessment has identified one known non-designated heritage asset, buried remains related to a former post-medieval boundary which in at least one location which was subject to trial trenching have been heavily disturbed when the site was used for spoil storage during the construction of the M5 motorway. The proposed development would result in a negligible adverse permanent effect on this non-designated heritage asset.

7.170. The assessment considered evidence for the site to contain previously unrecorded archaeological remains. The site has a moderate potential for remains related to Late Iron Age and Roman period settlement or agriculture, and for buried remains related to medieval agriculture. However, archaeological remains in the site are likely to be heavily disturbed following disturbance caused during the construction of the M5 motorway. Across most of the site is a layer of made ground deposited at that time and aside from in the north-western corner and western edge of the site this deposit of up to 3.5m in depth overlays the natural ground surface and any archaeological remains preserved therein.

7.171. On account of this layer it was not possible to effectively evaluate the site for archaeology and so the preservation of remains within the site is unknown, although trial trenching has demonstrated that buried topsoil is only partially preserved suggesting that the ground surface has been disturbed. The proposed development will only result in potential impacts upon archaeological remains in the parts of the site where the made ground layer is thin or non-existent, i.e. the north-western part and the site's western edge. In these areas archaeological remains may be subject to total loss in the footprint of foundations and service trenches. Elsewhere only piles will penetrate to the natural ground surface and so archaeological impacts are less likely and would be only partial.

7.172. In conclusion, impacts on possible archaeological remains from piling would result in either minor adverse or negligible adverse non-significant effects, depending on the sensitivity of the remains that would not be mitigated, and this assessment would remain as a residual effect.

7.173. Impacts in the north-western and western parts of the site from foundations and service trenches would result in either minor adverse, moderate adverse or major adverse effects, depending on the sensitivity of the remains. Moderate or major adverse effects would be significant, however, it is anticipated that archaeological impacts in these areas could be mitigated through a programme of archaeological recording agreed in advance with the Gloucester City Archaeology and implemented via a planning condition. Following mitigation, the significance of effect would be reduced, resulting in a minor adverse non-significant residual effect on unrecorded buried archaeological remains in these parts of the site.

7.174. In terms of NPPF, residual effects on non-designated heritage assets including archaeological remains would need to be considered with reference to Paragraph 203 such that a 'balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset'.

List of Figures and Appendices

Appendix 7.1 - Archaeological and Heritage Assessment (EDP, 2021)

Appendix 7.2 - Water Environment Assessment (JBA, 2021)

Appendix 7.3 – Geoarchaeological Assessment Written Scheme of Investigation (ARCA, 2022)

References

HMSO, 1979, Ancient Monuments and Archaeological Areas Act of 1979

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Historic England, 2016, Preserving Archaeological Remains Appendix 3 – Water Environment Assessment Techniques

HMSO, 1990, Planning (Listed Buildings and Conservation Areas) Act of 1990

JBA, 2021 Water Environment Assessment, Snow Capel Farm.

Ministry of Housing, Communities and Local Government (MHCLG) 2021 The National Planning Policy Framework. London.

Glossary of Technical Terms

Archaeological interest: There will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.

Chartered Institute for Archaeologists (CIfA): Professional membership body which represents and supports Archaeologists in the UK, Ireland and internationally.

Conservation (for heritage policy): The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.

Designated heritage asset: A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.

Heritage asset: A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing).

Historic environment: All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

Historic environment record: Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.

National Planning Policy Framework (NPPF): National planning policy published by the Ministry of Housing, Communities and Local Government (MHCLG) which sets out the government's national planning policies and how these are expected to be applied.

Setting of a heritage asset: The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.

Significance: The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each site's Statement of Outstanding Universal Value forms part of its significance.

8. Summary of Findings

Introduction

8.1. This chapter of the ES provides a summary of the conclusions of each of the technical assessments contained within this ES. This chapter has been prepared by Black Box Planning drawing on the conclusion of the findings and in consultation with each of the chapter authors.

Ecology and Biodiversity

8.2. The impact assessment identified that certain actions could result in significant negative effects on the Important Ecological Features (IEFs) without mitigation. However, avoidance, mitigation and compensation measures to be delivered through the implementation of an Ecological Construction Method Statement (ECMS), Ecological Management Plan (EMP) and landscaping scheme are considered sufficient to ameliorate those significant effects identified to a residual level where no significant negative effects will arise.

8.3. Based on the impact assessment and in consideration of the IEFs, it is considered that the proposals will conform to the respective legislative protective afforded to these IEFs and with respect to national, regional and local planning policy requirements.

8.4. The following outlines the series of ecological avoidance, mitigation and compensation measures which ES Chapter 6 identifies are necessary for the proposed development.

Construction Phase

8.5. The construction phase will adhere to sensitive working methodologies including the implementation of protective fencing to be set out within the Ecological Construction Method Statement (ECMS) to ensure full protection of the valued resource.

8.6. Construction activities will be restricted to daylight hours as far as possible, with use of temporary, artificial lighting to avoid the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitat corridors with such measures set out within an ECMS.

8.7. Provision of new hedgerow planting amounting to circa 60m linear metres to compensate for habitat loss, combined with habitat buffering, enhancement, and sensitive long-term management of retained/newly created tree/hedgerow features. This is combined with provision of open green space incorporating grassland/shrub/tree planting amounting to 2.94ha.

8.8. Sensitive clearance measures will be set out within the ECMS to ensure no harm to breeding birds, roosting bats, great crested newts and common reptiles.

8.9. Re-inspection of trees with bat potential together with sensitive clearance measures (which may require implementation under a derogation licence to be approved by NE), as detailed within the ECMS will be followed to ensure no harm to roosting bats.

8.10. Where impacts cannot be avoided, closure of active, outlier sett in accordance with a Development license from NE. Sensitive construction measures will be set out within an ECMS to ensure no harm to badger.

8.11. Enhancement of pond and adjacent retained grassland through sensitive management to promote structural diversity. Provision of new hedgerow planting amounting to circa 60 linear meters to compensate for habitat loss, combined with habitat buffering, enhancement and sensitive long-term management of retained/newly created tree/hedgerow features. Sensitive clearance measures (which will require implementation under district licence to be approved by NE), to ensure no harm to great crested newts.

Operational Phase

8.12. Implementation of development in accordance with an Ecological Management Plan (EMP) including provision and long-term management of new tree, hedgerow and shrub planting in addition to grassland habitat, together with habitat buffering, to create strong foraging, and dispersal, corridors whilst offsetting potential disturbances arising upon key habitat.

8.13. Commitment to sensitive habitat management and monitoring over the long term.

8.14. Provision and sensitive design of informal and formal open space and footpaths across to divert recreational use away from sensitive habitats.

8.15. Inclusion of appropriate signage, dog bins, styles and stock fencing around pond.

8.16. Protection through sensitive drainage strategy in accordance with local and national policy.

8.17. Implementation of a sensitive lighting strategy.

Cultural Heritage

8.18. Effects arising from change within the scheduled monument's setting from the operational phase of the development have been assessed concluding, with the addition of the positive management of the monument and interpretation as set out within the heritage management plan, a negligible adverse permanent non-significant effect. In terms of NPPF, this harm would be at the lower end of the spectrum of 'less than substantial harm' and, in accordance with Paragraph 202 of NPPF, should be 'weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use'.

8.19. The assessment did not identify any other effects to designated heritage assets from the proposed development.

8.20. Within the Site, the assessment has identified one known non-designated heritage asset, buried remains related to a former post-medieval boundary which in at least one location which was subject to trial trenching have been heavily disturbed when the site was used for spoil storage during the construction of the M5 motorway. The proposed development would result in a negligible adverse permanent effect on this non-designated heritage asset.

8.21. The assessment considered evidence for the site to contain previously unrecorded archaeological remains. The site has a moderate potential for remains related to Late Iron Age and Roman period settlement or agriculture and for buried remains related to medieval agriculture. However, archaeological remains in the site are likely to be heavily disturbed following disturbance caused during the construction of the M5 motorway. Across most of the site is a layer of Made Ground deposited at that time and aside from in the north-western corner and western edge of the site this deposit of up 3.5m in depth overlays the natural ground surface and any archaeological remains preserved therein.

8.22. On account of this layer it was not possible to effectively evaluate the site for archaeology and so the preservation of remains within the site is unknown, although trial trenching has demonstrated that buried topsoil is only partially preserved suggesting that the ground surface has been disturbed. The proposed development will only result in potential impacts upon archaeological remains in the parts of the site where the Made Ground layer is thin or non-existent, i.e. the north-western part and the site's western edge. In these areas archaeological remains may be subject to total loss in the footprint of foundations and service trenches. Elsewhere only piles will penetrate to the natural ground surface and so archaeological impacts are less likely and would be only partial.

8.23. In conclusion, impacts on possible archaeological remains from piling would result in either minor adverse or negligible adverse non-significant effects, depending on the sensitivity of the remains that would not be mitigated, and this assessment would remain as a residual effect.

8.24. Impacts in the north-western and western parts of the site from foundations and service trenches would result in either minor adverse, moderate adverse or major adverse effects, depending on the sensitivity of the remains. Moderate or major adverse effects would be significant however, it is anticipated that archaeological impacts in these areas could be mitigated through a programme of archaeological recording agreed in advance with the Gloucester City Archaeology and implemented via a planning condition. Following mitigation, the significance of effect would be reduced, resulting in a minor adverse non-significant residual effect on unrecorded buried archaeological remains in these parts of the site.

8.25. In terms of NPPF, residual effects on non-designated heritage assets including archaeological remains would need to be considered with reference to Paragraph 203 such that a 'balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset'.

Land at Snow Capel Farm, Matson, Gloucester

Archaeological and Heritage Assessment

Prepared by:
The Environmental Dimension Partnership Ltd

On behalf of:
Edward Ware Homes and Bromford Developments Ltd

April 2022
Report Reference:
edp3736_r005b

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Non-technical Summary

S1 This report has been prepared by The Environmental Dimension Partnership Ltd (EDP), on behalf of Edward Ware Homes and Bromford Developments Ltd and is an archaeological and heritage assessment of land at Land at Snow Capel Farm, Matson, Gloucester in support of a planning application for residential development.

S2 This archaeological and heritage assessment concludes that there will be only very minimal direct effects on the scheduled monument *Moated site at Sneedham's Green, 220m north east of Green Farm* (**1019399**) which is located within the site, restricted to the digging of postholes for a new fence.

S3 This assessment includes consideration of potential impacts on waterlogged archaeological remains located within the scheduled moat located within the site due to a reduction in water levels. The results of a Water Environment Assessment indicate that water levels within the moat can be successfully managed and maintained through drainage design and the project includes a sophisticate response that ensures that moat water levels will be subject to the same water inputs as they are at present.

S4 Potential impacts upon the settings of designated heritage assets have been considered in accordance with Historic England guidance: *Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets* (HE 2017 Second Edition) concluding that the site only forms a part of the setting of the scheduled monument, *Moated site at Sneedham's Green, 220m north east of Green Farm* (**1019399**) which is located within the site, and no other heritage assets.

S5 In summary, the assessment concludes that the proposed development, in its current iteration, will change the setting of the monument resulting in both negative and positive effects and identifies, overall, only a very low degree of harm to its significance. This harm would be at the lower end of the spectrum of 'less than substantial harm' and, in accordance with Paragraph 196 of National Planning Policy Framework (NPPF, DCLG, 2019), should be '*weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.'*

S6 There is considered to be a moderate potential for a small part of the site to contain buried archaeological remains of low or moderate significance dating to the Late Iron Age or Roman period remains and the medieval period. However, the desk-based assessment, geotechnical data, geophysical survey and trial trenching has identified that, in the late 1960s early 1970s, the ground surface across at least c. 90% of the site, including the scheduled monument, was disturbed during the construction of the M5.

S7 This activity destroyed any upstanding archaeological features in the site and probably also resulted in at least the partial destruction of any previously unrecorded buried archaeological remains, in all but perhaps the north-western edge of the site. As such, it is considered that there is only a low potential for any well-preserved archaeological remains to survive in the site.

S8 Development design would use piled foundations and thus should archaeological remains be present in the site, impact would be limited to the footprint of piles aside from in the north-western part of the site where made ground is of less thickness or not present at all. As such a moderate potential for harm to unrecorded buried archaeological remains is assessed.

S9 In conclusion, the assessment has not identified any reason why the development as proposed would conflict with historic environment legislation or planning policy and it is anticipated that the proposals will be looked upon favourably regarding the historic environment.

Section 1
Introduction

1.1 This report has been prepared by the Environmental Dimension Partnership Ltd (EDP), on behalf of Edward Ware Homes and Bromford Developments Ltd, to inform planning proposals for a residential development on land at Snow Capel Farm, Matson, Gloucester.

1.2 The first aim of this assessment is to consider the available historical and archaeological resources for the site and to establish its likely potential in accordance with the requirements of the NPPF and local planning policy.

1.3 The second aim of this assessment is to identify and assess possible changes to the settings of designated heritage assets as a result of the proposed development, and to determine whether, and to what extent, those changes will affect their heritage significance.

1.4 In accordance good practice and guidance, desktop sources have been augmented through the completion of walkover surveys, undertaken in February 2017 and December 2020.

Location, Boundaries and Current Land Use

1.5 The application site is located on the southern outskirts of the city of Gloucester, the centre of which lies c. 4km to the north-west. The settlement at Matson is located c. 1km to the north. The site measures c. 8 hectares (ha) in area and is centred on National Grid Reference (NGR) 385116 214169 (**Plan EDP 1**).

1.6 The site boundaries are defined by the M5 motorway to the south-east, farmland to the north-east and by a hedgerow and stream, The Sud Brook, beyond which is small settlement of the edge of a grassed common at Sneedham's Green to the west. The site consists of a single field of pasture is enclosed by dense mature hedgerows on the south, west and east sides and a thin hedgerow on the north side.

1.7 The site's boundary to the north-east is against a single adjacent rectangular field and further farmland that is a consented development site, Land South of Winneycroft Farm (with reserved matters consented in October 2018; 18/01141/REM). The rectangular field comprises grassed agricultural land and, whilst presently occupied by further agricultural fields, the Winneycroft Farm site will become a housing development with the part adjacent to the site being converted to sports pitches with related infrastructure.

1.8 The whole site consists of a single field of pasture currently in use for grazing animals. Located roughly west of centre is a fenced off area containing a large C-shaped pond and related scrub vegetation. This pond, and the area partly enclosed by it, is part of a former moat related to the Scheduled Monument *Moated site at Sneedham's Green, 220m*

north east of Green Farm (NHLE **1019399**). The boundary of the scheduled monument is illustrated on **Plan EDP 1**.

Topography and Geology

1.9 The land at the site slopes gently to the west, with a high point of c. 60m above Ordnance Datum (aOD) on the eastern boundary and a low point of c. 55m aOD in the north-west corner.

1.10 The British Geological Survey records the underlying solid geology at the application site as being mudstone of the Blue Lias Formation and Charmouth Formation.

1.11 No superficial deposits are recorded across the site; however much of the site is covered by a layer of made ground deposited during the construction of the M5 motorway.

1.12 Whilst the presence of the made ground layer at the site is apparent from aerial photographs, LiDAR data, topographic survey and observations made during the site visit (which are discussed in **Section 4**), geotechnical evidence for the made ground is apparent in borehole records.

1.13 Boreholes have been dug at the site as part of the geotechnical investigations. This has comprised two phases, in May 2017 (Integrale) and November 2017 (T and P) which also included some trial pits. Further boreholes were dug in March 2021.

1.14 The borehole records indicate a layer of made ground across all parts of the site that were subject to borehole survey. The layer is situated beneath topsoil and generally comprises two deposits of re-deposited natural soils comprising firm to stiff, bluish grey, mottled, orangish brown gravelly clay layered above soft, firm and stiff dark grey clay with organic material. The material varies in its basal depth between 0.3 and 4.6 m Below ground Level (BGL). The records (and the appearance of the landform) indicates that the deposit is thickest towards the eastern end of the site and tappers out to the west, with the least deposit in the north-west corner.

1.15 The site has been subject to a limited archaeological evaluation (Headland Archaeology, 2020 - details in **Section 4** below). This comprised three trenches all of which also identified made ground deposits equivalent to those identified in the geotechnical work.

1.16 The geotechnical work also identified a possible buried topsoil deposit comprising dark brown and black clay in some of the boreholes. This deposit was also located in some of the trial trenches, the evidence suggesting that this layer, if representing a buried topsoil remnant, is only present in patches across the site, suggesting partial removal of topsoil when the M5 was constructed.

1.17 The geotechnical works and trial trenches indicate that the ground surface (topsoil) at the site was probably partially removed during the construction of the M5 motorway including the loss of surface features such as earthworks and field boundaries. The trenching targeted a former field boundary ditch finding only a disturbed, dark-brown area of clay and part of a tree in its location, suggesting that the ditch and boundary had been graded and backfilled as part of this operation, as others across the site are likely to have been. The majority of the site was then used for soil deposition which probably comprises arisings from the adjacent section of the motorway. It is possible that the scouring of the ground surface and partial removal of topsoil resulted from the use of bulldozers to grade and then form and compact the surface of this material creating the present landform at the site.

1.18 The made ground within the site and the impact of the M5 works is discussed below in **Section 4** in relation to the site's archaeological potential.

Proposed Development

1.19 The proposed development is for a residential led scheme with associated access roads, landscaping and infrastructure. The Proposed Site Plan is included at **Appendix EDP 1**.

1.20 The design has been influenced by the archaeological assessment and settings assessment presented in this current report as well as the results of the Water Environment Assessment (JBA, 2021). The proposal includes an open area around the Scheduled Monument with the moated remains at the centre of this area. This area is open to the west to maintain a visual link with the historically related Sneedham's Green.

Consultation

1.21 As an aspect of work carried out to promote the site for inclusion within the Joint Core Strategy (JCS; coordinated by Gloucester City Council in tandem with Tewkesbury Borough Council and Cheltenham Borough Council and adopted on 11 December 2017), EDP consulted with Historic England regarding the appropriate approach to be employed in respect of the scheduled monument located within the site. The monument was highlighted by the Council's evidence base for the JCS as warranting and needing improved management but, that the presence of the monument means that the site is inappropriate to allocate for development.

1.22 The consultation process took place in two phases (spring-summer 2017 and autumn 2017) and the most relevant correspondence from the second phase of consultation with Historic England (HE) is reproduced here at **Appendix EDP 2**. This comprises an exchange of emails and letters with Melanie Barge, Inspector of Ancient Monuments at Historic England, between 05 September and 24 November 2017 and where the contribution that the existing setting of the scheduled monument makes to its heritage significance was the main area of debate. In this respect, HE expressed that '*housing close to and surrounding the moated area would in our opinion cause harm to the*

significance of the monument, by removing the connection with its rural landscape and setting'. In this respect, HE stated that they would not support the proposal in its iteration at that time.

1.23 A meeting was held with Andrew Armstrong, the Gloucester City Archaeologist, in September 2020. At this meeting it was requested that any application would have to be accompanied by a Water Environment Assessment in accordance with Historic England's guidance *Preserving Archaeological Remains Appendix 3 – Water Environment Assessment Techniques* (2016). An archaeological evaluation of the site was also requested as well as evidence to demonstrate that the site no longer contains any archaeological earthworks. A limited evaluation was carried out in December 2020 which tested the site's disturbance as well as the thickness of made ground (detailed in **Section 4**).

1.24 Once the Water Environment Assessment and archaeological evaluation were completed, a protracted discussion via email was carried out regarding whether the development proposals would be likely to affect the moat's water supply mechanism and therefore risk impacting upon any waterlogged remains located within it. These emails are included at **Appendix EDP 2**. Whilst a drainage system has been designed which intends to maintain moat water levels the Gloucester City Archaeologist and Historic England have insisted on further geoarchaeological information on the moat ditch fills so as to be able to understand the nature and significance of the moat deposits.

1.25 In January 2022 a Written Scheme of Investigation was agreed with the Gloucester City Archaeologist (ARCA, 2021) setting out a programme of geoarchaeological work. Once completed a report on this survey will be submitted as additional information in support of the application.

Section 2
Legislation and Planning Guidance

2.1 The following section summarises the key legislative and planning policy context, relating to the proposed development of the site, at both national and local levels.

Current Legislation

2.2 In terms of '*effects on the historic environment'*, the following paragraphs summarise the principal legislative instruments and planning policy framework.

2.3 The relevant legislation concerning the treatment of scheduled monuments is the *Ancient Monuments and Archaeological Areas Act 1979* (HMSO 1979). This act details the designation, care, and management of scheduled monuments, as well as detailing the procedures needed to obtain permission for works which would directly impact upon their preservation. The act does not confer any statutory protection on the setting of scheduled monuments although this is considered as a policy matter in Paragraph 193 of the NPPF.

2.4 Sections 66(1) and 72(1) of the *Planning (Listed Buildings and Conservation Areas) Act 1990* set out the duties of Local Planning Authorities in respect of the treatment of listed buildings and conservation areas through the planning process.

2.5 Section 66(1) of the 1990 Act sets out the statutory duty of the decision-maker, where proposed development would affect a listed building or its setting.

2.6 The '*special regard'* duty of the 1990 Act has been tested in the Courts and confirmed to require that '*considerable importance and weight*' is afforded by the decision maker to the desirability of preserving a listed building along with its setting. The relevant judgement is referenced as Barnwell Manor Wind Energy Ltd v East Northants DC, English Heritage and National Trust [2014] EWCA Civ 137.

2.7 However, it must be recognised that Section 66(1) of the 1990 Act does not identify that the local authority or the Secretary of State *must* preserve a listed building or its setting; and neither does it indicate that a development that does not preserve them is unacceptable and should therefore be refused.

2.8 This point is made very clearly in Paragraph 54 of the High Court judgement in respect of *Forest of Dean DC v Secretary of State for Communities and Local Government [2013] EWHC 4052 (Admin)*, which sets out that:

'*…Section 66 (1) did not oblige the inspector to reject the proposal because he found it would cause some harm to the setting of the listed buildings. The duty is directed to 'the desirability of preserving' the setting of listed buildings. One sees there the basic purpose of the 'special regard' duty. It does not rule out acceptable change. It gives the decision-maker an extra task to perform, which is to judge whether the change proposed is*

acceptable. But it does not prescribe the outcome. It does not dictate the refusal of planning permission if the proposed development is found likely to alter or even to harm the setting of a listed building.'

2.9 In other words, it is up to the decision maker (such as a local authority) to assess whether the proposal which is before them would result in '*acceptable change*'. However, whilst this is the case, the decision maker does need to give '*considerable importance and weight*' to the desirability of preserving a listed building or its setting (as per the Barnwell Manor judgement outlined above).

2.10 Paragraph 200 of the NPPF transposes Section 66(1) and Section 72(1) of the 1990 Act into national planning policy.

2.11 The balancing exercise to be performed – between the harm arising from a proposal and the benefits which would accrue from its implementation – is then subsequently presented in Paragraphs 201 and 202 of the NPPF.

National Planning Policy

2.12 The revised NPPF was published in 2021 and Section 16 sets out the government's approach to the conservation and management of the historic environment, including both listed buildings and conservation areas, through the planning process. The opening paragraph, 189 recognises that heritage assets are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations.

2.13 Paragraph 194 concerns planning applications, stating that:

'In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.'

2.14 Paragraph 199 considers the weighting given within the planning decision with regard to impacts on designated heritage assets, stating that:

'When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of

whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.'

2.15 Paragraph 200 considers the level of harmful effects on designated heritage assets and states that:

'Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional; and

b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.'*

2.16 With regard to the decision making process, paragraphs 201 and 202 are of relevance. Paragraph 201 states that:

'Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

a) the nature of the heritage asset prevents all reasonable uses of the site;

b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation;

c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and

d) the harm or loss is outweighed by the benefit of bringing the site back into use.'

2.17 Paragraph 202 states that: *'Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use'.*

2.18 The threshold between substantial and less than substantial harm has been clarified in the courts. Whilst the judgement relates specifically to the impact of development proposals on a listed building, Paragraphs 24 and 25 of *Bedford BC v Secretary of State for Communities and Local Government [2013] EWHC 2847* remain of relevance here in the way they outline the assessment of 'harm' for heritage assets:

'What the inspector was saying was that for harm to be substantial, the impact on significance was required to be serious such that very much, if not all, of the significance was drained away.

Plainly in the context of physical harm, this would apply in the case of demolition or destruction, being a case of total loss. It would also apply to a case of serious damage to the structure of the building. In the context of non-physical or indirect harm, the yardstick was effectively the same. One was looking for an impact which would have such a serious impact on the significance of the asset that its significance was either vitiated altogether [i.e. destroyed] or very much reduced.'

2.19 In other words, for the 'harm' to be 'substantial' – and therefore require consideration against the more stringent requirements of Paragraph 201 of the NPPF compared with Paragraph 202; the proposal would need to result in the asset's significance either being *'vitiated altogether or very much reduced'*. Quite evidently, this represents a very high threshold to be reached.

2.20 With regard to non-designated heritage assets, Paragraph 203 states that:

'The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.'

Local Planning Policy

2.21 Local planning policy within Gloucester City comprises the adopted Local Plan made up of the Joint Core Strategy (adopted in 2017 between Gloucester City Council, Cheltenham Borough Council and Tewkesbury Borough Council) and the saved policies of the Gloucester Local Plan (1983). Local planning decision making also refers to the Second Stage Deposit Local Plan 2002 which was adopted for development control purposes in 2002. The policies of the Second Stage Deposit Local Plan have been reviewed following the adoption of the Joint Core Strategy and the NPPF with certain policies deemed relevant and other partially relevant.

2.22 This document will be replaced by the emerging Gloucester City Plan. The City Plan was submitted to the Planning Inspectorate in November 2020 and is not yet adopted.

2.23 The historic environment is considered in *Chapter 4 – Built Environment*, within the Second Stage Deposit Local Plan. However, none of these policies are listed as relevant or partially relevant.

2.24 Policy SD8 of the Joint Core Strategy is concerned with the historic environment, within the three areas covered by the Plan. It states:

Policy SD8: Historic Environment

'1. The built, natural and cultural heritage of Gloucester City, Cheltenham town, Tewkesbury town, smaller historic settlements and the wider countryside will continue to be valued and promoted for their important contribution to local identity, quality of life and the economy;

2. Development should make a positive contribution to local character and distinctiveness, having regard to valued and distinctive elements of the historic environment;

3. Designated and undesignated heritage assets and their settings will be conserved and enhanced as appropriate to their significance, and for their important contribution to local character, distinctiveness and sense of place. Consideration will also be given to the contribution made by heritage assets to supporting sustainable communities and the local economy. Development should aim to sustain and enhance the significance of heritage assets and put them to viable uses consistent with their conservation whilst improving accessibility where appropriate;

4. Proposals that will secure the future conservation and maintenance of heritage assets and their settings that are at risk through neglect, decay or other threats will be encouraged. Proposals that will bring vacant or derelict heritage assets back into appropriate use will also be encouraged; and

5. Development proposals at Strategic Allocations must have regard to the findings and recommendations of the JCS Historic Environment Assessment (or any subsequent revision) demonstrating that the potential impacts on heritage assets and appropriate mitigation measures have been addressed.'

2.25 Within the emerging City Plan, in its current draft section E is concerned with the historic environment. Of relevance to the current application are Polices E1 and E2 although at present the City Plan is not adopted and these polices carry no formal weight.

'Policy E1: Historic environment development management

The City Council will support development that conserves the significance of designated and non-designated heritage assets including archaeological remains and locally listed buildings.

Great weight will be given to the conservation of the City's heritage assets. New development affecting a designated or non-designated heritage asset or its setting, including alterations and additions, will be expected to make a positive contribution to its character, appearance and significance.

Proposals affecting designated and undesignated heritage assets and their settings should demonstrate that they meet the following guidance:

- *The use of traditional, local materials and adherence to local building techniques and details, where appropriate;*

- *The conservation of features and elements that contribute to the special interest of a heritage asset, including structures forming part of the curtilage, in particular the structural integrity and historic plan-form of listed buildings and historic building groups;*

- *Appropriate use of the heritage asset that is compatible with the conservation of its significance;*

- *The location, form, scale, massing, density, height, layout, roofscape, landscaping, use and external appearance of developments within conservation areas should conserve and enhance the special historic and architectural interest of the conservation area;*

- *Development involving substantial harm to or loss of designated heritage assets will only be granted in exceptional circumstances (wholly exceptional circumstances for designated assets of the highest significance);*

- *Proposals affecting a non-designated heritage asset (including where identified through the planning process) should not harm its special interest and development involving substantial harm will be resisted unless significant public benefit has been clearly and convincingly demonstrated in accordance with the requirements of the NPPF;*

- *When determining applications, nationally important archaeological remains which are currently non-designated will be considered subject to polices applying to Scheduled Monuments;*

- *The condition of an historic building resulting from deliberate damage and neglect will not -be taken into account in any decision; and*

- *The City Council will support applications that make provision for the preservation in situ of archaeological remains.*

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Policy E2: Recording and advancing understanding of heritage assets

Where development will result in the loss (wholly or in part) of a heritage asset, the City Council will require developers to record and advance understanding of the significance of that asset prior to or during development. The appropriate form of mitigation employed will be dependent on the nature of the impact but may include:

- *Historic building recording;*

- *Archaeological watching brief;*

- *Archaeological evaluation;*
- *Archaeological excavation; and*
- *Preservation in situ by design.'*

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Section 3
Methodology

Assessment and Data Collection Methodology

3.1 This report has been produced in accordance with the *Standard and Guidance for Historic Environment Desk-Based Assessment* issued by the Chartered Institute for Archaeologists (ClfA, 2020). These guidelines provide a national standard for the completion of desk-based assessments.

3.2 The assessment involved consultation of readily available archaeological and historical information from documentary and cartographic sources. The major repositories of information comprised:

- Information held by the Gloucester City Historic Environment Record (HER) on known archaeological sites, monuments and findspots, within 500m of the site;
- Maps and documents held online;
- The National Heritage List for England curated by Historic England;
- LiDAR data acquired from the Environment Agency (data.gov.uk);
- Aerial photographs held by the Historic England Archive (HEA); and
- Records made during site visits in February 2017 and December 2020.

3.3 Under normal circumstances the report would have also considered any relevant documentary sources (such as historic maps) held by the Gloucestershire Archives. However, for the duration of the more recent phase of research the archive has been closed due to Covid-19 restrictions and therefore has not been accessible. If necessary, or possible, it is envisaged that this archive could be consulted in the future when it reopens.

3.4 This report provides a synthesis of relevant information for the site derived from a search area extending up to 500m from its boundary, hereafter known as the 'study area', to allow for additional contextual information regarding its archaeological interest and/or potential to be gathered.

3.5 The information gathered from the repositories and sources identified above was checked and augmented through the completion of two site walkovers. The walkovers considered the nature and significance of known and/or potential archaeological assets within the site, identified visible historic features and assessed possible factors which may affect the survival or condition of known or potential assets.

3.6 This report thereafter concludes with an assessment of the site's likely archaeological potential, made with regard to current best practice guidelines.

Setting Assessment

3.7 In addition, this report also considers the nature and significance of any effects arising beyond the boundary of the site, i.e. in terms of the settings of heritage assets, as defined in Annex 2 of the NPPF.

3.8 In that regard, the site walkover considered, where appropriate, the contribution (if any) made by the land within the site to the settings of heritage assets situated within its wider zone of influence.

3.9 The setting assessment process employed current Historic England guidance which is set out in: *Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets* (HE 2017 Second Edition). This provides best practice guidance for the identification and assessment of potential setting issues in the historic environment.

3.10 When assessing the impact of proposals on heritage assets, it is not a question of whether there would be a direct physical impact on that asset, but instead whether change within its '*setting*' would lead to a loss of '*significance*'.

3.11 In simple terms, setting is defined as '*the surroundings in which a heritage asset is experienced*'. It must be recognised from the outset that '*setting*' is not a heritage asset and cannot itself be harmed. Its importance relates to the contribution it makes to the significance of the designated heritage asset.

3.12 Historic England guidance identifies that '*change to heritage assets is inevitable, but it is only harmful when significance is damaged*' (HE, 2017).

3.13 In that regard, '*significance*' is defined in Annex 2 of the NPPF as '*the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic*'.

3.14 As such, when assessing the impact of proposals on heritage assets beyond the boundary of a development site, it is not a question of whether setting would be affected, but rather a question of whether change within an asset's '*setting*' would lead to a loss of '*significance*' based on the above 'heritage interest' as defined in the NPPF.

3.15 Set within this context, where the objective is to determine the impact of proposals on heritage assets beyond the boundary of a development site, it is necessary to first define the significance of the asset in question - and the contribution made to that significance by its '*setting*', in order to establish whether there would be a loss, and therefore harm. The guidance identifies that change within a heritage asset's setting need not necessarily cause harm to that asset - it can be positive, negative or neutral.

3.16 In light of the above, the assessment of potential setting effects, arising from the proposed scheme, has followed the guidance set out in *Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets* published by Historic England in 2017. This guidance observes that: '*The NPPF makes it clear that the extent of the setting of a heritage asset 'is not fixed and may change as the asset and its surroundings evolve',* and that *'Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate the significance or may be neutral*' (HE, 2017).

3.17 The guidance states that the importance of setting '*lies in what it contributes to the significance of the heritage asset or to the ability to appreciate that significance*'.

3.18 It goes on to note:

'*All heritage assets have significance, some of which have particular significance and are designated. The contribution made by their setting to their significance also varies. Although many settings may be enhanced by development, not all settings have the same capacity to accommodate change without harm to the significance of the heritage asset or the ability to appreciate it*.'

3.19 Whilst identifying that elements of an asset's setting can make an important contribution to its significance, the guidance states that: '*Setting is not itself a heritage asset, nor a heritage designation, although land comprising a setting may itself be designated*'. It continues by adding that: '*Conserving or enhancing heritage assets by taking their settings into account need not prevent change; indeed change may be positive…*'.

3.20 On a practical level, the HE guidance (2017) identifies an approach to assessing setting in relation to development management which is based on a five-step procedure; i.e.:

- **Step 1**: Identify which heritage assets and their settings are affected;
- **Step 2**: Assess the degree to which these settings make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated;
- **Step 3**: Assess the effects of the proposed development, whether beneficial or harmful, on that significance or the ability to appreciate it;
- **Step 4**: Explore ways of maximising enhancement and avoid or minimise harm; and
- **Step 5**: Make and document the decision and monitor outcomes.

3.21 As far as Step 2 is concerned, the guidance makes the following observations:

'*The second stage of any analysis is to assess whether the setting of a heritage asset makes a contribution to its significance and the extent and/or nature of that*

contribution…this assessment should first address the key attributes of the heritage asset itself and then consider:

- *The physical surroundings of the asset, including its relationship with other heritage assets;*
- *The asset's intangible associations with its surroundings, and patterns of use;*
- *The contribution made by noises, smells, etc to significance; and*
- *The way views allow the significance of the asset to be appreciated.*'

3.22 Thereafter, the guidance notes that: '*This assessment of the contribution to significance made by setting will provide the baseline for establishing the effects of a proposed development on significance, as set out in 'Step 3' below*'.

3.23 Having established the baseline, the following guidance is provided in respect of an assessment of the effect upon '*setting*'; i.e.:

'In general…the assessment should address the attributes of the proposed development in terms of its:

- *Location and siting;*
- *Form and appearance;*
- *Wider effects; and*
- *Permanence.'*

3.24 In light of the above, the assessment of potential setting effects, employed in the preparation of this baseline report, focused on Steps 1, 2 and 3. The assessment therefore concentrated on the following three main areas:

- Identifying those heritage assets that could potentially be affected by the proposed scheme (Step 1);
- Defining the degree to which the settings of these heritage assets make a contribution to their significance or allow their significance to be appreciated (Step 2);
- Assessing whether the site forms a part of their setting, and if so, whether it also contributes to their significance (part of Step 2); and

- Assessing whether the site's development as proposed is likely to result in a change to that contribution, such that the development is either beneficial or harmful to the significance of the asset in question (Step 3).

3.25 Step 4 is considered in so much as the proposed development includes built-in design mitigation intended to respond to the setting of heritage assets and thus reduce or negate any harmful impact upon them.

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Section 4
Existing Information

Introduction

4.1 The application site contains a scheduled monument, *Moated site at Sneedham's Green, 220m north east of Green Farm* (shown on **Plan EDP 1**). Planning policy dictates that there would be a presumption in favour of the physical retention or preservation *in situ* of the monument's designated area and against development of the land that it occupies within the site. The monument is described below.

4.2 The site does not contain any listed buildings, historic parks and gardens or registered battlefields and, apart from the scheduled monument noted above, there are no designated heritage assets of any kind within the 500m study area.

4.3 The Gloucester HER contains three records within the site (one of which refers to the moated site). Numerous records are located within the 500m study area, which are discussed in context within the period-based sections in the section below. All HER records within the site and study area are shown on **Plan EDP 2**.

Designated Heritage Assets

Scheduled Monument: Moated site at Sneedham's Green, 220m north east of Green Farm (1019399)

4.4 The monument consists of the known extent of a moated site dating from the medieval period; a sub-rectangular or trapezoidal moat enclosing an island. Only the northern side and parts of the western and eastern sides of the moat are extant, enclosing an area c. 66m by 42m that is open on the south side (**Images EDP 1** and **2**).

4.5 The scheduling extends beyond the extant part of the monument to the south, encompassing the former entirety of the moat and a 2m buffer around it. Evidence derived from historic mapping and aerial photographs (discussed fully in the relevant sections below) suggests that the original site measured approximately 66m by 80m with a causewayed entrance on the east side and possibly another entrance on the west side. Historic maps (i.e. **Plan EDP 3**) illustrate that prior to 1960s the southern arm of the moat was incorporated into a field boundary ditch which crossed the site from east to west. This ditch was probably a later feature of the post-medieval agricultural landscape.

4.6 The above-ground, field boundary bank and ditch/former moat of the southern extent of the monument were covered over with redeposited spoil and probably damaged during the construction of the M5 motorway in the late 1960s/early 1970s. It is possible that this work also affected and disturbed the moated site's interior. The 2020 trial trenching demonstrated that the remains of the field boundary ditch to the immediate west of the scheduled monument have been heavily disturbed by this activity with a total loss of the

cut form of the feature, and with its fill deposits mixed into the surrounding subsoils and redeposited soils that were laid down across it. This level of disturbance suggests that the southern ditch of the moat and any associated archaeological remains, that are now buried, were probably equally damaged.

4.7 The extant moat is c. 14m at its widest point, c. 8m at its narrowest and, at present is up to 0.9m deep (as measured in a depth survey carried out by JBA in 2021). It is water-filled and may represent a source of waterlogged archaeological deposits. Waterlogged deposits have the potential to include materials that would otherwise have decayed such as wood or textiles and therefore potentially have a high degree of archaeological significance.

4.8 A Water Environment Assessment has been conducted in line with Historic England Guidance (Preserving Archaeological Remains – Appendix 3 Water Environment Assessment techniques, HE, 2016). This study produced a Water Environment Baseline for the moat concluding that the most likely water supply mechanism to the moat is a combination of direct rainfall, surface runoff, and some shallow groundwater seepage/interflow. Anecdotal evidence suggests that the moat is water filled all year although the Water Environment Assessment did not identify conclusive evidence for the moat to be fed by a spring and its constituent water is demonstrably mostly comprised of run-off from the surrounding fields. As such, whilst the moat may well contain unrecorded waterlogged archaeological remains there is no evidence that its water levels are truly perennial, and it is possible that at times in its history it may have dried out. Episodes of drying would reduce the potential for the moat to contain well-preserved waterlogged material of high archaeological significance.

4.9 It is anticipated that the forthcoming programme of geoarchaeological work will provide conclusive evidence as to whether the deposits within the moat are archaeologically significant.

4.10 Notwithstanding the likelihood for 20th century disturbance, the archaeological potential of the interior of the moat is not known although the HER records stonework within it, suggesting the presence of buried building remains. A 19th century antiquarian author suggests that the moated site was the site of a manor house of the De Snedham family who are mentioned in the records of St Peter's Abbey, Gloucester in the 12th and 13th centuries AD (Bazeley, 1878) as well as in other medieval documents. It is presumed that the family gave their name to the nearby Sneedham's Green settlement to the west, a small hamlet on the edge of an area of Common land that may have originated as grazing land associated with the manor. The settlement is discussed further in the 'Medieval' section below.

4.11 The monument is located within the site and represents its greatest source of known archaeological potential. It is possible that additional archaeological remains might exist within the site, outside of the scheduled area, which are related to the moated site, such as extra-mural buildings, or other buried features. Evidence for such remains is potentially derived from aerial photographs and is discussed below.

4.12 The scheduled monument derives its significance primarily from its archaeological interest as defined by the extant moat, the deposits within it and any buried archaeological remains within the scheduled area that are related to the moated site. The monument also has a degree of historic interest as it illustrates the nature and appearance of the medieval landscape in the locality and is associated with the history of the De Sneedham family, the history of settlement at Sneedham and with the general history of the medieval aristocracy of Gloucester.

4.13 In accordance with Step 1 of the Historic England Settings Assessment Methodology (HE, 2015a), it is deemed likely that development of the site would result in change to the setting of the scheduled monument. As such the asset is identified for detailed setting assessment (Steps 2 – 4 of the Historic England methodology) which is discussed in **Section 5**.

Listed Buildings

4.14 There are no listed buildings located within 500m of the site boundary. The nearest listed building is the Grade II listed Thatch Cottage (NHLE: **1155001**), located c. 520m to the east. Another group of listed buildings are located at Winneycroft Farm, c. 600m to the north-east (NHLE: **1245086**, **1245087**, **1245088**).

4.15 All of these listed buildings are separated from the site by intervening fields bounded by hedgerows with Thatch Cottage also separated from the site by the M5 motorway and its tree-covered verges. Furthermore, following the development of Land at Winneycroft Farm the site would be separated from the listed building at the farm by modern houses. As such there is no visual link between the land at the site and any of these assets, and the site is not experienced from them or in conjunction with them.

4.16 The land at the site was historically part of the landholding associated with Snow Capel Farm, which lies to the south-west and so has no historical association with Winneycroft Farm or with any other listed buildings. Consequently, the land at the site makes no contribution to the significance of any listed buildings located within the wider countryside and these are not considered any further within this assessment.

Non-designated Heritage Assets

Records within the site

4.17 As noted above, one of the HER records within the site (HER: **425**) refers to the moated site that is a Scheduled Monument and described above.

4.18 One of the records refers to part of a wider record that records the survival of ridge and furrow earthworks across part of the locality including part of the site and adjacent fields (HER: **51203**). The record was derived from the analysis of aerial photography and LiDAR data. Such earthworks represent the remnants of field drainage systems that may date from the use of the land in the medieval period for open-field arable agriculture. Where

preserved, it is because the land later reverted to pastoral use and the earthworks were preserved within grassed fields.

4.19 According to the HER record, formerly such earthworks were recorded within the site both to the north-west and south of the moated site and may have been contemporary with the monument, reflecting its location within arable agricultural land in the hinterland of Gloucester. The earthworks were destroyed when the land was scoured, and spoil deposited across it during the construction of the M5 motorway in the late 1960s/early 1970s. The appearance of the earthworks and the later appearance of the field after their loss is illustrated in aerial photographs which are described in the relevant section below.

4.20 The third HER record relates to the extent of the geophysical survey that was carried out across the site in 2017 (GSB). The results of this survey are described in the relevant section below.

Paleolithic – Bronze Age (c. 1,000,000 – 800 BC)

4.21 There are no Palaeolithic–Bronze Age records on the Gloucester City HER within the site. A single record is located within the wider 500m radius study area.

4.22 In June 2014 an archaeological evaluation at Winneycroft Farm, Gloucester recorded a single piece of worked flint (HER **751**) found in an unstratified context. This find was undated and, on its own does not indicate the presence of an archaeological site.

4.23 Although it is likely that the locality was populated to a degree during these periods, the general lack of evidence suggests that either remains have not survived, have escaped detection or that populations were of a low density, and activity infrequent. Although the presence of remains from these periods occurring within the site cannot be ruled out, the lack of evidence in the study area suggests that the potential for remains is very low.

Iron Age - Roman (800BC – AD 410)

4.24 There are no Iron Age or Roman period records on the Gloucester City HER within the site, although a number of records have been recorded within the wider 500m radius study area.

4.25 A 'small quantity' of abraded Roman pot sherds were recorded from immediately adjacent to the site to the south-east at the foot of St Edmund's Hill (HER: **3822**). The pottery was found during the construction of the M5 motorway, and lead to an examination of the hillside above for any trace of settlement. This investigation did not identify any archaeological sites.

4.26 In June 2014 an archaeological evaluation at Winneycroft Farm (HER: **751**), across land to the immediate north-east of the site, recorded a series of buried infilled ditches and

pits containing pottery dating from the Late Iron Age and Roman periods. The archaeological features corresponded to a series of circular and rectangular anomalies previously identified by geophysical survey and have been interpreted as a small rural settlement site of the 1st and 2nd centuries AD consisting of a group of roundhouses associated with agricultural enclosures (HER: **752**). The settlement remains are located c. 40m from the north-eastern edge of the site.

4.27 The date range of the recorded pottery suggests that the settlement was contemporary with an increasingly large group of farmsteads known from the hinterland of Gloucester all of which were active in the 1st to 2nd centuries AD. However, based on pottery analysis, it remains undetermined whether the site was occupied from the late pre-Roman Iron Age or whether it was newly established in the immediate post-conquest period.

4.28 Residual Roman pottery was also recorded within the ditch fills of a group of medieval features (HER: 12908) recorded during an archaeological evaluation on land at Winneycroft Farm. Although part of the evaluated area is within the study area, the archaeological features were at the north end, c.640m from the site.

4.29 Roman period archaeological remains are common in the hinterland of Gloucester, which was a Roman *Colonia*. Given the frequency of finds in the locality and the recorded remains located 40m to the north-east, there is considered to be a moderate potential for Late Iron Age or Roman period remains to be present, as buried deposits within the site. Such remains would most likely consist of buried infilled ditches or pits, associated with agriculture, and would potentially be related to the farmstead identified to the north. Remains of this nature would be of low or moderate significance.

4.30 It should be considered that such remains, if present, would be buried beneath the deep deposit of made ground known to cover most of the site. It is also possible that archaeological features would have been disturbed by the scouring of the site that occurred when the land was degraded during the construction of the M5. Features found at Winneycroft Farm were between 0.2m and 0.5m BGL beneath topsoil and subsoil. Evidence from geotechnical work and trial trenching suggests that topsoil within the site is only partially preserved and therefore in areas where it was removed archaeological features, especially those at a shallow depth may have been disturbed or destroyed.

Early Medieval (AD 410-1066)

4.31 There are no early medieval records on the Gloucester City HER within the site or within the 500m radius study area.

4.32 The site was situated within the medieval manor of Sneedham. Sneedham was located within a complex boundary area between the parishes of Upton St Leonard and Matson. Neither Sneedham or Matson are mentioned in documentary sources before the 12th and 13th centuries and so are likely to have been established after the Norman Conquest. Upton St Leonards however was mentioned in the Domesday Survey, suggesting that the parish, as a territory, dated from the Anglo-Saxon period.

4.33 It is not known what the land at the site would have been used for during the early-medieval period. There is no evidence that it was in the immediate hinterland of any settlement and it may have been waste or woodland prior to the establishment of the Sneedham manor in the medieval period. Given the lack of evidence for archaeological remains from the early medieval period in the study area there is a very low possibility of remains being present within the site.

Medieval (AD 1066-1485)

4.34 There are two records from the medieval period recorded on the Gloucester City HER within the site, and five of this date are recorded within the 500m radius study area.

4.35 The moat and former ridge and furrow earthworks located within the site have been discussed above.

4.36 As previously noted, the moated site is thought to have been occupied by a manor house, from the 12th and 13th centuries with documentary evidence suggesting that it was the residence of the Norman nobles the 'De Sneedhams' who gave their name of the manor of Sneedham. Based on sources considered in this assessment, the history of the manor is not well understood. It probably included the present common land at Sneedham's Green, located to the west of the site.

4.37 Whilst the Green is not of a definitive medieval origin it is depicted on the Tithe Map of Upton St Leonard's Parish dating from 1840 (**Plan EDP 3**) with several farms and other dwellings set around it and on an 'island' of land at its centre, comprising the small manorial hamlet of Sneedham's Green. The Green appears to have formed at the confluence of four local routes between villages and was probably used for grazing animals being driven along these routes, forming a central feature with the small settlement.

4.38 The moated manor house is adjacent to the Green and it is likely that the settlement developed in the vicinity of the manor, probably as a group of farmsteads and cottages that served it and farmed the land around it. It is probable therefore that the 19th century settlement pattern of scattered dwellings around the edge of the Green, with the former manor house to the east, evolved from a similar settlement pattern established in the medieval period, albeit within a more open landscape defined by broad open agricultural fields. It is not currently known whether there are medieval remains located at or around the Green and the area has not been subject to archaeological investigation.

4.39 The two archaeological trenched evaluations at Winneycroft Farm, as mentioned above, both recorded buried remains of a medieval date. The evaluation trenches to the immediate north of the site (HER **751**) recorded buried infilled furrows, evidence of medieval arable agriculture across this area.

4.40 The evaluation trenches carried out across the north part of Winneycroft Farm recorded, at the northern end of the evaluated area, buried infilled ditches and pits thought to

represent the remains of a small medieval settlement (HER: **796**) c. 640m to the north-east from the site, reflecting a pre-cursor to the later farm at Winneycroft. The features contained pottery, animal bone and nails and were dated through the analysis of these finds to the medieval period.

4.41 Another archaeological evaluation at Gloucester Golf Club, c. 320m to the north-west of the site recorded buried archaeological remains related to a ditched enclosure (HER: **12647**), dated to the medieval period, within a former extent of ridge and furrow earthworks (HER **50559**).

4.42 Part of a medieval trackway is located within the study area that was possibly aligned on the settlement remains at Winneycroft Farm (HER: **48535**). The track has been partially obscured by the M5 motorway but traces of it are present as archaeological earthworks in a field to the east of the motorway. There is no indication that the track crossed the site or related to any other track across the site.

4.43 Cutting across the far eastern extent of the study area are the remains of a medieval road (HER: **9665**). The road is projected between Gloucester and Cirencester and in places consists of an extant hollow way, although much of its route is obscured by modern roads. The section within the study area follows the route of a modern road.

4.44 The HER also maps extensive areas of former ridge and furrow earthworks across much of the landscape surrounding the site (HER: **50112**, **51203** and **50559**). These areas are based on evidence (where available) from archaeological investigation as well as historic aerial photographs. In only a few areas are ridge and furrow earthworks still extant features within fields. The presence of these remains suggests that the site was located within an area that was, in the medieval period, dominated by arable agriculture within large open fields.

4.45 Due to the presence of the moated manor and, due to evidence for the site having formerly contained ridge and furrow earthworks, there is a moderate potential that the site contains related, unrecorded buried medieval archaeological features. Such remains would almost certainly relate to medieval agricultural activity and possibly remains of settlement activity associated with the manor. These could potentially be of moderate significance, although are most likely to comprise agricultural remains (such as infilled furrows) of low or very low significance.

4.46 As for Iron Age and Roman archaeology, medieval archaeological remains, if present, would be buried beneath the deep deposit of made ground known to cover most of the site. They would also be likely to have been subject to disturbance when the site was scoured during the construction of the M5 motorway and archaeological features, especially those at a shallow depth may have been disturbed or destroyed.

Post-Medieval (AD 1485 – 1837)

4.47 There are no records from the post-medieval period on the Gloucester City HER within the

site. Within the wider study area is a single post-medieval asset, a post-medieval ditch recorded during the 2014 evaluation at Winneycroft Farm (HER **751**).

4.48 The buried infilled ditch was located c.220m north of the site and was found to correlate with a ditch shown on the 1841 Tithe Map of Upton St Leonards.

4.49 During the post-medieval period, it is not known when the moated site went out of use, although it is apparent that this happened before the mid-19th century as it is not depicted on the 1840 tithe map, with the southern part of the moat incorporated into a field boundary. Likewise, it is not known if the settlement at Sneedham contracted or expanded during this period. It is assumed that, as there are no deserted settlement remains recorded at Sneedham, that the settlement remained of a similar size to that as depicted on the earliest maps dating from the mid-19th century, with a dispersed pattern of farms and cottages set around the green.

4.50 The site is known to contain the buried remains of ditched boundaries, that are apparent on historic maps. The archaeological evaluation targeted one of these known to have been adjoined to the southern part of the moat. As detailed below, it was found to be entirely disturbed and to have lost all of its cut form as an archaeological feature. It is expected that other post-medieval boundary ditches within the site are also similarly disturbed, having been infilled when the site was scoured prior to spoil deposition when the M5 was built. Such features would possess no remaining archaeological interest.

Victorian and Modern (AD 1837 - present)

4.51 There are no records from these two periods on the Gloucester City HER within the site. Within the 500m study area four assets are recorded that date from the modern period.

4.52 The study area appears relatively unchanged throughout the Victorian period, remaining predominantly agricultural and seemingly unaffected by industrialisation. The section below on Cartographic Sources describes the site and its hinterland with reference to historic maps produced during this period.

4.53 All of the records on the HER relate to the early – mid 20th century and are military in character. The earliest is a record of an early 20th century rifle range, The Gloucester Rifle Range, located c. 170 m to the south of the site (HER: **46617**). The range was operational between 1920 and 1926.

4.54 Three HER records relate to Second World War military activity. A military depot was located at Sneedham's Green (HER: **48391**). The depot occupied two sites, either side of Homestead Farm (which occupies the central 'island' on the green). Both sites were of a similar size and were occupied by Nissen type huts. The depots were thought to have been used as a dispersal or overflow site for either of two nearby military camps, RAF Quedgley or an army camp on Robin Wood Hill. Remains of the huts are notable, seen on aerial photographs as cropmarks on the green.

4.55 The other Second World War sites are both related to the defence of the city of Gloucester, which would have been a target for German bombing. A search light battery was located at Sneedham's Green, adjacent to Snow Capel Farm, c. 110 m south-west from the site (HER: **27069**).

4.56 The battery (no. 349 CL08 B2) is likely to have comprised a small ring-ditch to provide the crew with shelter during an air raid, a predictor emplacement for calculating the height and range of targets, a light anti-aircraft machine gun pit, a generator and hutted accommodation for the crew. The HER notes the earthwork remains of a circular ditch and a hut platform although these remains are now thought to have since been ploughed and probably no longer exist.

4.57 The final record relates to a Heavy Anti-Aircraft battery located on land at Croft Farm, c.450m to the south-east of the site, of which only a small part is located within the study area (HER: **43040**). The battery was a fairly large installation with a command centre (the extant remains of which are a Grade II listed building), a camp housing 400 troops and four, gun emplacements. The listed structure is located outside of the study area, c. 700 m from the site and would not be sensitive to the proposed development.

4.58 Although Second World War remains are present near the site there is no evidence to suggest that any of this activity extend to within it. As such there is very little potential for buried remain or other remains from this period occurring within the site.

Previous Archaeological Investigation

4.59 The following paragraphs provide a summary of the previous archaeological investigations recorded by the HER within the study area. HER Event records are reproduced on **Plan EDP 2**.

4.60 Of all of the HER records, 19 relate to archaeological events. Of these, 14 relate to either geophysical survey or intrusive archaeological investigations that might provide information relevant to the assessment of the site's archaeological potential. The other records all relate to non-intrusive activity such as desk-based assessment, building survey, field survey or conservation reports and thus are of little relevance to understanding the site's archaeological potential. These types of records are not considered any further.

4.61 The record located within the site (HER: **1274**), that relates to geophysical survey has been discussed already above.

4.62 Four of the records (HER: **751**, **745**, **742** and **10264**) relate to geophysical survey and two phases of archaeological evaluation that took place on land around Winneycroft Farm to the immediate north-east of the site. The aspects of this work that identified archaeological remains have been discussed within the period sections above.

4.63 Likewise, archaeological evaluation at Gloucester Golf Club (HER: **12646**), which identified medieval remains has also been discussed above.

4.64 Three of the records (HER: **33928**, **34284** and **50109**) relate to geophysical survey, archaeological evaluation and excavation that took place on land to the north and south of the M5 motorway as part of the Gloucester Gateway project. The area of investigation was at its closest point c. 490m to the south-west of the site. the excavations identified two rectilinear enclosure ditches and a trackway, all of Roman period date.

4.65 Four of the records relate to small scale archaeological works that did not record any archaeological remains. For example, a single trench evaluation (HER: **878**) carried out at Bazeley road in Matson, Watching briefs (HER **1232** and **1233**) at Hillview Cottage and The Villa, both at Sneedham's Green and, an archaeological evaluation (HER: **1234**) carried out at a small site on Matson Lane, c. 500m to the north-west of the site.

4.66 The archaeological work in the study area supports the assessment above that the site has a moderate potential to contain Roman period and medieval archaeological remains. As noted previously, it is possible that such remains might not survive given the treatment of the site when the M5 was constructed in the 1960s/1970s.

Cartographic Sources

4.67 The earliest available map to depict the site is the Tithe Map of Upton St Leonard's parish dated to 1840 (**Plan EDP 3**). The map shows the land at the site situated across three large, irregular fields. The moated site is not illustrated although, as part of the field boundary, the ditch that follows its southern part is. The field name of the field in the northern part of the site is given kin the Tithe Apportionment that accompanies the map as 'Day House Mead' a possible indication of the former manor house that would have once been in the field or possibly a reference to a dairy house having been present in this location.

4.68 The fields are irregular with some curved and right-angled boundaries. Coupled with the evidence for former ridge and furrow earthworks at the site, this suggests that the boundaries enclosed furlongs within a medieval open field.

4.69 The site is next depicted on the First Edition Ordnance Survey map of 1884 (**Plan EDP 3**). This map shows a similar field layout to the tithe map. It also shows the moated site in full, with an indication of an earthwork aspect to the southern return that is incorporated into the field boundary.

4.70 Later ordnance survey maps show a similar layout with little change at the site until the late 1960s/early 1970s when the M5 motorway was built. This period in the site's history is better documented by aerial photographs which are discussed below.

4.71 The historic maps consulted do not indicate the potential for any archaeological remains not otherwise known about from other sources.

Aerial Photographs and LiDAR

4.72 A total of 44 vertical and 7 oblique aerial photographs, covering the site and its immediate environs, were identified within the collection maintained by the Historic England Archive in Swindon. Extracts from two of these images are reproduced at **Plan EDP 6**.

4.73 The available images span the period from April 1946 to June 2008 and add detail to the land use and development sequence shown on historic maps.

4.74 The images from 1946 (**Plan EDP 6**) were taken with low light levels and pick out clearly earthwork features within the site that have since been destroyed. Ridge and furrow earthworks are clearly visible to the north, north-east and possibly to the west of the moat. The land to the south and east of the moat does not appear to have such earthworks although drainage ditches are present that do not have the same form and are probably much later.

4.75 Field boundary ditches are also present, some of which are lined with hedgerows and trees although some, to the north-east of the moat only survive at this time as ditches. Within the enclosure of the moat, although obscured by shadows appear to be other narrow linear ditches. These are likely to be drainage features and it is doubted that they had any relevance to the moat's medieval archaeology. These ditches are no longer present in the area enclosed by the moat.

4.76 Later aerial photographs do not illustrate archaeological earthwork features quite so clearly. An image from 1955 (An extract is at **Figure EDP 1**) shows well the water bodies associated with the moat. The northern part (which is extant) is slightly larger than at present with an extended part at its north-west corner. It may be that originally the moat was at this width along its entire northern return but had since silted up and reduced in width. The southern part of the moat is represented by a widening of the field boundary ditch which runs into the former moat from the east. To the west, this wider ditch then remains broad until it meets the brook that runs along the western edge of the site. This difference in character between the ditch to the west and those to the east of the moated site may suggest that this western ditch could have been established at a different time and it may have been associated with the function of the original moat, draining its water to the west into the brook.

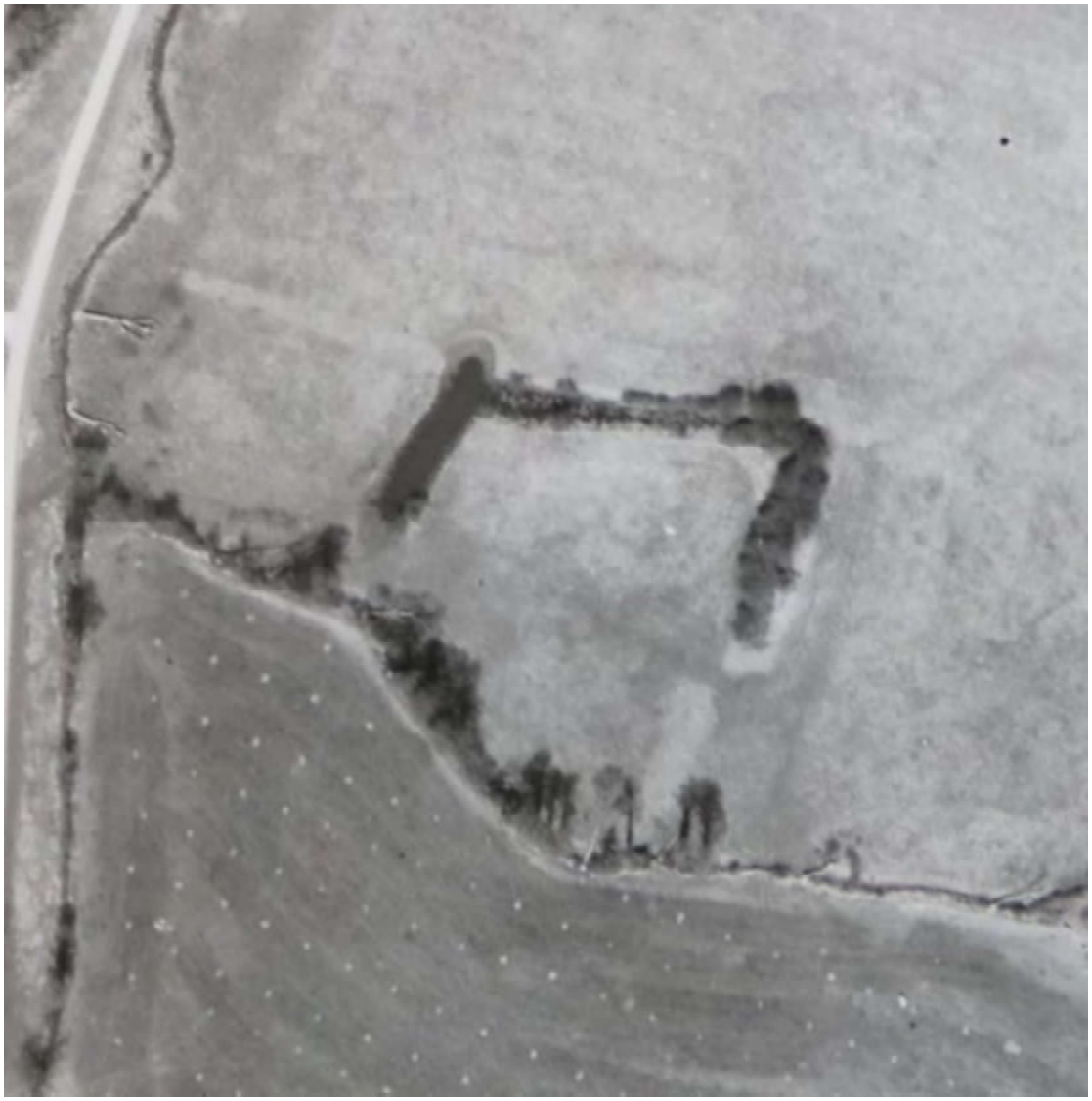

Figure EDP 1: Extract from aerial photograph taken 15 April 1955 (RAF/82/1152) showing a close up of the moated site.

4.77 On the western side of the moat, at the point where the southern and northern parts of the moat almost meet, the southern part is wider, protruding to the north, towards the south-western end of the western return. This may suggest that the two terminal ends once met at this point or, it may be that a narrow causeway between the two ends was always present, representing a western entrance to the enclosure. An entrance on this side would have allowed direct access to the Green, its road network and any settlement that might have once been located there.

4.78 The image also shows a light-coloured cropmark that relates to the eastern part of the southern return of the moat where its former course diverged northwards from the later field boundary. Evidently this part had been infilled by 1955. The image clearly shows a causeway between the two terminal ends of the moat on this side that was probably an entrance on the eastern side the moat. An entrance on this side of the moat may have linked, via a track, to the medieval road, c. 650m to the east that is recorded by the HER

(HER: 9665) running between Gloucester and Cirencester, allowing direct access to the road from the manor.

4.79 Another light colour cropmark is present as a straight, linear mark running from the north-western corner of the moat west to the brook. It is likely that this may have been a ditch (of uncertain date) designed to drain the northern part of the moat that had been infilled by this time. Remains related to this ditch and any tracks leading from the moat might be expected to be buried within the site although, as for any unrecorded archaeological remains, they are likely to have been disturbed when the M5 was constructed.

4.80 The 1955 image also has vague, dark marks within the moated enclosure that might reflect cropmarks of its former buildings. However, these are indistinct and cannot be taken as evidence of buried archaeological remains.

4.81 An image from 1970 (**Plan EDP 6**) presents clear evidence for the site's disturbance during the construction of the M5 motorway. The image shows the motorway under construction with direct entrances from the site to the strip in which the motorway is being built. The images appear to show the site and the small field to the north-west scraped and scoured across its entirety including the interior of the moated enclosure. This action clearly removed all of the earthworks present within the site that are detailed in the 1946 image including the field boundaries. Only a strip on the north-west edge of the site appears to be relatively undisturbed. It is presumed that this action was to prepare the ground for the deposition of spoil which evidently then occurred.

4.82 LiDAR data was processed, and a multiple-hill shades model was deemed the best for appraising the site. The LiDAR image (**Plan EDP 5**) shows quite clearly an even and smoothly finished, flat mound of earth across most of the site (and the small field to the north-west) that makes the land at the site stand out against the lower ground surface of surrounding land. There is strong contrast between the well-preserved ridge and furrow earthworks present across the land to the north-east and the land at the site that is devoid of such features. The remains of the moat are illustrated set within a dip in the landscape, having been spared the infill and deposition that occurred across the southern part of the moat remains.

4.83 The aerial photographs and LiDAR data document well the history of the site, and of the moated site within it, over the course of the second half of the 20th century. It is clear that the site has lost a considerable amount of its archaeological interest and that its landscape character was altered when it was used for spoil deposition during the construction of the M5 motorway. Prior to this episode, the site contained ridge and furrow earthworks, and the remains of the southern part of the moat, that reflected its medieval history. Its later post-medieval development was preserved in the field boundaries that crossed it and which evidently related to the form of the medieval landscape in which they were created, incorporating part of the moat.

4.84 All of this historic character and its evidential archaeological interest was removed when the site's upstanding features were levelled and graded, and the site used for spoil

storage, during the construction of the M5 motorway, which raised its ground surface by up to 4.6m in the eastern part of the site. Only the northern part of the moat remains as a remnant of this historic landscape albeit now located in an artificial setting within a basin within the spoil tip. The influence of this setting on the significance of the moat is discussed further in **Section 5**.

Site Walkover

4.85 The site was visited in in February 2017 and December 2020 to assess the current ground conditions and topography within it, as well as to confirm the continuing survival of any known archaeological remains and to identify any hitherto unknown remains of significance.

4.86 No evidence for archaeological remains was noted within the site and it was observed that the site is clearly capped across most of its area by made ground. No previously unrecorded archaeological earthworks were noted.

Geophysical Survey

4.87 A geophysical survey (magnetometry) was carried out across the whole site including the interior of the moat enclosure (GSB, 2017; **Appendix EDP 3**).

4.88 The survey did not record any anomalies of definite archaeological origins. It did record the former field boundary ditch that is illustrated on historic maps and was infilled when the M5 was constructed. It also recorded some uncertain curvilinear forms and ferrous responses.

4.89 As it picked up the former boundary, it is evident that the survey was able to detect responses from below the deposit of spoil that lies across the site, at least for substantial features such as the former boundary ditch/moat. The ferrous and other uncertain magnetic responses are probably due to modern materials within that spoil. If archaeological remains are still present within the site, they are evidently not magnetically responsive enough to be picked up by the geophysical survey being beneath the layer of spoil which is several metres thick in places.

4.90 Given ground conditions at the site, the survey results are therefore inconclusive demonstrating only the existence of the buried remains of a former boundary ditch and no other archaeological features.

Trial Trenching

4.91 Following discussion with Andrew Armstrong of GCC it was agreed to undertake a limited archaeological evaluation of the site. The objectives of this work were set out in a Written Scheme of Investigation (WSI: Headland Archaeology, 2020). It was agreed to dig three

exploratory trenches that would be positioned so as to assess the extent of made ground (spoil) deposited across the site and the level of disturbance that occurred during the construction of the M5.

4.92 Two of the trenches (Trenches 2 and 3) were positioned to test the presence of made ground on the north-western side of the site. A third (Trench 1) was positioned across the former boundary ditch to the west of the moat in order to test the state of preservation of this feature and, if possible to sample its deposits which might be expected to be directly related to the southern side of the former moat.

4.93 The results of the trial trench evaluation are in a report at **Appendix EDP 4** (Headland Archaeology, 2021). In summary the trenching concluded:

- No features of archaeological interest were identified;
- In all of the areas trenched there was a layer of overburden (from the construction of the M5) at between 1 and 2m in thickness. Trench 3 could not extend to the edge of the overburden (which is anticipated to be in the north-west corner of the site) due to the presence of a buried service;
- Trench 1 was targeted on the ditch to the west of the moat but only identified this feature as a dark mass of redeposited clay and part of a buried tree. The cut of the ditch was not found and, it was concluded that feature had been dug out and backfilled during the M5 construction works; and
- A possible buried topsoil layer was identified in some locations however it was not present in all the trenches suggesting a patchy survival across the site by which parts of the topsoil had been removed. This is consistent with the 1970 aerial image (**Plan EDP 6**) which shows the site scoured but with dark patches (that are probably topsoil).

4.94 In conclusion, the trial trenches confirmed the likely treatment of the site suggested by the geotechnical data and aerial imagery in the late 1960s early 1970s when the ground surface was disturbed during the construction of the M5. This disturbance evidently resulted in the levelling of upstanding features, the backfill of former field boundary ditches and the partial removal of topsoil (presumably by bulldozers levelling and grading the land surface to prepare it for spoil deposition). Subsequently a deposit of spoil (upcast from the motorway cutting) was made across most of the site (although possibly not the far north-western side).

4.95 This activity certainly destroyed any understanding features in the site including the remains of the southern part of the moat, which are likely to have been treated in the same way as the ditch that was evaluated and have probably lost much if not all of their archaeological, evidential interest. It probably also resulted in some truncation and partial destruction (at least) of any buried archaeological remains, in all but perhaps the north-western edge of the site, particularly those located at shallow depths.

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Section 5
Assessment

5.1 The following section provides an assessment for both physical (direct) impacts and effects on the settings of heritage assets based on the development proposals. The masterplan is included at **Appendix EDP 1**.

Physical (Direct) Impact Assessment

Designated Heritage Assets

5.2 The proposals would result in direct physical impacts upon the Scheduled Monument *Moated site at Sneedham's Green, 220m north east of Green Farm* (**1019399**).

5.3 For biodiversity enhancement purposes, the part of the monument that is located outside of the fenced area, will be seeded with a wildflower and grass mix. Preparation for this seeding will require the use of a rotavator to break up the surface of the topsoil. Typically, this will be down to c. 20cm. the rotavator will only be applied to the part of the monument that is covered with made ground and so the action of the rotovator will not disturb any unrecorded archaeological features related to the monument's archaeological interest which would be buried beneath.

5.4 The fence that encloses part of the scheduled monument will be replaced with a wooden post and split rail fence. The installation of the fence will require additional post holes to be dug within the scheduled monument area. These would be c. 60cm deep and c. 40cm in diameter. Whilst Scheduled Monument Consent will be required for this work the potential for archaeological impacts would be very minimal and the fence will improve the appearance of the monument's setting (discussed below).

5.5 This very minimal impact to the ground within the scheduled monument would result in a very low degree of harm to its significance.

Potential for hydrological impacts

5.6 The Water Environment Assessment (JBA, 2021) has identified potential for the development of the site to result in a reduction in water inputs to the moat. These could potentially occur due to decreased surface water runoff, due to installation of site drainage, and reduced groundwater seepage, due to the excavation of surface material as part of the foundation design.

5.7 Whilst this could result in the drying of the moat water body, the Water Environment Assessment found no evidence for the current supply of the moat by a groundwater spring source beneath its base and thus no concerns were identified regarding the hydrochemical signature of the water, which indicates that it is mostly derived from surface run-off. As such, a supplementary water supply can be incorporated into the

development's drainage design which can facilitate the maintenance of a continuous water level in much the same way as surface run-off presently does.

5.8 The Water Environment Assessment recommends the ongoing monitoring of the moat water levels prior to, during and post construction alongside development of an appropriate drainage strategy to support the long-term preservation of the moat water body.

5.9 The proposed development includes a surface drainage strategy that accommodates the moat's present surface drainage catchment (Drainage Strategy, DDP, 2022, 3880-200) The system will utilise cellular storage tanks to receive the surface run off water that would be located c. 10m to the north-east of the scheduled monument and at their deepest c. 1.7m Below Ground Level. As run off from an impermeable surface (such as bult development) is quicker than the current impermeable situation the system would include a flow control chamber with a sump so as to restrict discharge rate in line with the existing field's run off rate.

5.10 The system is designed to discharge water towards the moat from the north at a headwall set back from the northern edge of the scheduled monument by c. 10m. The headwall would have a cobbled, stone finish so as to ensure a naturalistic look, it would have a flow separator to minimise downstream erosion and outflow into a splayed, grassed area set with stone boulders in order to disperse the flow of water. The system would utilise Sustainable Drainage features (SuDs) designed to remove contaminants from the water such as swales and, would be managed and maintained by an approved management company.

5.11 Near-surface groundwater seepage, which is a minimal contributor to the moat's water would not be affected by the proposed development, as much of that seepage would come from the surface water catchment described above that is factored into the drainage scheme. As such this water would be captured and issued back to the moat. Furthermore, as no foundations would be dug within c.50m of the moat the open space to the south and east of the moat will still provide an opportunity for localised near surface water seepage into the moat.

5.12 With this system in place DPP, the project's drainage engineers state that the moat will continue to be supplied with surface water as it is at present and of at least the same quality. The status quo will be maintained with the moat water subject to the same environmental factors as at present, i.e. as susceptible to drought as it is at present, albeit with the risk of flooding controlled. As such, preserved archaeological deposits within the moat will not be subject to any additional risk or impact as a result in the change in the moat's water supply mechanism.

Non-Designated Heritage Assets

5.13 The impact of development on non-designated heritage assets would be restricted to impacts on below ground archaeological remains within the footprint of the development.

5.14 Given the site's previous disturbance during the construction of the M5 it is likely that archaeological remains within the site are probably disturbed and any such remains would mainly be located beneath a thick layer of made ground in all but perhaps the north-western part of the site.

5.15 Building Foundations would comprise piles which would extend into the natural subsoil beneath the made ground with 1m depth foundations and service trenches above which for most of the site would not penetrate below the made ground.

5.16 As such, impacts would be restricted to the limited footprint of piling across most of the site but would be more complete in the north-western part of the site where made ground is known to be thinner.

5.17 In conclusion, there is no known archaeology within the site other than the course of a post-medieval ditch which is known to be heavily disturbed. Unrecorded remains (such as Iron Age or Roman period remains related to the known adjacent archaeological remains to the north-east) could potentially be affected by foundation design and there it is concluded that there is a moderate potential for unrecorded remains within the site to be subject to harm from the development, should they exist.

Settings Assessment

5.18 In accordance with Paragraph 194 of the NPPF, this section describes the significance of those heritage assets deemed to be capable of being affected by the development, including any contribution made by their setting.

5.19 Having identified heritage assets with the potential for their settings to be affected by the site's development, Step 2 of the HE settings assessment process examines these assets in greater detail, defining their settings, and identifying the degree to which these settings make a contribution to the significance of the assets, or allow their significance to be appreciated.

5.20 This includes an understanding of whether the site forms a part of the asset's setting, and if it does, whether and to what degree it contributes to the significance of the asset in question.

5.21 Step 3 then assesses whether the development as proposed (see **Section 1** for description) would be likely to result in a change to that contribution, such that the development is either beneficial or harmful to the significance of the asset in question.

Designated Heritage Assets

5.22 With reference to the baseline position as presented in **Section 4**, only a single heritage asset is considered as being sensitive to effects on its setting from the proposed development. All other assets have been scoped out of the assessment.

Scheduled Monument, Moated site at Sneedham's Green, 220m north east of Green Farm (1019399)

Description

5.23 The scheduled monument, its significance and its historic development has been described at **Section 4** above and is not repeated here.

Setting and Contribution made to Significance

5.24 Whilst the majority of the monument's significance is derived from its physical remains, a smaller proportion is derived from its setting.

5.25 The remains of the Moated site at Sneedham's Green are located within an enclosure defined by a post and wire fence roughly at the centre of a field of pasture utilised for grazing livestock (**Images EDP 1** and **2**). Being as setting is defined as '*the surroundings in which a heritage asset is experienced*', the primary experience of the monument is as a linear pond, lined with and containing reeds and with scrub vegetation and trees at its eastern end located within a grassed field.

5.26 As described already, the field in its current form originated in the late 1960s/early 1970s, following the amalgamation of several fields, and loss of former boundaries during the construction of the M5 motorway. The fields that were amalgamated originated in the post-medieval period, as enclosures of agricultural land, with their form based on the prior medieval agricultural pattern.

5.27 A considerable proportion of the field (c. 90%), excluding a strip on its north-west side, and extending across most of it, is covered by a levelled and graded 'cap' of spoil deposited during the construction of the M5. The spoil causes the field's ground level to rise to the east and, adjacent to the monument, the edge of this layer is apparent as a gentle scarp looping around the moat, which then appears to sit within a shallow basin that is open to the west. This edge is clearly visible on LiDAR visualisation (**Plan EDP 6**; **Images EDP 2** and **3**).

5.28 The wider surroundings, beyond the site consist mainly of farmland defined by hedgerows, although the southern extent of the Gloucester conurbation at Matson is located only c. 180m to the north and houses at the urban edge as well as a light industrial building can be seen from the monument (**Images EDP 4** and **5**). The consented development, Land South of Winneycroft Farm, (part of the *Strategic Allocation A6 – Winneycroft* in the JCS), will result in the loss of most of the farmland to the north and north-east of the site with housing c. 80m to the north-east, as well as sports pitches across the field to the immediate north-east of the site. In this respect the monument's setting to the north will lose its rurality and the site will adjoin the southern edge of Gloucester at Matson once the residential development of the former Winneycroft Farm site is completed.

5.29 This change to the monument's setting was acknowledged in Gloucester City Council's evidence base for the JCS Examination which related how the moat's setting is no longer 'rural' and is now better described as 'urban edge' (**Image EDP 5**).

5.30 To the west is a field boundary and the Sud Brook, beyond which is the road Winneycroft Lane, and the open grassed land and adjacent houses at Sneedham's Green. As noted previously, the Green is an area of common land consisting of open, marshy grassland. Several dwellings are located on the edge of the green including some within an 'island' plot located within the centre of the green most of which is occupied by Homesteads Farm.

5.31 To the south-west of the site are the farmsteads, fields and outbuildings of Green Farm and Snow Capel Farm which are separated from the site by hedgerows. The field's south-east boundary is defined by the M5 motorway which is set within a cutting. The sound of traffic on the motorway is present across the site.

5.32 Topographically, the moated site is situated within a gap between two steep sided hills, Robins Wood Hill to the north-west and Cud Hill to the south-east. Both hillsides are visible from the site, with their wooded slopes, fields and scatted dwellings adding to the rural aspect of the scene.

5.33 In understanding how the setting of the monument contributes to its significance it should be considered that HE previously stated that '*The setting of moated sites consists of their rural location; most were supported by the rich farmland around them. That link to the countryside provides a substantial part of the monument's significance.'*

5.34 Given the encroachment of the urban edge of the town from the north and the imposition of the M5 motorway, and the changes to the landform around and across the monument that accompanied the motorway, there is little remaining within the setting of the moat that reflects its historic setting of rich farmland, and thus has a historical or functional association with it. However, the landscape does contain features that do retain an historical association with it.

5.35 As described previously, the levelling that occurred during the construction of the M5 and the subsequent deposition of spoil around the moat removed earthworks, ditches and field boundaries from the field around the monument that had an association with it. With these features gone, there are no remaining earthworks or hedgerows within the field that reflect the character and appearance of the monument's historic setting. Ridge and furrow earthworks are preserved in the fields to the north-east which reflect remnants of the medieval agricultural landscape within which the moat was built. These will also be removed by the consented development on Land South of Winneycroft Farm, along with any contribution that they make to the monument's significance.

5.36 A key survival in the landscape which does retain an historic association with the moated site is the settlement and open land at Sneedham's Green, along with the brook that runs along the site's western boundary. The brook appears on historic maps and may once have taken water from the moat. As described in **Section 4**, the settlement is likely to

have been associated with the manor house enclosed by the moat, developing around a Green at the junction of several roads. A possible, causewayed entrance on the western side of the moat may have been designed for access between the manor house and the settlement.

5.37 Nowadays, the settlement at Sneedham's Green does not contain any medieval dwellings, indeed its northern edge is defined by modern development but, on account of its status as common land the Green has retained its historic form and its openness (**Image EDP 6**). The Green is not easily experienced from the remains of the moat, with views for the most part screened and filtered by the hedgerow that separates the Green from the site (**Image EDP 7**). As such, the association is not readily experienced and is of a historic and spatial nature, rather than because of any direct visual relationship. Consequently, the presence of the Green and the historic settlement pattern that it reflects, makes only a low contribution to the significance of the moat.

5.38 The field in which the monument lies (the site) has lost its historical earthworks and boundary features and the changes to its topography from 20th century spoil deposition damaged the moated monument and have resulted in the remains of the moat being located within a depression. This topographic situation gives a false impression of the monument's setting, given that, historically the surrounding field was at a different ground level. The open grassed aspect of the field is the only aspect that has any positive relation to the moat, simply on account of the openness allowing for the monument to be seen from a grassed space, reminiscent of the pastoral nature of the field before its modification. Nevertheless, this experience, although facilitated by the field's openness is of the monument, now only partial, within a setting in which the ground levels have been artificially raised and so bears little relevance to its history and historic function.

5.39 On this account the surrounding field in which the remains of the monument are located and seen from are neutral in terms of its significance, neither harming it, as the monument remains can still be appreciated, but not enhancing it, as the experience givens a false impression of its historic setting and reflects none of its historic function.

5.40 Beyond the field surrounding the monument, due to the hedgerows which bound the site, the monument is not readily experienced and the main aspects of the wider landscape that contribute positively to its significance are those elements that have a demonstrable historic association with the monument, and therefore contribute to its historic interest, such as the Sneedham's Green settlement.

5.41 As noted above, the moated site was built within a rural location. Aspects of the wider landscape reflect that rurality, such as the site's hedgerow boundaries, the Sud Brook, the farm buildings and farmland at and around Snow Capel and Green Farm to the south-east and the countryside backdrop provided by the adjacent hillsides. All are aspects of the monument's setting that are experienced in views across it, and with it, and which retain a degree of countryside character in the monument's setting.

5.42 However, these features are the products of the post-medieval and modern period and reflect little of the monument's original, medieval countryside setting which would have

mostly comprised open fields defined by ridge and furrow with the settlement at Sneedham's Green to the west. The moated manor was probably linked to the surrounding landscape with tracks to the west and to the Gloucester-Cirencester road to the east however these have been entirely lost and the monument is now isolated in a landscape that overwhelmingly reflects later periods in its character. As such, these post-medieval and modern 'rural' elements of the moated site's setting contribute to its significance to only a very low degree.

5.43 Modern elements of the wider landscape are generally negative in their influence on the monument's significance. The encroachment of the urban edge to the north, has resulted in the degradation of the monument' s rural setting to the north, including the loss of ridge and furrow earthworks in its wider setting. This 'urbanisation' has caused a low degree of harm to the monument's significance.

5.44 The M5 motorway is also considered to represent a negative aspect of the monument's setting. Although set within a cutting, and thus not visible form the monument, the presence of the motorway is apparent from across the site as traffic using it creates a constant noise that disrupts the tranquillity of the countryside in this area. This noise further degrades the 'rural' quality of the monument's setting, distracting from any impression of the monument as being set within an undisturbed countryside setting. The presence of the motorway detracts from the monument's significance to a moderate degree.

Impact of the Proposed development

5.45 The proposed development would result in change to the setting of the scheduled monument. A more detailed assessment of the impact of the proposed development upon the setting of the scheduled monument is given in the Cultural Heritage ES Chapter.

5.46 With reference to the plan at **Appendix EDP 1**, the monument would be located within a green, open space with the moat remains at its centre. Houses would be located on the northern, eastern and southern side of the site, approximately 45m from the moat itself. The scheduled monument boundary would, at its closest point, be c. 5m from the houses at its southern tip; a part of the monument that is underneath the spoil cap.

5.47 The houses would be set on cul de sacs with access to Winneycroft Lane at the north-western edges of the site and an emergency access to the south-west. Those positioned on the inner edges would face towards the monument and have a high-quality design. These would be fronted by a walking route around the perimeter of the open space. A walking route would also be created running along the western edge of the site.

5.48 To the east of the scheduled monument on ground that is higher than the moat and from where a perceptive view across it can be had a space is proposed for heritage interpretation. This will include an information board which would be positioned to describe what the viewer is seeing as they look across the moat with Sneedham's Green in the background.

5.49 Within the open space surrounding the moat occasional trees and shrubs are proposed (outside of the scheduled monument area) as well as a hedgerow following the course of the former field boundary that once crossed the site. This feature would run along the south-west side of the scheduled monument (but outside of the scheduled monument) effectively marking its location in the landscape. The hedgerow on the site's western boundary would be thinned out to provide glimpsed views to the west towards Sneedham's Green from the site's interior.

5.50 As noted above, the monument is already located close to the urban edge, a process that is set to increase with the development of neighbouring land. Following the site's development, the monument would be within this urban environment, all be it still close to the edge of the conurbation.

5.51 Nonetheless, with the site's development, the proposed houses and related infrastructure would not result in the loss of any upstanding remains related to the monument and would be constructed across a 'false' land surface that is already demonstrably out of character with the moated site's original setting. A degree of the field's present quality of openness would be retained around the monument, which would be perceptible in the field and occupy a prominent position at its centre. The monument would continue to be experienced within a grassed open space but with a backdrop to the north, east and south defined by the presence of houses.

5.52 In order to accentuate the historic connection in the landscape between the monument and the settlement at Sneedham's Green to the west, the western aspect of the monument would remain open and, it is proposed to reduce the density of the field boundary hedgerow on the western edge of the site in order to open up views between the monument and the Green. This appreciation would be particularly apparent from the walking route that would run along the site's western edge, and from the interpretation area posited on it, from which both the monument and Green would be experienced together.

5.53 An additional benefit for the monument will be the provision of a Heritage Management Plan in order to protect and conserve its remaining fabric moving forwards, including its water levels.

5.54 Whilst the presence of houses in the monument's setting would reduce the degree to which it is experienced within a countryside setting, it is apparent that this present setting contains very little quality in this regard and the surrounding field does not contain any features or is part of a landscape that relates closely to the monument's historic setting or historic function. The field in which it lies, in its current form and appearance, is largely a product of changes made in the 20th century when the M5 was constructed.

5.55 The development would also seek to strengthen the spatial and visual connection between the monument and Sneedham's Green which is the key, surviving tangible feature of the surrounding landscape with which the monument has a historic association. This association is currently hard to appreciate, and it is the development's intention to create a more visible connection between the monument and its historic

neighbour, which would be presented through interpretation. The interpretation would highlight the location, history and importance of the monument where, presently, a lay visitor might not be able to appreciate what they are seeing.

5.56 As such, whilst the monument's setting would lose some elements that reflect a countryside character, resulting in a loss of significance, the loss would be of post medieval and modern elements of its setting that contribute little to its significance anyway and, given the offset from the houses, the monument's above ground remains would continue to be appreciable within an open space defined by grassland. Notwithstanding this effect, the development will increase the strength of the contribution made to the monument's significance by the adjacent Green, enhancing its historic value through a better illustration of the association between the two features that both originated in the medieval landscape. As such, this benefit would temper the adverse effect of the change in character to the monument's wider setting and, overall, only a very low degree of harm to its significance is assessed.

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Section 6
Conclusions

6.1 This archaeological and heritage assessment concludes that there will be only very minimal direct effects on the scheduled monument *Moated site at Sneedham's Green, 220m north east of Green Farm* (**1019399**) which is located within the site, restricted to the digging of postholes for a new fence.

6.2 This assessment includes consideration of potential impacts on waterlogged archaeological remains located within the scheduled moat located within the site due to a reduction in water levels. The results of a Water Environment Assessment indicate that water levels within the moat can be successfully managed and maintained through drainage design and the project includes a sophisticate response that ensures that moat water levels will be subject to the same water inputs as they are at present.

6.3 Potential impacts upon the settings of designated heritage assets have been considered in accordance with Historic England guidance: *Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets* (HE 2017 Second Edition). All designated heritage assets located within the site's wider zone of influence were assessed in order to understand whether their settings have potential to be changed by the site's development.

6.4 The assessment concludes that the site only forms a part of the setting of the scheduled monument, *Moated site at Sneedham's Green, 220m north east of Green Farm* (**1019399**) which is located within the site, and no other heritage assets, either designated or non-designated.

6.5 Whilst the land at the site is a grassed open space from where the monument can be experienced, the field's form, appearance and ground levels are a result of modification carried out when the M5 motorway was constructed in the late 1960s/early 1970s and therefore is not representative of the monument's historic setting. Equally, whilst the monument is experienced in a location with elements that convey a 'rural' character, this character is being increasingly eroded by the southward expansion of the conurbation of Gloucester, a process set to expand with the development of the adjacent site, Land South of Winneycroft Farm. In this respect, and in line with observation made by the Council, the site is now better described as at the 'urban edge' than in the countryside.

6.6 The field in which the monument lies (the site) is neutral in terms of its contribution to its significance, neither harming it, as the monument remains can still be appreciated, but not enhancing it, as the experience givens a false impression of its historic setting and has little relevance to its historic function. Whilst most historically related elements of the surrounding landscape have been lost, there remains a historic association between the monument and the adjacent brook and common land at Sneedham's Green to the west. However, due to the intervening hedgerow, this relationship is not easily appreciated visually from the monument or Green.

6.7 The proposed development, in its current iteration, will change the setting of the monument which will lose some of its remaining countryside setting. However, the monument will remain within an open area of grassed land and so will still be appreciable. The connection between it and Sneedham's Green is reflected in the proposals, with the monument's setting open to the west and a reduction in the hedgerow density to the west, which will allow a stronger visual connection between the site, monument and the Green. Walking routes around the space in which the monument lies will allow for an appreciation of it and interpretation panels will serve to identify the monument, illustrate its history and make the connection with the historic settlement at the Green. Presently the monument has no interpretative aspect nor is it under a management plan. Development will change this situation in allowing the monument to be better appreciated by the public and its conservation will be governed by the development of a management plan.

6.8 Overall, given the respect for the surviving historic connection in the landscape with Sneedham's Green and, as the surrounding post-medieval and modern countryside elements only make a limited contribution to the monument's significance, the assessment identifies overall only a very low degree of harm to its significance. This harm would be at the far lower end of the spectrum of 'less than substantial harm' and, in accordance with Paragraph 196 of NPPF, should be '*weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.'*

6.9 In terms of the site's archaeology, whilst there is considered to be a moderate potential for the site to contain buried remains of low or moderate significance dating to the Late Iron Age or Roman period remains and the medieval period, the desk-based assessment, geotechnical data, geophysical survey and trial trenching has identified that, in the late 1960s early 1970s the ground surface across at least c. 90% of the site, including the scheduled monument, was disturbed during the construction of the M5.

6.10 This disturbance comprised the levelling of upstanding earthwork features such as ridge and furrow, the backfill of former field boundary ditches and the partial removal of topsoil. Subsequently a deposit of spoil (upcast from the motorway cutting) was made across most of the site raising the ground level by up to 4.6m at its highest, eastern side but possibly excluding the far north-western side (which is otherwise crossed by services).

6.11 This activity destroyed any upstanding archaeological features in the site including the remains of the southern part of the moat, which are likely to have been graded and infilled, losing most if not all of their archaeological, evidential interest. It probably also resulted in some truncation and partial destruction (at least) of any previously unrecorded buried archaeological remains, in all but perhaps the north-western edge of the site, particularly those located at shallow depths. As such, it is considered that there is only a low potential for any well-preserved archaeological remains to survive in the site, and such remains would be buried beneath redeposited spoil up to 4.6m in depth.

6.12 Development design would use piled foundations and thus should archaeological remains be present in the site, impact would be limited to the footprint of piles aside from in the north-western part of the site where made ground is of less thickness or not

present at all. As such a moderate potential for harm to unrecorded buried archaeological remains is assessed.

6.13 In conclusion, the assessment has not identified any reason why the development as proposed would conflict with historic environment legislation or planning policy and it is anticipated that the proposals will be looked upon favourably regarding the historic environment.

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Section 7
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RAF/82/1152 15 April 1955 Frames 17 and 18
OS/70308 5 September 1970 Frames 34 and 35

Appendix EDP 1
Proposed Site Plan

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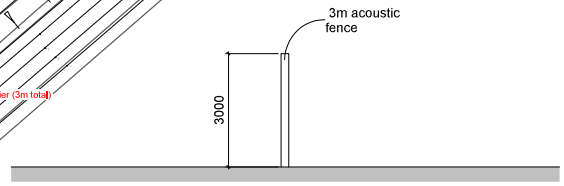
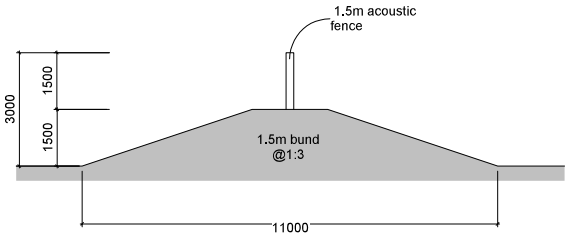


Acoustic Barrier - Section B-B



Acoustic Barrier - Section A-A

Rev	Revision Details	Dr	Date
P16	Layout amendments following client meeting on 9.03.22	NG	10.03.22
P15	Layout updated following client review	NG	17.01.22
P14	Layout amended following client review and DTM	NG	20.12.21
P13	Net Area's updated, Minor layout chnages following DTM	NG	19.11.21
P12	Layout revised following design meeting and comments with client	NG	26.07.21
P11	Tier 1 housing added, Southern block structure amended for masterplan	NG	02.06.21
P10	Numbers reduced in preparation for proposed Block Plan	NG	06.05.21
P09	Block structure revised to accomodate additional units as per clients instructions	NG	23.04.21
P08	PROW alignment and internal pedestrian/cycle network amended following consultant meeting	NG	30.03.21
P07	Proposed attenuation basins replaced with swales to western boundary. Extent of existing shrubbery indicate on western edge	NG	25.03.21
P06	Layout amended to test single access option from Northern junction	NG	24.03.21
P05	Unit numbers increased and layout changes following review	NG	17.03.21
P04	Layout amendments, net area and schedule updated.	NG	15.03.21
P03	Layout revised following client comments	NG	12.03.21
P02	Site area schedule added	DR	10.02.21
P01	Initial Draft	CH	18.08.20

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Client's Name
Edward Ware Homes Ltd & Bromford

Job Title
Snow Capel Farm

Drawing Title
Proposed Site Plan

Scale
As indicated @ A0

Drawn	Checked	Date
CH	DR	09.06.20

Job No	Drawing No	Rev
3250	0030	P16

Status
PRELIMINARY

Sheet ID
3250-O3S-ZZ-XX-GA-A-0030-S0-P16

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14/03/2022 15:21:46

Appendix EDP 2
Consultation with Historic England

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From: Barge, Melanie <Melanie.Barge@HistoricEngland.org.uk>
Sent: 19 September 2017 16:16
To: Andrew Crutchley
Subject: RE: Land at Snow Caple, Matson (Gloucester)

Dear Andrew

Thank you for your e-mail and hope you are well too.

We have now changed our pre-application advice process, as Hugh told you, but it is still a formal process. Previously an applicant was given 15 hours free before we charged for our services. We have now replaced this with a free cycle of advice: to cover a meeting/ site visit, assessment of proposal, discussion and a single letter. After that we will charge for any additional or extended advice. An application will be logged on to our system and then allocated to the relevant Inspector.

I am not as familiar with the Gloucester City Evidence base as you are and so I am not clear as to where the quote you provide comes from. Please can you provide a reference so I can locate it.

I am more familiar with the conclusions of the JCS Examination (JCS Summary Comments, pp2-3) which states that:
There was also discussion around an omission site to the south of the Winnycroft allocation. The site is the location of a Scheduled Monument (SM) and other potential heritage assets. The JCS authorities view is that the presence of the SM represents a significant constraint to development and it would therefore be inappropriate to allocate the site for development. (JCS Summary Comments, pp2-3). http://www.gct-jcs.org/Documents/New-Evidence-Base-and-Associated-Documents/Main-Modifications-Examination-Document-Library/MM35-JCS-ExaminationSummary-Note-10082017.pdf

From this statement it is clear that the Joint Authorities feel the site is inappropriate for development.

However if you can provide me with a master plan proposal for the site I would be happy to provide formal comments on the proposal. We have a minimum requirement for information to allow us to log and then respond to a pre-application inquiry. For us to provide advice we do need to see plans of the proposed development. This allows us to properly assess any impacts and respond accordingly. I understand there is a draft master plan already prepared and this can form the basis of any formal comments I make on development at this site. Once you have sent a master plan the application can be logged and I can provide a considered response.

I am very familiar with the site and do not feel a meeting at this stage will be useful.

I look forward to hearing from you.

Mel Barge (Ms)
Inspector of Ancient Monuments
Planning Group
29 Queen Square, Bristol, BS1 4ND
Direct Line: 0117 9751300 Mobile: 07795 665657

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From: Andrew Crutchley [mailto:andrewc@edp-uk.co.uk]
Sent: 05 September 2017 12:01
To: Barge, Melanie
Subject: Land at Snow Caple, Matson (Gloucester)

Melanie

Snow Caple, Matson

Good morning, I hope you are well. I understand that my colleague, Rob Skinner, exchanged emails with you in the spring/summer regarding the above site and the presence of the *Moated Site at Sneedham's Green Scheduled Monument* [Ref. 1019399], in order to ascertain Historic England's informal view in respect of development proposals.

I understand that the exchange concluded on 20 June with a recommendation to *'send me a copy of the proposed outline masterplan [so] I can provide a more considered response through our formal pre-application process. You can then share this with Gloucester City Council'*.

At this stage, there is no fixed masterplan for the proposals and that remains a work in progress, but in light of the Inspector's question regarding the proposed extension of the draft Winnycroft allocation (to include the site) at the most recent session of the Joint Core Strategy; and more particularly in light of the answer which Gloucester City Council gave to that question on the day in Cheltenham; my client is keen to open a formal dialogue with the Council regarding the site's promotion for development.

As you will be aware, the Council's own evidence base, prepared for the JCS, concludes that:

'development [at Winnycroft] should seek to create a positive relationship with the scheduled moated site at Sneedham's Green, such that it becomes a borrowed landscape in order to reduce the risk of it becoming side-lined and neglected as a result of the development's [presumably the Barwood site] proximity. Consideration should be given to the provision of an interpretation panel on [the] footpath network'

This is clearly a very laudable aspiration, and one which my client's land interest has the potential to bring forward and deliver. However, the Council have advised them that, in order for them to engage in pre-application discussions, it is first necessary for us to have opened a formal pre-application process with Historic England with regard to the scheduled monument.

To that end, I have spoken with Hugh Beamish in the Bristol Office; and from that I understand there is no longer a 'formal' pre-application process for consultation with Historic England, and that pre-application discussions have reverted back to direct contact with the relevant Inspector for the particular area in question. Therefore, whilst you have previously provided Rob with Historic England's informal position in respect of the moated site at Sneedham's Green, I would be grateful if you could now set out a formal opinion so that we can move forward with GCC.

Within that context, I note that the Ecus report, commissioned by and for the Council (to inform the JCS), identifies that *'the proximity of modern development to the north, and the noise and visual interference of the M5, intrude on the tranquillity and sense of remoteness such that the over-riding character of the area is one of land on the urban-fringe'*; and that was written before the Barwood site to the north was approved, let alone built.

So, in short, we believe that a sensitively designed residential development at the site, which '*creates a positive relationship*' with the scheduled moat by utilising it as a '*borrowed landscape*', could address GCC's shortfall in housing numbers and safeguard the asset for future generations through the creation and implementation of a long term management regime, including the promotion of public access to (and enjoyment of) this feature. Therefore we believe there is merit in engagement in dialogue with the Council and Historic England as part of the promotion.

In a similar vein, I believe it may well be desirable to meet and have a look at the moat/site together, particularly in light of the length of time that has elapsed since the Barwood scheme was being considered. Subject to your availability, I could get something in the diary fairly quickly.

Please give me a call if you would like to discuss the above further, or if you would like additional information. However, in the meantime, I look forward to hearing from you shortly.

Kind regards.

Yours sincerely,

Andrew

Andrew Crutchley *BA (Hons), PG Dip (Oxon), MCIfA*
Director

the environmental dimension partnership

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Historic England

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Mr Andrew Crutchley

Direct Dial: 0117 975 1300

The Environmental Dimension Partnership (EDP)

14 Inner Courtyard

Our ref: PA00585868

Whiteway Farmhouse

Cirencester

Gloucestershire

GL7 7BA

17 October 2017

Dear Mr Crutchley

Pre-application Advice

LAND AT SNOW CAPLE, MATSON, GLOUCESTER

Thank you for sending us further information about your clients proposed development at Land at Snow Caple. I understand that the master plan you have provided is indicative and is still being worked on. It does however provide me with enough information to understand the potential impacts of any development on the scheduled monument of Sneedham's Moat.

Advice

Sneedham's Moat is a moated site with about half of its moat surviving as a water filled feature. It was added to the scheduled of Ancient Monument's in 1951 to preserve it, as far as possible, in the state in which it has come down to us today. (Paragraph 6, DCMS Scheduled Monument and Non Designated Nationally Significant Archaeology Policy, October 2013).

Around 6,000 moated sites are known in England, with about 200 in Gloucestershire. Specifically around Gloucester there are a number of these moated sites, which includes Sneedham's Green, within a short (3 mile) distance of the Medieval City. These may represent the country houses/estates of wealthy and influential men from Gloucester. At the time of their construction Gloucester was a powerful and important city in Medieval Europe. Moated sites were located in rural locations as they were supported by the surrounding farmland and formed an administrative centre of large estates. That link to the countryside contributes to the monuments significance.

There is little known about the history of Sneedham's Green moated site and few documentary sources have been located referring to it. It current lies within a rural landscape which has been altered in recent times by the construction of the M5 motorway to the east of the site. The motorway does sit within a cutting as it passes the site and spoil from the construction was spread on the field around the moat, raising the ground level. This means that the motorway is not clearly visible from the site and as you look eastwards the cutting mostly hides the motorway from view, though it is still audible. The land to the east and west rises up and is either farmland or wooded.

The proposed housing close to and surrounding the moated area would in our opinion cause harm to the significance of the monument, by removing the connection with its rural landscape and setting. The level of harm would be high and further assessment of the proposals may place that harm at Substantial.

The National Planning Policy Framework clearly states that substantial harm to designated heritage assets of the highest significance, which includes scheduled monuments, should be wholly exceptional (paragraph 132). If there are no substantial public benefits to the scheme the Local Planning Authority should refuse consent (Paragraph 133).

Even if further assessment identified the harm as less than substantial that harm would need clear and convincing justification and (NPPF 132) and public benefits (NPPF 134) to outweigh that harm.

In your previous correspondence you quote text from the Councils evidence base for the JCS with regards to Winnycroft, which mentions Sneedham's Green. I have still not managed to locate that quote. Could you please provide a link or reference to the location of that paper please?

As I have already stated I am more familiar with the conclusions of the JCS Examination (JCS Summary Comments, pp2-3) which states that:

There was also discussion around an omission site to the south of the Winnycroft allocation. The site is the location of a Scheduled Monument (SM) and other potential heritage assets. The JCS authorities view is that the presence of the SM represents a significant constraint to development and it would therefore be inappropriate to allocate the site for development. (JCS Summary Comments, pp2-3). <http://www.gct-jcs.org/Documents/New-Evidence-Base-and-Associated-Documents/Main-Modifications-Examination-Document-Library/MM35-JCS-ExaminationSummary-Note-10082017.pdf>

From this statement it is clear that the Joint Authorities feel the site is inappropriate for development. If you can provide evidence contrary to this conclusion I would be pleased to review it.

We feel that this proposal will cause harm to the significance of the highly designated heritage asset. This is through a change in its setting which contributes to its significance. The level of harm in our opinion is high and further, more detailed, assessment may place that harm at substantial.

Thank you for involving us at the pre-application stage. Your current proposal does not

address our concerns, as set out above, and so is unlikely to receive our support if submitted for statutory approval.

Yours sincerely

Melanie Barge
Inspector of Ancient Monuments
E-mail: melanie.barge@HistoricEngland.org.uk

the environmental dimension partnership

LANDSCAPE
ECOLOGY
HERITAGE
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EXPERT WITNESS

24 November 2017 Our Ref: **L**/EDP3746/AC/fj

Sent by Email: Melanie.Barge@HistoricEngland.org.uk

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Dear Melanie

Land at Snow Caple, Matson, Gloucester

Thank you for your comments, in respect of the above site, dated 17 October 2017 [PA00585868], which presents Historic England's position in respect of Edward Ware Homes' proposal to bring forward residential development on land around the scheduled moated site at Sneedham's Green, south of Matson, in Gloucestershire.

Your letter of 17 October 2017 makes a number of points about this monument's significance and its setting, to which I respond in the following paragraphs.

In terms of 'advice', it is stated that "*Sneedham's Moat is a moated site with about half of its moat surviving as a water filled feature. It was added to the schedule of Ancient Monuments in 1951 to preserve it, as far as possible, in the state in which it has come down to us today*".

It is subsequently identified that 'it currently lies within a rural landscape which has been altered in recent times by the construction of the M5 motorway to the east of the site. The motorway does sit within a cutting as it passes the site and spoil from the construction was spread on the field around the moat, raising the ground level. This means that the motorway is not clearly visible from the site and as you look eastwards the cutting mostly hides the motorway from view, though it is still audible. The land to the east and west rises up and is either farmland or wooded'.

First and foremost, historic Ordnance Survey maps illustrate that, at the time of its first designation in 1951, the moat existed as a polygonal enclosure with an opening on the east side and a linear earthwork in the south which ran alongside the field boundary.

In contrast (today), the moat survives as the northern and western 'arms' of the enclosure, as well as the northern end of the eastern arm, whereas the southern portion

of the monument has been erased as an earthwork feature (along with the adjoining field boundary).

It is not known for certain when the southern portion of the moat was lost as a landscape feature, but it is understood to have coincided with the construction of the M5 motorway on land adjoining the eastern boundary of the Snow Caple site. In any event, it is clear that the moated enclosure no longer survives in the form in which it was recognised as being of 'national importance', with there being evidence that the M5 construction works that changed its surrounding landscape were also responsible for the direct, physical change to the monument's appearance and condition.

In that regard, it is very clear that the construction of the M5 motorway has had a profound impact on not only the appearance and survival of the Sneedham's Green moated enclosure, but also on the 'surroundings in which it is experienced'. This is clearly downplayed in your comments above, but more accurately captured in Paragraphs 5.25 and 5.26 of the Ecus Environmental Consultants report for the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy, which was prepared in September 2016 and provides the 'Additional Site Assessments':

"*The construction of moated sites during this period is believed to have been as much a symbol of wealth and prestige as a defensive feature, and would most likely have been intended to be visible. The present situation of the monument has been adversely effected by the raising of ground levels around it with arisings from the construction of the M5 cutting, such that the moated site now appears to lie within a topographic hollow. The position of the monument within a field bounded with hedgerows also restricts visual access, such that the character of the monuments setting is now isolated and enclosed. Public footpaths do cross within the vicinity of the site, from where its physical remains can be viewed, although the loss of its southern ditch and the lack of any interpretation limit understanding of its function.*

Whilst the fieldscape and distant views of the undeveloped Robinshood Hill and Cotswolds preserve a good sense of the former rural character of the area, the proximity of modern development to the north, and the noise and visual interference of the M5, intrude on the tranquillity and sense of remoteness such that the overriding character of the area is one of land on the urban-fringe. The open views available from adjacent to the monument of the surrounding area do however afford understanding of the topographic situation of the monument and a sense of its former agricultural economy".

I have included a copy of the Ecus report for your information, as I understand that you remain unaware of its conclusions and advice, but clearly the assessment on the monument's setting is of interest when it identifies that (even before the adjacent Barwood application was consented) the "*the proximity of modern development to the north, and the noise and visual interference of the M5, intrude on the tranquillity and sense of remoteness such that the overriding character of the area is one of land on the urban-fringe*". If that was the situation prior to the adjoining Barwood land being developed, it surely must be accepted that the setting of the scheduled enclosure is no longer 'rural' in the manner which your 17 October commentary identifies.

More pointedly, the Ecus assessment for the Joint Core Strategy is clear in recognising that setting can be influenced and affected by non-visual factors; a position outlined in current Historic England

guidance (GPA3, 2015) and since endorsed by Justice Lang in the High Court judgement regarding the Kedleston Road site in Derbyshire.

Whilst the M5 motorway may be carried in a slight 'cut' to the east of the Snow Caple site, it would be wholly disingenuous to suggest that it does not have a significant bearing on the surroundings in which the scheduled monument are 'experienced' nevertheless. Whilst the vehicles are to some extent screened from view from the moat, it is abundantly clear that the passing motorway traffic fundamentally alters the experience in terms of noise and ambience, especially given its position just beyond the running-in lane from the northbound Gloucester Services to the south. Hence, the Ecus report is unambiguous in dismissing this asset's setting as being 'rural'.

It is worth noting that, in providing written evidence ahead of the most recent of the JCS Hearings, Gloucester City Council relied on heritage reports prepared by EDP for the Barwood site to the north and made no reference to the commentary or advice contained in its own evidence base. Clearly the reports prepared by EDP refer to a different site, for a different proposal and to inform/support the submission and then determination of an outline planning application, rather than to consider whether this specific site is of such 'sensitivity' that development should be prevented or restricted because of its heritage impact. In that respect, their relevance and usefulness for the Snow Caple site currently before us are considered to be limited in the extreme.

It is therefore worth repeating that Paragraph 5.1.9 (on Page 34) provides the following advice to the Local Authorities under the heading 'Maximising Enhancements and Avoiding Harm', when it considers the scheduled monument; i.e.:

"*Development should seek to create a positive relationship with the scheduled moated site at Sneedham's Green, such that it becomes a borrowed landscape – in order to reduce the risk of it becoming side-lined and neglected as a result of the development's proximity. Consideration should be given to the provision of an interpretation panel on footpath network*".

The use of the term 'borrowed landscape' is clearly relevant here – because it infers that the moat should actually be brought into the developed area '*in order to reduce the risk of it becoming side-lined and neglected as a result of the [Barwood] development's proximity [to the north]*'. Given that Barwood never had any means to deliver improvements to the monument; either in terms of the footpath network or the provision of an interpretation panel; and there is certainly no requirement for them to do so within their consent; it is clearly difficult to understand how the current situation within the Winnycroft allocation will not run counter to this laudable aspiration.

Based on its present extent, the Winnycroft allocation does not 'create a positive relationship with the scheduled moated site at Sneedham's Green'; similarly, it does nothing to 'reduce the risk of it becoming side-lined and neglected'; two objectives which can only realistically be delivered by the sensitive development of the land at Snow Caple controlled by Edward Ware Homes.

In view of current Case Law, where 'substantial harm' (NPPF Para 133) is assessed as comprising an impact so serious that the significance of the asset is 'vitiated altogether or very much reduced'; it would be surprising for a sensitively designed development on this site to generate an impact of such

From:	Andrew Armstrong
To:	Rob Skinner
Cc:	Joann Meneaud; Charlotte Bowles-Lewis; Melanie Barge (Melanie.Barge@HistoricEngland.org.uk); Warman, Sylvia; Ben Read (ben.read@blackboxplanning.co.uk); Dan Trundle (dan.trundle@blackboxplanning.co.uk); Iain Burgess (Iain.Burgess@bromford.co.uk); Patrick Jenkins; Chris Wilson (Chris@origin3.co.uk); Eleanor Williams; edward.powell; Chris Williams
Subject:	RE: Historic England and Gloucester City Council response to the submitted hydrological assessment:
Date:	16 November 2021 10:40:40

Dear Rob,

I've now discussed this with HE and colleagues. With regard to heritage any forthcoming planning application would need to be supported by:

1. A geo-archaeological borehole survey; and
2. A setting assessment of the scheduled monument.

This would be required in order to describe the significance of heritage assets which could be affected by the development. The moat is nationally important site, so we need to give great weight to its protection as part of the planning process. We can't do that without the appropriate information.

At this stage there really isn't much else to say with regard to heritage.
Kind regards,

Andrew

From: Rob Skinner <robs@edp-uk.co.uk>
Sent: Monday, September 27, 2021 5:50 PM
To: Andrew Armstrong <andrew.armstrong@gloucester.gov.uk>
Cc: Joann Meneaud <Joann.Meneaud@gloucester.gov.uk>; Charlotte Bowles-Lewis <Charlotte.Bowles-Lewis@gloucester.gov.uk>; Melanie Barge (Melanie.Barge@HistoricEngland.org.uk) <melanie.barge@historicengland.org.uk>; Warman, Sylvia <Sylvia.Warman@HistoricEngland.org.uk>; Ben Read (ben.read@blackboxplanning.co.uk) <ben.read@blackboxplanning.co.uk>; Dan Trundle (dan.trundle@blackboxplanning.co.uk) <dan.trundle@blackboxplanning.co.uk>; Iain Burgess (Iain.Burgess@bromford.co.uk) <iain.burgess@bromford.co.uk>; Patrick Jenkins <Patrick.Jenkins@bromford.co.uk>; Chris Wilson (Chris@origin3.co.uk) <Chris@origin3.co.uk>; Eleanor Williams <Eleanor.Williams@jbaconsulting.com>; edward.powell <edward.powell@ddplimited.co.uk>; Chris Williams <chris.rhys.williams@ddplimited.co.uk>
Subject: FW: Historic England and Gloucester City Council response to the submitted hydrological assessment:

Dear Andrew,

Since your email below we have progressed several inputs with regard to the additional items that you have requested. These comprise:

- The development of an attenuation scheme by the project's engineers that would deliver run off surface water to the moat, and
- Consultation with geoarchaeologists at Headland Archaeology, Cotswold Archaeology and Keith Wilkinson at Winchester University in order to understand what sort of methodology might be required to generate the data that you request below.

I address these two matters in turn below.

Attenuation

The attached email from Chris Williams sets out the attenuation scheme and a PDF plan related to this is also attached. In summary, the scheme would achieve the following:

- Maximum possible water catchment area within the site based on the present topography that would mimic the present water catchment area (i.e.) topographically the same land area would continue to drain surface water into the moat as at present.
- In providing this it would ensure that the potential water level drop identified in the hydrological report would not occur as surface drainage to the moat would be retained.
- The system would maintain water quality through the provision of SuDs features to remove contaminants.

We understand that you have concerns regarding the maintenance of this system, for your information, the attached PDF reproduces maintenance guidelines for SuDs which will apply to the methods being proposed.

With these provisions in place, it is arguable that the moat has a better, more controlled system for maintaining its water levels than it does at present. The fact is that presently there is no control over the moat water, with it being subject to changes to surface run off levels from farming practices and also some contaminants used in farming such as fertilisers and, just as susceptible to drought conditions, as it would be under an attenuation system. If you are content with the present situation then why wouldn't you also be content with the attenuation solution that we are proposing?

Geoarchaeological survey

The geoarchaeologists have all suggested a similar approach. In summary this comprises:

- Auger survey using Russian augers points in transects in three locations across the moat
- Preferably auguring on foot from within the moat if this is practical and safe to do based on water levels being low and the stability of the moat bed
- If not, auguring from a platform such as from a pontoon or raft that is moored within the moat or possibly a scaffold platform constructed across the moat.

Whilst this work may produce the desired data, there are some issues or impacts that will arise:

Direct physical impacts to the scheduled monument from both the augers themselves, from

platform construction such as support poles being driven into the ground, or if auguring from a floating pontoon, physical impacts from an anchoring system. In this respect the work would result in a minor direct impact upon the fabric of the scheduled monument

The moat contains Greater Crested Newts and the attached email from the project's ecologist outlines how the methodology could be problematic especially if conditions dictate that we can't auger on foot, advising that ' Given the complexity of the ecology constraints and risk of causing an offence under wildlife legislation, I would certainly look to negotiate a less invasive archaeological investigation'.

Conclusion

With reference to previous emails below, we question again whether there is any need to generate the data that you have requested in order to determine the application and therefore whether this work is a worthwhile exercise at this stage.

As demonstrated previously, the baseline conditions within the moat are either adequate for preservation of waterlogged deposits or, derogated due to present and historic site conditions. In this respect, maintaining a surface run-off supply to the moat, using an attenuation system that will not break down, that maintains its present condition regarding its water supply and content, surely does not change this situation and therefore there is no need to define whether the moat actually contains significant remains or not? By developing the attenuation system we have assumed a worst case scenario and are treating the monument as if it does contain water logged archaeological remains of significance. As such, with this assumption in place, the additional work and data that it produces should not be necessary. In essence, we are already taking a precautionary approach.

With an effective attenuation system in place, the risk of physical effects (drying out of deposits) from loss of water will be no different to how they are at present, as the system will replicate current conditions. We are not proposing any intrusive works within the scheduled area and thus there will be nothing in the development design that results in a direct physical impact upon the material that makes up the scheduled monument or a greater risk from drying out than there is presently within the field. If we carry out the intrusive work that has been requested there will be, however slight, a physical impact upon the monument. Surely, it is preferable to avoid any impact, especially if the data produced by such work is not absolutely necessary in understanding whether there will be any development impacts on the monument's significance?

We would appreciate if you could consider the above and reflect on whether you do actually need to see an intrusive programme of work at this stage?

Kind regards,

Rob

Rob Skinner
Principal Archaeology and Heritage Consultant

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From: Andrew Armstrong <andrew.armstrong@gloucester.gov.uk>
Sent: 13 August 2021 13:12
To: Rob Skinner <robs@edp-uk.co.uk>; Joann Meneaud <Joann.Meneaud@gloucester.gov.uk>; Charlotte Bowles-Lewis <Charlotte.Bowles-Lewis@gloucester.gov.uk>
Cc: 'Melanie.Barge@HistoricEngland.org.uk' <Melanie.Barge@HistoricEngland.org.uk>; Warman, Sylvia <Sylvia.Warman@HistoricEngland.org.uk>; Ben Read (ben.read@blackboxplanning.co.uk) <ben.read@blackboxplanning.co.uk>; Dan Trundle <Dan.Trundle@blackboxplanning.co.uk>; Iain Burgess <Iain.Burgess@bromford.co.uk>; Patrick Jenkins <Patrick.Jenkins@bromford.co.uk>; Chris Wilson (Chris@origin3.co.uk) <Chris@origin3.co.uk>; Eleanor Williams <Eleanor.Williams@jbaconsulting.com>
Subject: RE: Historic England and Gloucester City Council response to the submitted hydrological assessment:

Hi Rob,

Having discussed this with Sylvia – the feeling is that a number of methods could be used. What matters is what we need to know, which is:

- What deposits are present;
- What condition they're in;
- What range of palaeo environmental materials are present; and
- What date they are.

We would suggest you approach an appropriately qualified specialist (geoarchaeologist) who could outline the most cost effective approach to this. If the specialist wishes to contact the science adviser to discuss further they would be welcome.

Kind regards,

Andrew

From: Rob Skinner <robs@edp-uk.co.uk>
Sent: Wednesday, August 11, 2021 2:21 PM
To: Andrew Armstrong <andrew.armstrong@gloucester.gov.uk>; Joann Meneaud <Joann.Meneaud@gloucester.gov.uk>; Charlotte Bowles-Lewis <Charlotte.Bowles-Lewis@gloucester.gov.uk>
Cc: 'Melanie.Barge@HistoricEngland.org.uk' <Melanie.Barge@HistoricEngland.org.uk>; Warman, Sylvia <Sylvia.Warman@HistoricEngland.org.uk>; Ben Read (ben.read@blackboxplanning.co.uk) <ben.read@blackboxplanning.co.uk>; Dan Trundle <Dan.Trundle@blackboxplanning.co.uk>; Iain Burgess <Iain.Burgess@bromford.co.uk>; Patrick Jenkins <Patrick.Jenkins@bromford.co.uk>; Chris Wilson (Chris@origin3.co.uk) <Chris@origin3.co.uk>; Eleanor Williams <Eleanor.Williams@jbaconsulting.com>
Subject: RE: Historic England and Gloucester City Council response to the submitted hydrological assessment:

Dear Andrew,

Just a quick email to see if you have had a chance to give this methodology any consideration yet. Our clients are keen to understand what the cost implications could potentially be.

Kind regards

Rob

Rob Skinner
Principal Archaeology and Heritage Consultant

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From: Andrew Armstrong <andrew.armstrong@gloucester.gov.uk>
Sent: 03 August 2021 15:36
To: Rob Skinner <robs@edp-uk.co.uk>; Joann Meneaud <Joann.Meneaud@gloucester.gov.uk>; Charlotte Bowles-Lewis <Charlotte.Bowles-Lewis@gloucester.gov.uk>
Cc: 'Melanie.Barge@HistoricEngland.org.uk' <Melanie.Barge@HistoricEngland.org.uk>; Warman, Sylvia <Sylvia.Warman@HistoricEngland.org.uk>; Ben Read (ben.read@blackboxplanning.co.uk) <ben.read@blackboxplanning.co.uk>; Dan Trundle <Dan.Trundle@blackboxplanning.co.uk>; Iain Burgess <Iain.Burgess@bromford.co.uk>; Patrick Jenkins <Patrick.Jenkins@bromford.co.uk>; Chris Wilson (Chris@origin3.co.uk) <Chris@origin3.co.uk>; Eleanor Williams <Eleanor.Williams@jbaconsulting.com>
Subject: RE: Historic England and Gloucester City Council response to the submitted hydrological assessment:

Thanks for this Rob – Sylvia and I will discuss and get back to you.
Kind regards,

Andrew

From: Rob Skinner <robs@edp-uk.co.uk>
Sent: Tuesday, August 3, 2021 11:55 AM
To: Andrew Armstrong <andrew.armstrong@gloucester.gov.uk>; Joann Meneaud <Joann.Meneaud@gloucester.gov.uk>; Charlotte Bowles-Lewis <Charlotte.Bowles-Lewis@gloucester.gov.uk>
Cc: 'Melanie.Barge@HistoricEngland.org.uk' <Melanie.Barge@HistoricEngland.org.uk>; Warman, Sylvia <Sylvia.Warman@HistoricEngland.org.uk>; Ben Read (ben.read@blackboxplanning.co.uk) <ben.read@blackboxplanning.co.uk>; Dan Trundle <Dan.Trundle@blackboxplanning.co.uk>; Iain Burgess <Iain.Burgess@bromford.co.uk>; Patrick Jenkins <Patrick.Jenkins@bromford.co.uk>; Chris Wilson (Chris@origin3.co.uk) <Chris@origin3.co.uk>; Eleanor Williams <Eleanor.Williams@jbaconsulting.com>
Subject: RE: Historic England and Gloucester City Council response to the submitted hydrological assessment:

Hi Andrew,

Thank you for your response. In terms of the physical investigation, what methodology would you recommend? If it is possible, could we auger the deposits within the water? And then attempt to date the samples?

Kind regards

Rob

Rob Skinner
Principal Archaeology and Heritage Consultant

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From: Andrew Armstrong <andrew.armstrong@gloucester.gov.uk>
Sent: 16 July 2021 10:37
To: Rob Skinner <robs@edp-uk.co.uk>; Joann Meneaud <Joann.Meneaud@gloucester.gov.uk>; Charlotte Bowles-Lewis <Charlotte.Bowles-Lewis@gloucester.gov.uk>
Cc: 'Melanie.Barge@HistoricEngland.org.uk' <Melanie.Barge@HistoricEngland.org.uk>; Warman, Sylvia <Sylvia.Warman@HistoricEngland.org.uk>; Ben Read (ben.read@blackboxplanning.co.uk) <ben.read@blackboxplanning.co.uk>; Dan Trundle <Dan.Trundle@blackboxplanning.co.uk>; Iain Burgess <Iain.Burgess@bromford.co.uk>; Patrick Jenkins <Patrick.Jenkins@bromford.co.uk>; Chris Wilson (Chris@origin3.co.uk) <Chris@origin3.co.uk>; Eleanor Williams <Eleanor.Williams@jbaconsulting.com>
Subject: RE: Historic England and Gloucester City Council response to the submitted hydrological assessment:

Dear Rob,

Thankyou for this, very helpful and noted re: mains water.

I suppose the issue for me is that we are moving from a situation in which the water level in the moat has existed without human maintenance, certainly since the 1950s, to a system which will be reliant on a functional and maintained attenuation system going forward. It would, in future, require management – whereas it currently does not (unless the attenuation system supplying the moat will require no maintenance?). If significant organic or palaeo-environmental remains survive within the moat – this puts them at risk in the event maintenance fails. Now, it may be that this could be addressed by a management plan or similar – but it's still a potential impact, and my feeling is that informed discussion of this requires us to understand the significance of heritage assets of archaeological interest within the moat. As such my advice will be that physical investigation of the moat should be required prior to the validation of any forthcoming application. I think it would also be helpful if your client could demonstrate, at least in principle, how attenuation would work – and what kind of maintenance would be required.

Kind regards,

Andrew Armstrong
Archaeologist

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From: Rob Skinner <robs@edp-uk.co.uk>
Sent: Thursday, July 15, 2021 5:28 PM
To: Andrew Armstrong <andrew.armstrong@gloucester.gov.uk>
Cc: 'Melanie.Barge@HistoricEngland.org.uk' <Melanie.Barge@HistoricEngland.org.uk>; Warman, Sylvia <Sylvia.Warman@HistoricEngland.org.uk>; Ben Read (ben.read@blackboxplanning.co.uk) <ben.read@blackboxplanning.co.uk>; Dan Trundle <Dan.Trundle@blackboxplanning.co.uk>; Iain Burgess <Iain.Burgess@bromford.co.uk>; Patrick Jenkins <Patrick.Jenkins@bromford.co.uk>; Chris Wilson (Chris@origin3.co.uk) <Chris@origin3.co.uk>; Eleanor Williams <Eleanor.Williams@jbaconsulting.com>
Subject: RE: Historic England and Gloucester City Council response to the submitted hydrological assessment:

Dear Andrew,

Thank you for your email below, I have been chasing up some technical information from our hydrologist and from the development's drainage engineers DPP, in order to address your concerns below. Two emails are attached in this regard.

Taking your points below in turn:

The DPP email outlines the technicalities of maintaining water levels in the moat. In this they address ways of ensuring that run off is consistent with current levels and that the water can be cleaned of its hydrocarbon content through standard means. They also conclude that this can be achieved without recourse to any works within the scheduled monument area itself. Evidently any above ground drainage features in the moat's setting would have to be considered along with other setting changes but would certainly be designed with minimal visual impact to blend in with the surrounding green field.

Regarding changes to groundwater input, the hydrologist has, in a separate correspondence stated:

'We have previously highlighted that there is not a strong hydraulic connectivity between the moat and the subsoils, given that they are generally of low permeability. Whilst some groundwater input cannot be ruled out, we have concluded that there is not sufficient evidence that groundwater (including seepage) constitutes the primary input. In this case, even if any perched localised groundwater levels are lowered as a result of the development, we would anticipate that it is unlikely that water top-up to the moat would be 'lost' (e.g. out the base of the moat) faster than it could be maintained.'

As such, even if groundwater contribution to the moat is changed by the development, a system that feeds run-off to the moat would be sufficient to maintain the moat's water levels.

You suggest that the monument (being its water content and levels) are completely stable however farming practices in the surrounding field do also have the potential to create pollutants from grazing animal and fertilisers as well as increased topsoil/silt runoff. As such, controlled and cleaned discharge from the development, and from the surrounding grassed open spaces will, if anything represent a better controlled scenario over the type of water entering the moat than the present situation. SuDs systems would be maintained via the local water authority and standard management practices, they would not be allowed to degrade for obvious reason as this would cause major problems for the houses and the people living there.

For the second issue, DPP illustrate the risk of hydrocarbons in the water and present standard methodologies for cleaning this run off, so this factor wouldn't be an issue. No one has suggested using mains water to feed the moat, which is confirmed in the email from the hydrologist (Eleanor).

Eleanor's email confirms that the survey did not identify any clear signal as to the source of the water, suggesting a mix of surface and ground water, as such there would be no difference in maintaining the levels through surface water run off as they are at present, provided mitigation and control of the type suggested by DPP is instigated.

In relation to the suggested intrusive investigations of the moat, Eleanor's email summarises the baseline situation of any such remains (whether they are present or not) in relation to the water, in that conditions are either adequate or, derogated due to present and historic site conditions. In this respect, maintaining a run-off supply to the moat that maintains its present condition surely does not change this situation and therefore there is no need to define whether the moat actually

contains significant remains or not when we are treating it as if it does? As the proposed water quantity and quality would not be any different to that of the moat's current situation?

Please let me know if you have any further comments on the above, and I look forward to your reply,

Kind regards

Rob

Rob Skinner
Principal Archaeology and Heritage Consultant

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From: Andrew Armstrong <andrew.armstrong@gloucester.gov.uk>
Sent: 23 June 2021 15:32
To: Rob Skinner <robs@edp-uk.co.uk>
Cc: 'Melanie.Barge@HistoricEngland.org.uk' <Melanie.Barge@HistoricEngland.org.uk>; Warman, Sylvia <Sylvia.Warman@HistoricEngland.org.uk>
Subject: Historic England and Gloucester City Council response to the submitted hydrological assessment:

Dear Rob,

Historic England and Gloucester City Council response to the submitted hydrological assessment:

Having discussed this with Sylvia Warman (Science Adviser) and Melanie Barge (Inspector of Ancient Monuments) we have the following comments:

Firstly the assessment seems thorough and produced to an appropriate standard – which we welcome. Regarding its conclusions we would highlight these points:

1. In summary, the assessment concludes that the proposed residential development could result in a fall in the water level in the moat, potentially resulting in the drying out of the moat and a negative impact upon the significance of the scheduled monument.
2. The potential for a reduction in water inputs to the moat from the proposed development includes decreased surface water runoff, due to the installation of site drainage such that runoff may no longer reach the moat, and reduced groundwater seepage, due to the excavation of ground surface material, depending on the engineering approach to foundation design. This could result in the drying of the moat water body unless a supplementary water supply is incorporated into the development design which can permit maintenance of current moat water levels.

In essence then any potential scheme could cause the monument to dry out - harming its

significance. This could only be mitigated by design and ongoing management. This moves the monument from a point where it is completely stable and requiring no special management regime to a position where it will need to be artificially maintained by drainage or SUDs schemes that themselves may degrade over time. In short, we would move to a position where the monument will, going forward, need to be managed in perpetuity. This causes us some concern and certainly fails the NPPF test of enhancing the significance of the monument.

The second issue we would highlight is the nature of the water which would now be used to keep the monument water-logged. In the past the 'catchment' (I guess you'd call it) for the monument is the surrounding grassland. We note that section 4.7 mentions motorway runoff through made ground as well. The concern we have is that a new development would affect the water in the moat in two possible ways:

1. Water derived from the proposed development would include potentially increased levels of hydrocarbons from carparking and roads and potentially other contaminants; and/or
2. Mains water piped in to maintain the water level of the monument would be chemically different to the water that has, historically, fed the moat – the impact of this would be unknown.

With regard to the hydrology of the site it is becoming increasingly clear that we need to understand the presence/absence and significance of any waterlogged remains within the moat before we can reach a judgment on the potential impact of any proposed development. We therefore feel that an intrusive investigation into the moat is required to establish the significance of the fill of the moat, so as to provide for an informed judgment with regard to the likely impact of the scheme. We feel that it would be necessary to investigate a dry section of the moat and a currently waterlogged section – to check for differential preservation. We would imagine that a borehole survey undertaken by appropriately qualified environmental specialists incorporating off-site analysis of cores would be the appropriate approach, but are happy to discuss in more detail.

Kind regards,

Andrew Armstrong
Archaeologist

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Appendix EDP 3
Geophysical Survey Report

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GEOPHYSICAL SURVEY REPORT G16119

Land at Snow Capel Farm, Matson, Gloucester

Client:

edp the environmental dimension partnership

On Behalf Of:

edwardwarehomes
Because boxes are for shoes

GSB PROSPECTION Ltd

Celebrating over 30 years at the forefront of Archaeological Geophysics

sumo Survey Services

GEOPHYSICAL SURVEY REPORT

Project name:	Land at Snow Capel Farm, Matson, Gloucester
Job ref:	G16119
Client:	Environmental Dimension Partnership Ltd
Survey dates:	16 December 2016
Report date:	10 January 2017
Field Co-ordinator:	Stephen Weston BA
Field team:	Sam Wood, Olivier Vansassenbrouck MSc, Matthew Wetton MSc, Adam Clark BA, Paul Bracken BA.
Report written by:	Joe Perry BA
CAD illustrations by:	Tom Cockcroft MSc
Report approved by:	Dr John Gater MCIfA FSA
Project Director:	Dr John Gater MCIfA FSA
Version number and issue date:	V1: 11 January/2017

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APPENDICES

DIGITAL CONTENT (CD)

- Minimally Processed Greyscale Images and XY Trace Plots in DWG format
- DWG Viewer
- Digital Copies of Report Text and Figures (both PDF and native formats)

1 SUMMARY OF RESULTS

No anomalies of archaeological interest were detected. A number of weak trends of uncertain origin and an old field and boundary were identified. There is a large number of ferrous anomalies to the east of the moated site and whilst they appear modern, an association with the former cannot be ruled out.

2 INTRODUCTION

2.1 Background synopsis

GSB Prospection Ltd. was commissioned to undertake a geophysical survey of an area proposed for residential development. This survey forms part of an archaeological investigation being undertaken by **Environmental Dimension Partnership Ltd** on behalf of **Edward Ware Homes**.

2.2 Site Details

NGR / Postcode	SO 850 142 / GL4 6EQ
Location	The site is located on the south-eastern edge of Gloucester, and is bounded to the south-east by the M5 motorway and to the west by Winnycroft Lane
HER/SMR	Gloucestershire
District	Gloucester
Parish	Matson
Topography	Flat
Current Land Use	Livestock
Soils	Soils are Martock (711d) association slowly permeable seasonally waterlogged stoneless silty over clayey and clayey soils over siltstone or shale. Some similar soils with slowly permeable subsoils and slight waterlogging (SSEW 1983).
Geology	Bedrock geology within the survey area consists of Blue Lias Formation and Charmouth Mudstone Formation (BGS 2017).
Archaeology	There is a scheduled ancient monument located on site (monument number 1019399: moated site at Sneedham's Green).
Survey Methods	Detailed magnetometer survey (fluxgate gradiometer)
Study Area	7.8ha

2.3 Aims and objectives

To locate and characterise any anomalies of possible archaeological interest within the study area.

3 METHODS, PROCESSING & PRESENTATION

3.1 Standards & Guidance

This report and all fieldwork have been conducted in accordance with the latest guidance documents issued by Historic England (EH 2008) (then English Heritage) and the Chartered Institute for Archaeologists (IfA 2002 & CIfA 2014).

3.2 Survey methods

Detailed magnetic survey was chosen as an efficient and effective method of locating archaeological anomalies.

Technique	Instrument	Traverse Interval	Sample Interval
Magnetometer	Bartington Grad 601-2	1m	0.25m

More information regarding this technique is included in Appendix A

This project was carried out in accordance with a Written Scheme of Investigation submitted to and approved by Gloucestershire CC

3.3 Data Processing

The following schedule shows the basic processing carried out on the data used in this report:

1. *De-stripe*
2. *De-stagger*

3.4 Presentation of results and interpretation

The presentation of the data for each site involves a greyscale plot of processed data. Magnetic anomalies have been identified, interpreted and plotted onto the 'Interpretation' drawings. The minimally processed data are provided as a greyscale image on the CD together with an XY trace plot in CAD format. A CAD viewer is also provided.

When interpreting the results several factors are taken into consideration, including the nature of archaeological features being investigated and the local conditions at the site (geology, pedology, topography etc.). Anomalies are categorised by their potential origin. Where responses can be related to very specific known features documented in other sources, this is done (for example: Abbey Wall, Roman Road). For the generic categories levels of confidence are indicated, for example: probable, or possible archaeology. The former is used for a confident interpretation, based on anomaly definition and/or other corroborative data such as cropmarks. Poor anomaly definition, a lack of clear patterns to the responses and an absence of other supporting data reduces confidence, hence the classification "possible".

4 RESULTS

4.1 No anomalies of archaeological interest were detected.

4.2 An intermittent, linear anomaly is visible within the dataset. This feature corresponds with a field division recorded on an 1884 Ordnance Survey map, and has therefore been assigned to the category *Former Field Boundary*.

4.3 There are a couple of poorly defined curvilinear trends in the data; these are probably simply ploughing effects but, in the context of the known Scheduled Monument, they are assigned to the category *Uncertain Origin*.

4.4 A scatter of ferrous responses to the east of the moat are typical of those due to relatively modern debris, but the close proximity of the scheduled site might suggest a greater antiquity for the recorded anomalies.

4.5 A large area of magnetic disturbance was recorded in the south-east edge of the survey area and possibly construction debris from the building of the M5 motorway.

4.6 A pipe traverses the site on north-south alignment, located on the western edge of the site.

4.7 Ferrous responses adjacent to boundaries are due to fences and gates. Smaller scale ferrous anomalies ("iron spikes") are present throughout the data and their form is best illustrated in the XY trace plots. These responses are characteristic of small pieces of ferrous debris in the topsoil and are commonly assigned a modern origin. The most prominent of these are highlighted on the interpretation diagram.

5 DATA APPRAISAL & CONFIDENCE ASSESSMENT

5.1 Historic England (then English Heritage) Guidelines (EH 2008) Table 4 states that the magnetic response over Mudstone is poor. Given that former boundaries were detected in this survey, the results suggest that the magnetic survey has been effective.

6 CONCLUSION

6.1 The survey did not identify any anomalies of archaeological potential.

6.2 A former field boundary was located.

6.3 A number of weak trends of uncertain origin were detected; they are likely to be due to agricultural or natural effects.

6.4 Ferrous responses are probably modern in origin but there is a possibility that they are associated with the moated site.

7 REFERENCES

BGS 2017 British Geological Survey *website*: (http://www.bgs.ac.uk/opengeoscience/home.html?Accordion1=1#maps) Geology of Britain viewer. [Accessed 10/01/2017]

CIfA 2014 *Standard and Guidance for Archaeological Geophysical Survey.* Amended 2016. CIfA Guidance note. Chartered Institute for Archaeologists, Reading http://www.archaeologists.net/sites/default/files/CIfAS%26GGeophysics_2.pdf

EH 2008 *Geophysical Survey in Archaeological Field Evaluation.* English Heritage, Swindon https://content.historicengland.org.uk/images-books/publications/geophysical-survey-in-archaeological-field-evaluation/geophysics-guidelines.pdf/

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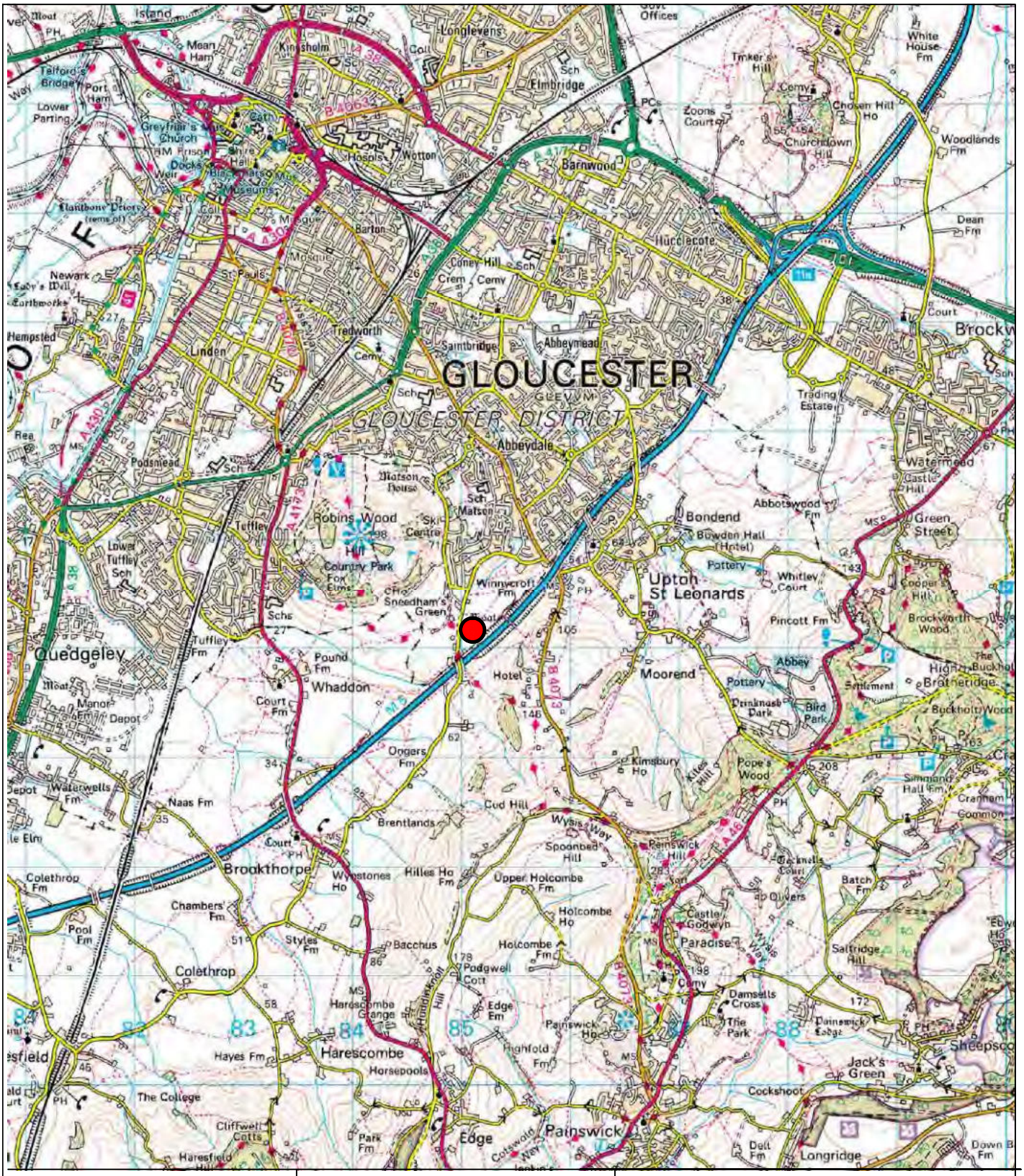

Site Location

N

Title:
Site Location Diagram

Client:
Environmental Dimension Partnership

Project:
G16119 Land at Snow Capel Farm, Gloucester

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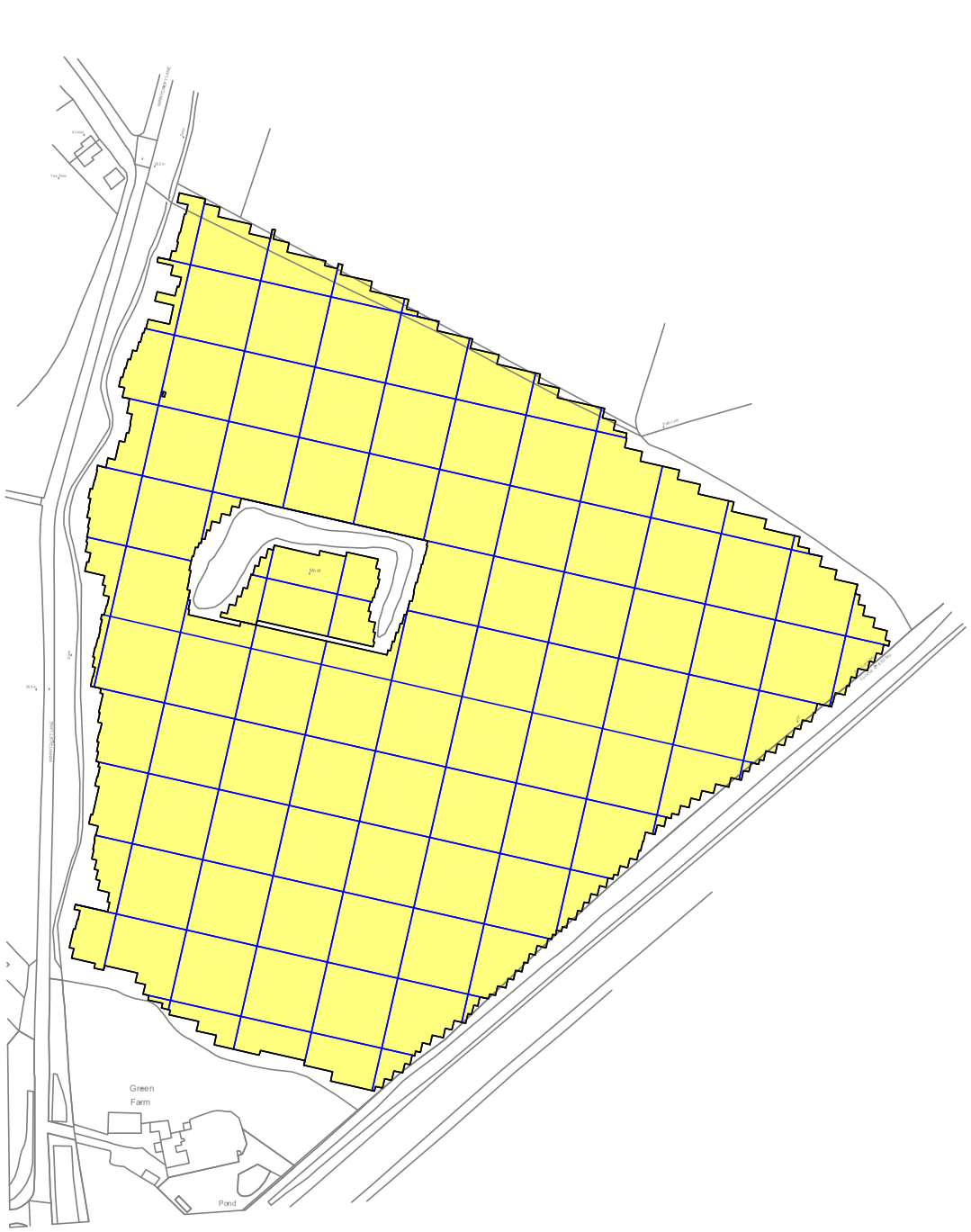
Scale: 0 metres 2000
1:50000 @ A4

Fig No: 1



Magnetometer Survey Area
Showing 30m Grids

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Title:
Magnetometer Survey
Location of Survey Area

Client:
Environmental Dimension Partnership

Project:
G16119 Land at Snow Capel Farm, Gloucester

Scale:
0 metres 80
1:2000 @ A3

Fig No:
2

2
nT
-1

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Title:
Magnetometer Survey
Greyscale Plot

Client:
Environmental Dimension Partnership

Project:
G16119 Land at Snow Capel Farm, Gloucester

Scale:
0 metres 80
1:2000 @ A3

Fig No:
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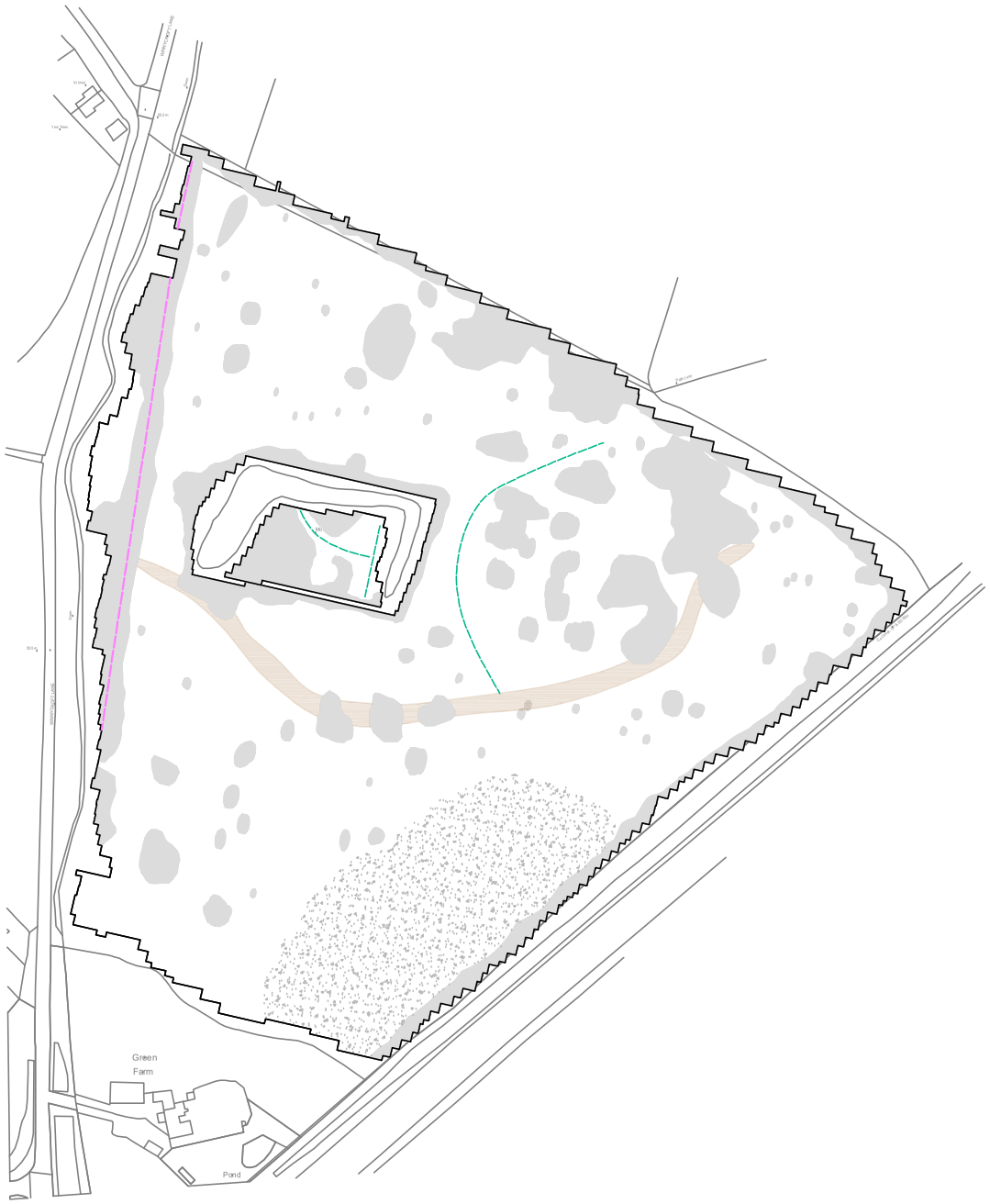

Uncertain Origin (discrete anomaly / trend)

Former field boundary (corroborated)

Pipe

Magnetic disturbance

Ferrous

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Title: Magnetometer Survey Interpretation

Client: Environmental Dimension Partnership

Project: G16119 Land at Snow Capel Farm, Gloucester

Scale: 0 metres 80
1:2000 @ A3

Fig No: 4

Appendix A - Technical Information: Magnetometer Survey Method

Grid Positioning
For hand held gradiometers the location of the survey grids has been plotted together with the referencing information. Grids were set out using a Trimble R8 Real Time Kinematic (RTK) VRS Now GNSS GPS system.

For CARTEASY^{N} collected data each data point had its position recorded using a Trimble R10 Real Time Kinematic (RTK) VRS Now GNSS GPS system. The geophysical survey area is georeferenced relative to the Ordnance Survey National Grid.

An RTK GPS (Real-time Kinematic Global Positioning System) can locate a point on the ground to a far greater accuracy than a standard GPS unit. A standard GPS suffers from errors created by satellite orbit errors, clock errors and atmospheric interference, resulting in an accuracy of 5m-10m. An RTK system uses a single base station receiver and a number of mobile units. The base station re-broadcasts the phase of the carrier it measured, and the mobile units compare their own phase measurements with those they received from the base station. This results in an accuracy of around 0.01m.

Technique	Instrument	Traverse Interval	Sample Interval
Magnetometer	Bartington Grad 601-2	1m	0.25m
Magnetometer	CartEasy^{N} cart system (Bartington Grad 601 sensors)	0.75m	0.125m

Instrumentation: Bartington *Grad*601-2 / GSB CARTEASY^{N} Cart system
Both the Bartington and CARTEASY^{N} instruments operate in a gradiometer configuration which comprises fluxgate sensors mounted vertically, set 1.0m apart. The fluxgate gradiometer suppresses any diurnal or regional effects. The instruments are carried, or cart mounted, with the bottom sensor approximately 0.1-0.3m from the ground surface. At each survey station, the difference in the magnetic field between the two fluxgates is measured in nanoTesla (nT). The sensitivity of the instrument can be adjusted; for most archaeological surveys the most sensitive range (0.1nT) is used. Generally, features up to 1m deep may be detected by this method, though strongly magnetic objects may be visible at greater depths. The Bartington instrument can collect two lines of data per traverse with gradiometer units mounted laterally with a separation of 1.0m. The CARTEASY^{N} system has four gradiometer units mounted at 0.75m intervals across its frame – rather than working in grids, the cart uses an on-board survey grade GNSS for positioning. The cart system allows for the collection of topographic data in addition to the magnetic field measurements.

The readings are logged consecutively into the data logger which in turn is daily down- loaded into a portable computer whilst on site. At the end of each site survey, data is transferred to the office for processing and presentation.

Data Processing

Zero Mean Traverse	This process sets the background mean of each traverse within each grid to zero. The operation removes striping effects and edge discontinuities over the whole of the data set.
Step Correction (Destagger)	When gradiometer data are collected in 'zig-zag' fashion, stepping errors can sometimes arise. These occur because of a slight difference in the speed of walking on the forward and reverse traverses. The result is a staggered effect in the data, which is particularly noticeable on linear anomalies. This process corrects these errors.
Interpolation	When geophysical data are presented as a greyscale, each data point is represented as a small square. The resulting plot can sometimes have a 'blocky' appearance. The interpolation process calculates and inserts additional values between existing data points. The process can be carried out with points along a traverse (the x axis) and/or between traverses (the y axis) and results in a smoother greyscale image.

Display

XY Trace Plot	This involves a line representation of the data. Each successive row of data is equally incremented in the Y axis, to produce a stacked profile effect. This display may incorporate a hidden-line removal algorithm, which blocks out lines behind the major peaks and can aid interpretation. The advantages of this type of display are that it allows the full range of the data to be viewed and shows the shape of the individual anomalies. The display may also be changed by altering the horizontal viewing angle and the angle above the plane.
Greyscale Plot	This format divides a given range of readings into a set number of classes. Each class is represented by a specific shade of grey, the intensity increasing with value. All values above the given range are allocated the same shade (maximum intensity); similarly all values below the given range are represented by the minimum intensity shade.

Interpretation Categories

In certain circumstances (usually when there is corroborative evidence from desk based or excavation data) very specific interpretations can be assigned to magnetic anomalies (for example, *Roman Road, Wall,* etc.) and where appropriate, such interpretations will be applied. The list below outlines the generic categories commonly used in the interpretation of the results.

Probable Archaeology	This term is used when the form, nature and pattern of the response are clearly or very probably archaeological and /or if corroborative evidence is available. These anomalies, whilst considered anthropogenic, could be of any age.
Possible Archaeology	These anomalies exhibit either weak signal strength and / or poor definition, or form incomplete archaeological patterns, thereby reducing the level of confidence in the interpretation. Although the archaeological interpretation is favoured, they may be the result of variable soil depth, plough damage or even aliasing as a result of data collection orientation.
Industrial / Burnt-Fired	Strong magnetic anomalies that, due to their shape and form or the context in which they are found, suggest the presence of kilns, ovens, corn dryers, metal-working areas or hearths. It should be noted that in many instances modern ferrous material can produce similar magnetic anomalies.
Former Field Boundary (probable & possible)	Anomalies that correspond to former boundaries indicated on historic mapping, or which are clearly a continuation of existing land divisions. Possible denotes less confidence where the anomaly may not be shown on historic mapping but nevertheless the anomaly displays all the characteristics of a field boundary.
Ridge & Furrow	Parallel linear anomalies whose broad spacing suggests ridge and furrow cultivation. In some cases the response may be the result of more recent agricultural activity.
Agriculture (ploughing)	Parallel linear anomalies or trends with a narrower spacing, sometimes aligned with existing boundaries, indicating more recent cultivation regimes.
Land Drain	Weakly magnetic linear anomalies, quite often appearing in series forming parallel and herringbone patterns. Smaller drains will often lead and empty into larger diameter pipes and which in turn usually lead to local streams and ponds. These are indicative of clay fired land drains.
Natural	These responses form clear patterns in geographical zones where natural variations are known to produce significant magnetic distortions.
Magnetic Disturbance	Broad zones of strong dipolar anomalies, commonly found in places where modern ferrous or fired materials (e.g. brick rubble) are present. They are presumed to be modern.
Service	Magnetically strong anomalies usually forming linear features indicative of ferrous pipes/cables. Sometimes other materials (e.g. pvc) cause weaker magnetic responses and can be identified from their uniform linearity crossing large expanses.
Ferrous	This type of response is associated with ferrous material and may result from small items in the topsoil, larger buried objects such as pipes, or above ground features such as fence lines or pylons. Ferrous responses are usually regarded as modern. Individual burnt stones, fired bricks or igneous rocks can produce responses similar to ferrous material.
Uncertain Origin	Anomalies which stand out from the background magnetic variation, yet whose form and lack of patterning gives little clue as to their origin. Often the characteristics and distribution of the responses straddle the categories of *Possible Archaeology* and *Possible Natural* or (in the case of linear responses) *Possible Archaeology* and *Possible Agriculture*; occasionally they are simply of an unusual form.

Where appropriate some anomalies will be further classified according to their form (positive or negative) and relative strength and coherence (trend: weak and poorly defined).

Appendix B - Technical Information: Magnetic Theory

Detailed magnetic survey can be used to effectively define areas of past human activity by mapping spatial variation and contrast in the magnetic properties of soil, subsoil and bedrock. Although the changes in the magnetic field resulting from differing features in the soil are usually weak, changes as small as 0.2 nanoTeslas (nT) in an overall field strength of 48,000nT, can be accurately detected.

Weakly magnetic iron minerals are always present within the soil and areas of enhancement relate to increases in *magnetic susceptibility* and permanently magnetised *thermoremanent* material.

Magnetic susceptibility relates to the induced magnetism of a material when in the presence of a magnetic field. This magnetism can be considered as effectively permanent as it exists within the Earth's magnetic field. Magnetic susceptibility can become enhanced due to burning and complex biological or fermentation processes.

Thermoremanence is a permanent magnetism acquired by iron minerals that, after heating to a specific temperature known as the Curie Point, are effectively demagnetised followed by re-magnetisation by the Earth's magnetic field on cooling. Thermoremanent archaeological features can include hearths and kilns and material such as brick and tile may be magnetised through the same process.

Silting and deliberate infilling of ditches and pits with magnetically enhanced soil creates a relative contrast against the much lower levels of magnetism within the subsoil into which the feature is cut. Systematic mapping of magnetic anomalies will produce linear and discrete areas of enhancement allowing assessment and characterisation of subsurface features. Material such as subsoil and non-magnetic bedrock used to create former earthworks and walls may be mapped as areas of lower enhancement compared to surrounding soils.

Magnetic survey is carried out using a fluxgate gradiometer which is a passive instrument consisting of two sensors mounted vertically 1m apart. The instrument is carried about 30cm above the ground surface and the top sensor measures the Earth's magnetic field whilst the lower sensor measures the same field but is also more affected by any localised buried field. The difference between the two sensors will relate to the strength of a magnetic field created by a buried feature, if no field is present the difference will be close to zero as the magnetic field measured by both sensors will be the same.

Factors affecting the magnetic survey may include soil type, local geology, previous human activity, disturbance from modern services etc.

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Appendix EDP 4
Trial Trench Evaluation Report

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SCMG20

SNOW CAPEL, MATSON, GLOUCESTERSHIRE

ARCHAEOLOGICAL TRIAL TRENCHING

commissioned by Edward Ware Homes and Bromford Developments Ltd

January 2021

HEADLAND ARCHAEOLOGY

REGISTERED ORGANISATION CIfA

SNOW CAPEL, MATSON, GLOUCESTERSHIRE

ARCHAEOLOGICAL TRIAL TRENCHING

commissioned by Edward Ware Homes and Bromford Developments Ltd

January 2021

This report adheres to the quality standard of ISO 9001:2015

PROJECT INFO:

HA Project Code **SCMG20** / NGR **SO 8500 1420** / Parish **Matson** / Local Authority **Gloucestershire County Council** / OASIS Ref. **headland4-411065** / Archive Repository **Gloucester City Museum**

PROJECT TEAM:

Project Manager **Ailsa Westgarth** / Author **Beth Doyle** / Fieldwork **Alexander Smith, Beth Doyle, Edward McBride** / Graphics **Rafael Maya Torcelly**

Approved by **Ailsa Westgarth** .....

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HEADLAND ARCHAEOLOGY

part of the RSK Group

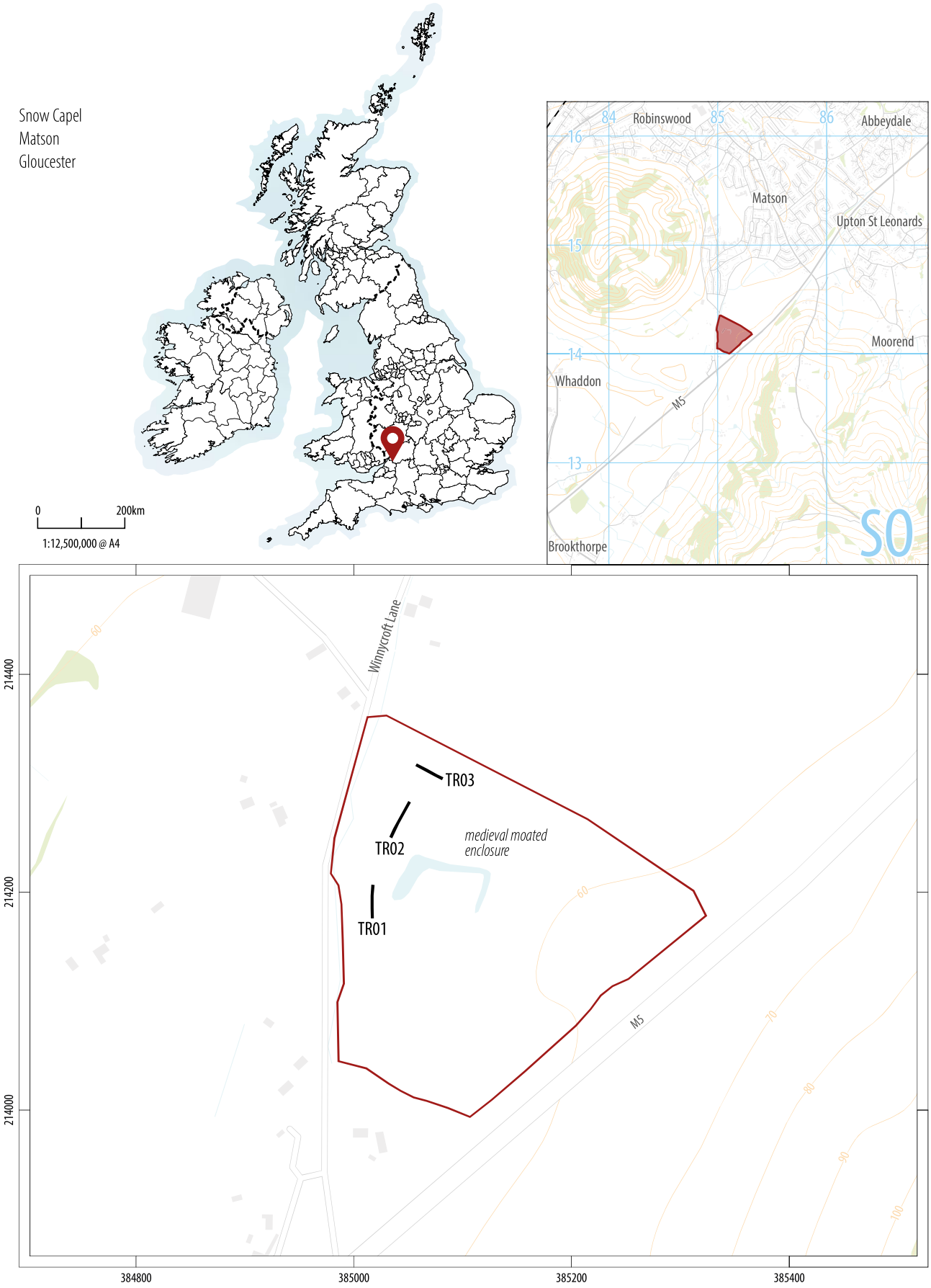
REGISTERED ORGANISATION CIfA

PROJECT SUMMARY

had been filled during the M5 construction.

CONTENTS

LIST OF ILLUSTRATIONS



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ILLUS 1 Site location

SNOW CAPEL, MATSON, GLOUCESTERSHIRE

ARCHAEOLOGICAL TRIAL TRENCHING

1 INTRODUCTION

Headland Archaeology was commissioned by Edward Ware Homes and Bromford Developments Ltd (the client) to carry out the required archaeological works on land at Snow Capel, Matson, Gloucestershire. The evaluation was to assess the potential for the survival of any archaeological remains related to the Medieval Moated Enclosure, the extent of the made ground deposited during the M5 construction works and to investigate a boundary ditch, visible on Ordnance survey maps and as a geophysical anomaly. The trial trenching, conducted between 14th December to 15th December 2020, comprised the excavation of three trenches. The nature of the evaluation was agreed between EDP, the clients consultant and Gloucestershire County Council Archaeology Service (GCCAS) (Written Scheme of Investigation (WSI), 2020).

1.1 SITE LOCATION AND DESCRIPTION

Underlying geology consists of Blue Lias Formation and Charmouth Mudstone Formation. There were no superficial deposits recorded (BGS, 2020).

1.2 ARCHAEOLOGICAL BACKGROUND

An undated moated site (Sneedham's Green) is located within the site boundary. The moated site is designated a scheduled monument (monument number 1019399).

The monument includes the known extent of the Sneedham's Green moated site situated on low lying ground approximately 2km south east of the centre of Gloucester. It includes a sub rectangular moat enclosing an island which measures 66m by 42m, and which may originally have been as large as 66m by 80m, orientated north-south. The moat is 14m wide at its widest point, 8m at its narrowest and up to 1.5m deep. Cropmarks on aerial photographs indicate that the east arm of the moat formerly extended a further 42m south and incorporated a causeway in the centre of the arm.

Earthworks on the island represent agricultural features, however it is possible that the foundations of structures survive as buried features. The date at which the moated site was constructed is not clear, although it is likely to have been built during the main period of moat building, between 1250 and 1350.

Aerial photos taken in 1969 during the construction of the M5 motorway show that the entire site, including the moated site, was disturbed. It was during this period that the modern field layout was created, by amalgamating earlier fields into one. Modern material from the construction was also spread across the development site, forming a thick deposit. Ridge and furrow and other earthworks were once present in the site, as depicted on aerial photographs of the 1950s and 1960s. these were evidently removed when the site was disturbed during the M5 construction.

A geophysical survey (GSB, 2017) was undertaken on the site in January 2017. No anomalies of archaeological interest were identified. A number of weak trends of uncertain origin and an old field boundary were identified. The boundary ditch recorded on the geophysical survey, was linked to the Moat ditch. Therefore high potential was noted for palaeoenvironmental deposits relating to the Moat use. There were a large number of ferrous anomalies to the east of the moated site and whilst they appear modern, an association with the former cannot be ruled out.

Geotechnical investigations undertaken in 2017, found evidence for made ground to approx. 2m below current ground level across most of the site, surrounding the moated enclosure. This appears to comprise construction phase material from the M5 excavation in the 1960's, overlying buried topsoil.

ILLUS 2–3 East facing section of Trench 1, area of boundary ditch

1.3 AIMS AND OBJECTIVES

The objectives of the evaluation are as follows:

- To establish the location, extent, nature and date of archaeological features or deposits that may be present within the areas proposed to be disturbed during the development;
- To establish the integrity and state of preservation of archaeological features or deposits that may be present within the areas proposed to be disturbed during the development;
- To investigate the linear boundary identified on the Geophysical survey and to investigate the potential for and preservation of palaeoenvironmental remains; To inform the planning authority;
- To assist in developing a mitigation strategy should remains of significance be present on the site; and
- To produce and deposit a satisfactory archive and disseminate the results of the work via grey-literature reporting and publication as appropriate.

ILLUS 4 North facing shot of Trench 1, area of boundary ditch

2 METHODOLOGY

2.1 SITE WORKS

The three trenches were set out using a Trimble Global Navigation Satellite System equipped for Real Time Kinematic Survey. A Cable Avoidance Tool (CAT) was used to scan the trenches in advance of opening. As per the Written Scheme of Investigation (Headland Archaeology, 2020) all works were conducted with an 8-tonne tracked excavator, fitted with a flat-bladed ditching bucket. The machine excavation was directed under archaeological supervision down to the top level of the natural geology within the trenches or a maximum depth of 2m.

2.2 RECORDING

All recording followed CIfA Standards and Guidance for Conducting Archaeological Evaluations (2020) and methodology outlined in the WSI. The excavated contexts were recorded in plan and section with details of location, composition, and dimensions documented using the Headland Archaeology pro forma paper sheets. All contexts were given unique numbers. Digital images were taken with a camera using a graduated metric scale. An overall site plan, including post-excavation plans of each trench with spot heights, was recorded digitally using differential GPS using standard Headland Archaeology methodology. The site plan is accurately linked to the National Grid.

2.3 REPORTING AND ARCHIVES

All aspects of reporting and archive will be undertaken in accordance with guidelines published by the CIfA on behalf of the Archaeological Archives Forum (July 2007). Final report contents and format will be in line with CIfA and Gloucestershire County Council Archaeology Service (GCCAS) requirements. Copies of the report will be sent to the client for onward transmission to the local planning authority; copies (paper & electronic) will also be submitted to the HER Manager, to be uploaded to OASIS.

3 RESULTS

Three trenches measuring 30mx2m (TR1), 50mx2m (TR2) and 30mx2m (TR3) were excavated in the north-west of a single pasture field (Illus 1). The trenches were located to the west and north-west of a medieval moated enclosure. The field generally sloped from east to west, with an obvious rise of approximately 2m between the moated enclosure and M5 fencing. The enclosure measured approximately90m by 50m.

Trench 3 was moved 27m to the north west from its original location due to the raised area of the field, suggesting a large depth of made ground. In order to locate undisturbed ground, the trench was moved to a lower area and excavated until a depth of 2m of made ground was reached.

ILLUS 5 South-east facing section of Trench 2 **ILLUS 6** South facing section of Trench 3

A layer of mid reddish brown silty clay topsoil was present across all three trenches, measuring 0.25m in Trench 1, 0.22m in Trench 2 and 0.20m in Trench 3.

The stratigraphy of Trench 1 comprised a 0.20m thick layer of dark grey silty clay etc (0102), which overlay 0.45m of light yellow grey clay. These deposits overlay 0.10m of dark grey brown silty clay (0104). This layer appeared to be the relict topsoil identified by the geotechnical investigations, suggesting the overlying layers were redeposited natural deposits.

Approximately 12m from the south end of the trench, there was a deposit of dark brown grey silty clay, which measured over 2m wide and more than 1m deep. A large tree and root system was noted in this area, along with CBM and land drain fragments. This deposit did not appear to fill a cut; however it was located in the area identified as the boundary ditch. Given the tree and modern finds in this area, it is likely that the ditch was graded and backfilled during the works on the M5.

Trench 2 comprised a 0.30m thick layer of mid red brown silty clay topsoil, which directly overlay a 0.50m thick layer of dark grey silty clay. A layer of light yellow grey silt clay was recorded below this, representing 0.33m of redeposited natural. The underlying geology of this trench comprised light grey yellow clay, continuing from 10.5m below ground level. There was no evidence for a buried topsoil layer within this trench, therefore it is possible this was removed before the deposition of the made ground.

Trench 3 was moved to the west and shortened due to the presence of Overhead Power Lines and underground services. On the advice of the County Archaeologist and the Consultant it was agreed that the trench would be extended to identify the western extent of the made ground to a depth of 1.2m. Topsoil (0301) comprised the same mid red brown silty clay as the rest of the trenches and measured 0.20m thick. A 0.30m thick, dark grey silty clay was observed below the topsoil and overlay made ground deposits. A mid orange brown silty clay (0303) was observed across the trench, measuring between 0.60m and 0.85m to the east. This deposit overlay an intermittent, 0.10m thick layer of dark grey brown silty clay, which may represent the possible buried topsoil layer found in the test pits. This layer was not present across the eastern half of the trench, where a mottled and mixed grey yellow and dark grey blue clay layer was recorded. This deposit continued below 2m by the eastern end of the trench and overlay the natural geology. This deposit likely represents the bulk of the made ground deposits, which have created the raised ground to he north and west of the moated site.

4 CONCLUSION

The results of the evaluation at Snow Capel, Matson, demonstrated the extent of the deposition of made ground during the construction of the M5 in the 1960's. The overburden measured between 1m and more than 2m across the site, deepening in the area of raised ground to the north.

Previous geotechnical investigations had suggested areas of potential undisturbed ground to the west of the moated enclosure, however Trench 1 found that this was not the case. The redeposited clay and tree in Trench 1 were found in the same location as the boundary ditch. It is likely that this was dug out and backfilled during the works, the tree included a full root system so is likely to have been levelled during the works. There was no evidence of any earlier ditch deposits, or original boundary ditch cut.

The possible buried topsoil was not present across the whole site. It is possible that this layer, identified during the borehole survey, was another redeposited layer. However if it this layer represented a buried topsoil, it may have been removed prior to the deposition of the made ground. In Trenches 1, 2 and the western half of Trench 3, where natural deposits were reached, there was no evidence of archaeological features.

5 REFERENCES

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6 APPENDICES

APPENDIX 1 SITE & CONTEXT REGISTERS

Appendix 1.1 Trench/Area register

TR01	L (M)	W (M)	MIN D (M)	MAX D (M)
	30	2	0.5	1.25
Context	Description			*D BGL (m)
0101	Topsoil - Mid reddish brown silty clay			0.00–0.25
0102	Made ground - Dark grey silty clay with CBM, wood, Fe			0.25–0.45
0103	Redeposited Natural - Light yellow grey clay.			0.45–0.90
0104	Buried Topsoil - Dark brownish grey silty clay			0.90–1.00
0105	Natural - Light orange and dark blue clay			1.00–>1.10
0106	Made ground - Dark grey silty clay with CBM and a tree stump with radiating roots.			0.25–1.25
Summary: No archaeology present.				

TR02	L (M)	W (M)	MIN D (M)	MAX D (M)
	50	2	0.95	1.55
Context	Description			*D BGL (m)
0201	Topsoil - Mid reddish brown silty clay			0.00–0.22
0202	Made ground - Dark grey silty clay			0.22–0.72
0203	Redeposited Natural - Light yellow grey clay.			0.72–1.05
0204	Natural - Light yellowish grey clay			1.05–>1.10
Summary: No archaeology present.				

TR03	L (M)	W (M)	MIN D (M)	MAX D (M)
	30	2	1.08	1.87
Context	Description			*D BGL (m)
0301	Topsoil - Mid reddish brown silty clay			0.00–0.20
0302	Made ground - Dark grey silty clay			0.20–0.50
0303	Redeposited natural - Mid orange grey clay.			0.50–1.35
0304	Buried Topsoil - Dark brownish grey silty clay			1.35–1.45
0305	Natural - Light yellowish grey clay			1.45–>1.67
0306	Redeposited Natural - Light orange and dark blue clay			1.67–>1.87
Summary: No archaeology present.				

Appendix 1.2 Photo register

PHOTO	FACING	SHOWING	DESCRIPTION
001	–	–	ID shot
002	N	TR01	TR01 pre ex
003	S	TR02	S facing shot of trench
004	W	TR03	E facing section of trench
005	W	TR04	E facing section of trench
006	N	TR05	N facing section of trench
007	W	TR06	Overhead shot of 'ditch' and tree
008	N	TR07	Overhead shot of 'ditch' and tree
009	NE	TR02	TR02 pre ex
010	E	TR03	TR03 pre ex- original position
011	N	TR04	S facing section of trench
012	NE	TR02	NE facing shot of trench
013	SW	TR03	SW facing shot of trench
014	SE	TR04	NW facing section of trench
015	NW	TR05	SE facing section of trench
016	N	TR03	S facing section of trench
017	E	TR03	E facing shot of trench
018	W	TR03	W facing shot of trench
019	X	TR03	VOID
020	S	TR03	N facing section of trench
021	N	TR03	S facing section of trench
022	N	TR03	S facing section of trench
023	N	TR03	S facing section of trench
024	N	TR03	S facing section of trench
025	S	TR03	N facing section of trench
026	N	TR02	N facing shot of land drain
027	S	TR03	S facing section of trench- collapse
028	NE	TR02	NE facing shot of trench
029	SE	TR01	Shot of backfill
030	NE	TR02	Shot of backfill
031	W	TR01	E facing section of tree

APPENDIX 2 OASIS DATA COLLECTION FORM: ENGLAND

OASIS ID: headland4-411065

PROJECT DETAILS	
Project name	Snow Caple, Matson, Gloucester
Short description of the project	Three trenches to investigate an anomaly on the geophysical survey, thought to be a ditch next to a moated enclosure.
Project dates	Start: 14-12-2020 End: 15-12-2020
Previous/future work	Yes / Not known
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type	moated enclosure medieval
PROJECT LOCATION	
Country	England
Site location	Gloucestershire Gloucester, Gloucester Snow Capel, Matson, Gloucestershire
Postcode	GL4 6EQ
Site coordinates	SO 8493 1426 51.826286–2.2187639 51 49 34 N 002 13 07 W Point
Height OD / Depth	Min: 1.25m Max: 1.87m
PROJECT CREATORS	
Name of Organisation	Headland Archaeology (UK) Ltd
Project brief originator	The Environmental Dimension Partnership Ltd
Project design originator	Headland Archaeology (UK) Ltd
Project director/manager	Ailsa Westgarth
Project supervisor	Beth Doyle
PROJECT ARCHIVES	
Digital Archive recipient	Gloucester City Museum
Digital Media available	"Survey"
Paper Archive recipient	Gloucestershire
Paper Media available	"Photograph","Plan","Report","Survey "

part of the RSK Group

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Manchester M1 2EJ
t 0161 236 2757
e northwest@headlandarchaeology.com

www.headlandarchaeology.com

Images

Image EDP 1: View to the north across the western end of the moat illustrating its setting including the presence of modern houses to the north-west.

Image EDP 2: View to the north-east across the eastern end of the moat across the site illustrating the difference in ground level between the land at the moat and that to the east.

Image EDP 3: View south-west across the moat from the higher ground to the east illustrating how the moat is set within a gentle basin within the site and also its more 'rural' setting to the south.

Image EDP 4: View to the north-west across the moat illustrating its setting, notably the presence of nearby houses and Robin Hill.

Image EDP 5: View to the north-west across the northern part of the site illustrating how it is located close to houses and light industrial development at the urban edge.

Image EDP 6: View west across the common land at Sneedham's Green illustrating its appearance.

Image EDP 7: View east to the site from Sneedham's Green with only a partially screened view to the moat possible and the historic connection between it and Green only slightly appreciable.

Plans

Plan EDP 1 Designated Heritage Assets
(edp3746_d011a 14 May 2021 MH/RS)

Plan EDP 2 HER Records
(edp3746_d012a 14 May 2021 MH/RS)

Plan EDP 3 Historic Maps
(edp3746_d013a 14 May 2021 MH/RS)

Plan EDP 4 LiDAR Data
(edp3746_d014a 14 May 2021 MH/RS)

Plan EDP 5 Aerial photographs
(edp3746_d015a 14 May 2021 MH/RS)

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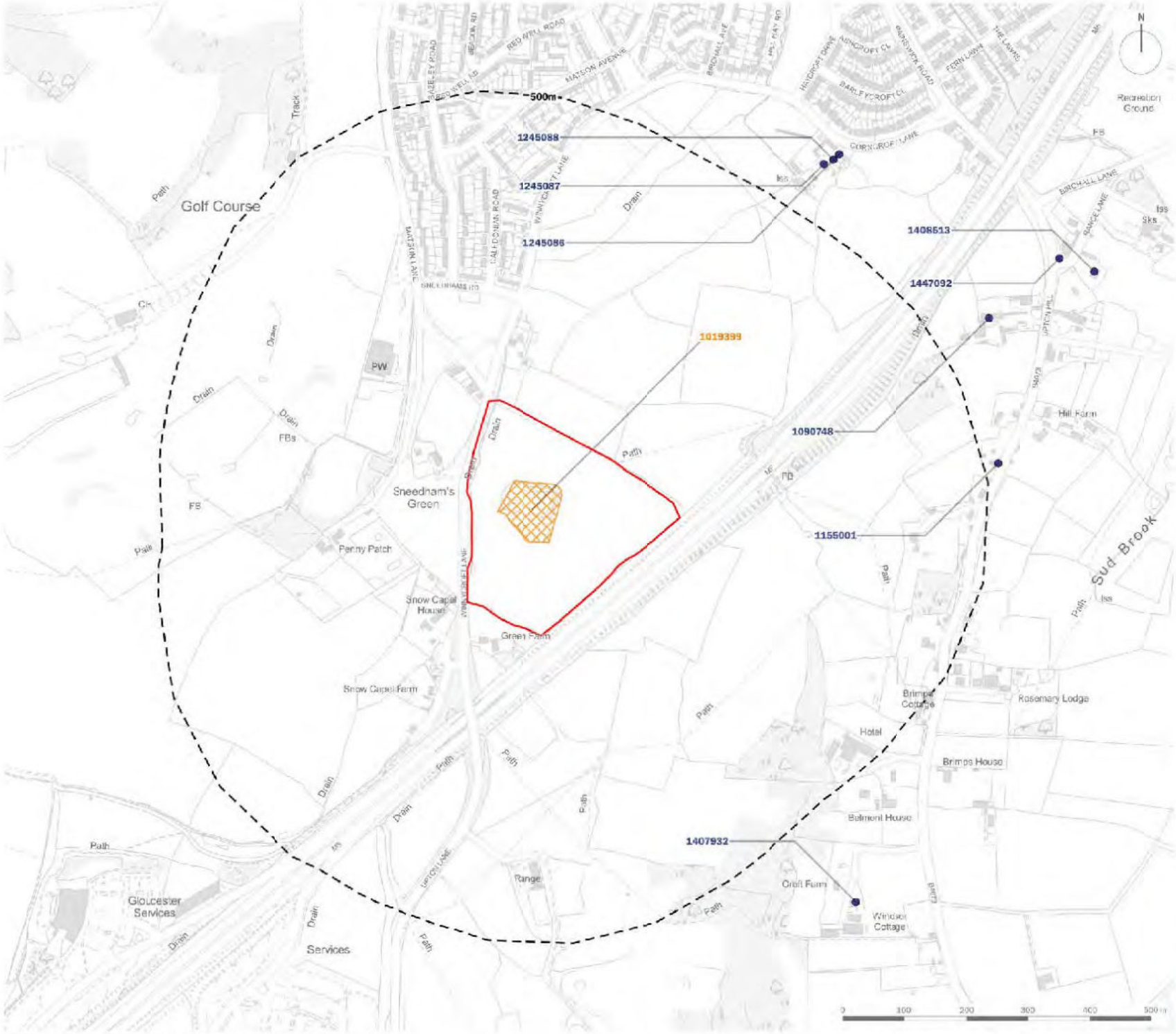


Site Boundary

500m Detailed Study Area

Grade I Listed Building

Grade II Listed Building

Grade II* Listed Building

Scheduled Monument

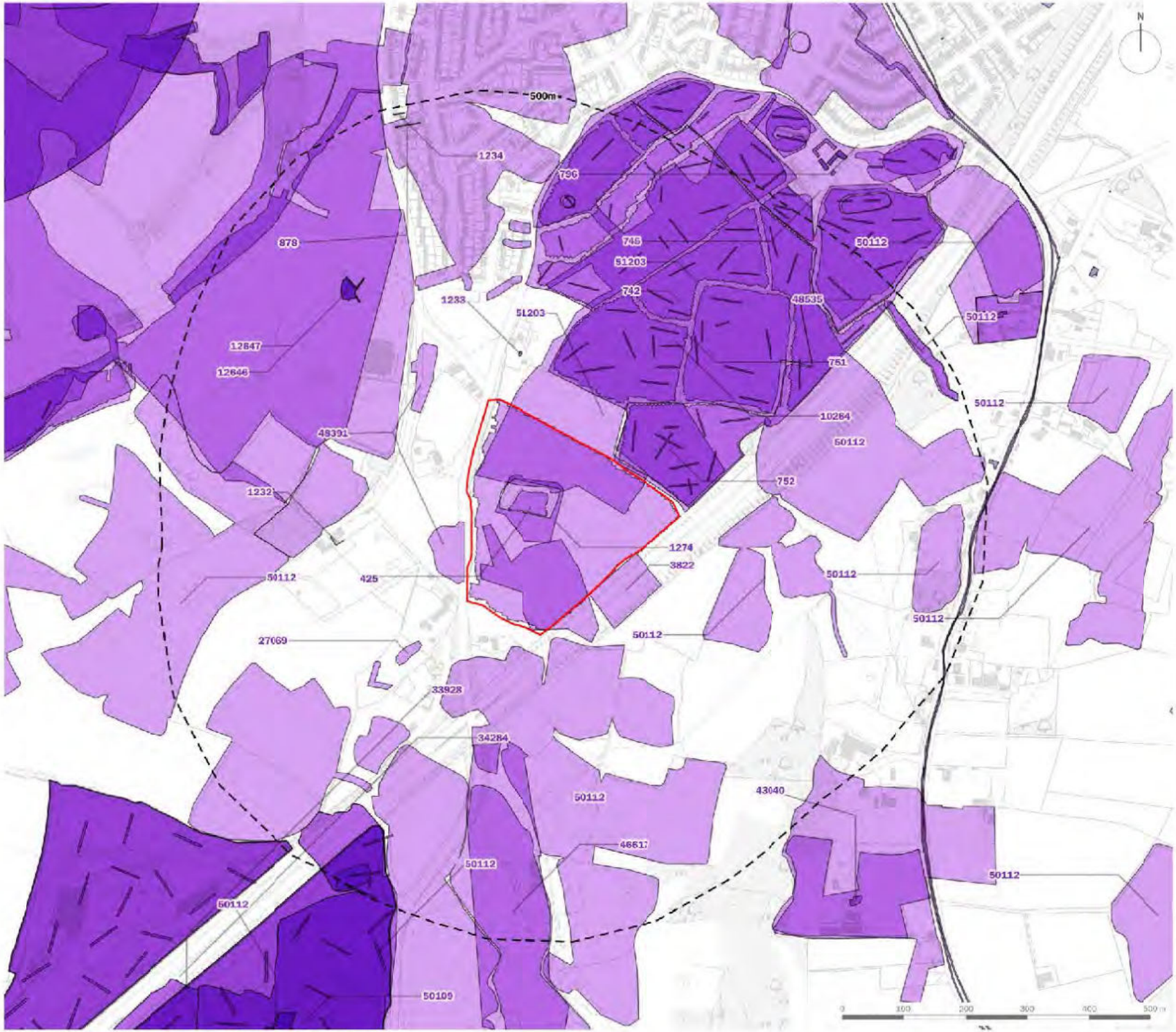
client
Edward Ware Homes and Bromford Developments Ltd

project title
Land at Snow Capel Farm, Matson, Gloucestor

drawing title
Plan EDP 1: Designated Heritage Assets

date	14 MAY 2021	drawn by	MH
drawing number	edp3746_d011a	checked	RS
scale	1:6,000 @ A3	QA	RB

the environmental dimension partnership
Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk



Site Boundary

500m Detailed Study Area

HER Data

client
Edward Ware Homes and Bromford Developments Ltd

project title
Land at Snow Capel Farm, Matson, Gloucester

drawing title
Plan EDP 2: HER Records

date	14 MAY 2021	drawn by	MH
drawing number	edp3746_d012a	checked	RS
scale	1:6,000 @ A3	QA	RB

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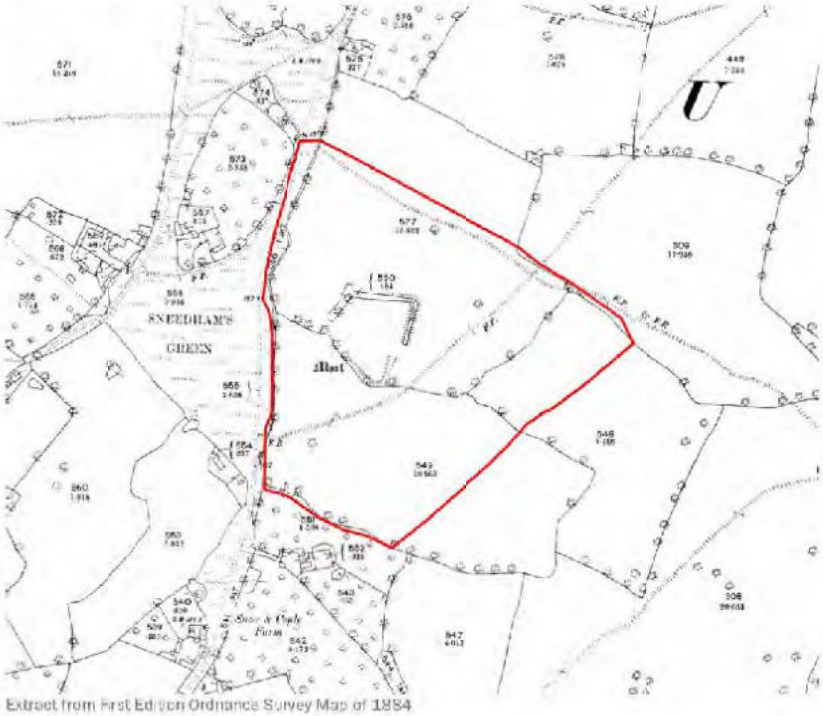
Extract from Tithe map of Upton St Leonard's parish (1840)



Extract from First Edition Ordnance Survey Map of 1884

0 50 100 150 200 250 m

Approximate Site Boundary

N

client
Edward Ware Homes and Bromford Developments Ltd

project title
Land at Snow Capel Farm, Matson, Gloucestor

drawing title
Plan 3: Historic Maps

date	14 MAY 2021	drawn by	MH
drawing number	edp3746_d013a	checked	RS
scale	1:5,000 @ A3	QA	RB

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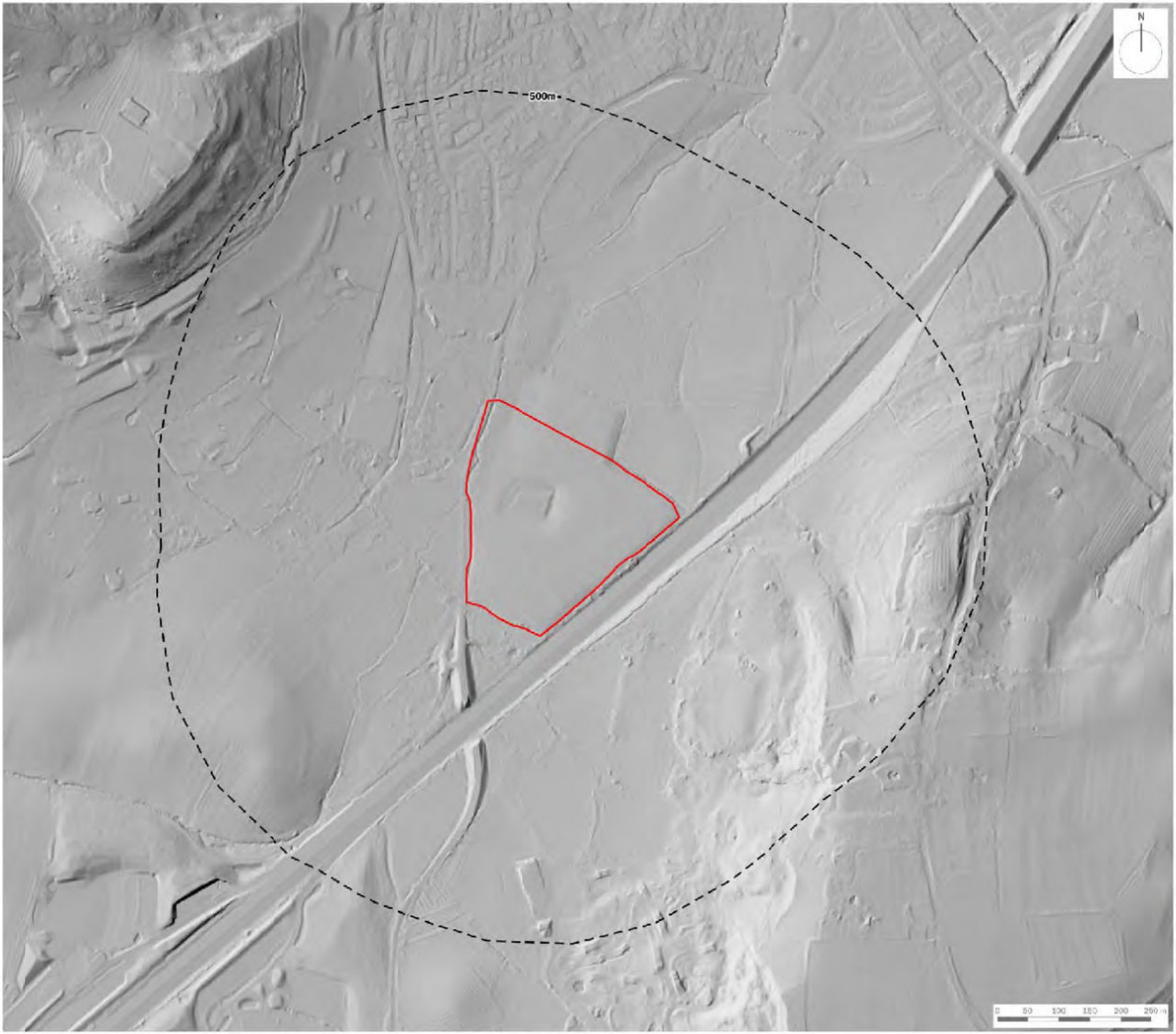

Site Boundary

500m Detailed Study Area

LiDAR 1m DTM Multidirectional Hill Shade

client
Edward Ware Homes and Bromford Developments Ltd

project title
Land at Snow Capel Farm, Matson, Gloucester

drawing title
Plan EDP 4: LiDAR Data

date	14 MAY 2021	drawn by	MH
drawing number	edp3746_d014a	checked	RS
scale	1:6,000 @ A3	QA	RB

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Extract from Aerial photograph taken 12 Dec 1948 (RAF/CPE/UK/1897)

Extract from Aerial photograph taken 09 April 1969 (OS/69097)

Approximate Site Boundary

N

0 50 100 150 200 250 m

client
Edward Ware Homes and Bromford Developments Ltd

project title
Land at Snow Capel Farm, Matson, Gloucester

drawing title
Plan EDP 5: Aerial Photographs

date	14 MAY 2021	drawn by	MH
drawing number	edp3746_d015a	checked	RS
scale	1:6,000 @ A3	QA	RB

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URBAN DESIGN GROUP REGISTERED PRACTICE

IEMA Transforming the world to sustainability

Landscape Institute
Registered practice

Snow Capel, Matson

Design and Access Statement

13/05/2022

ORIGIN3

Bromford

Contents

Document	Design and Access Statement
Reference	19026_Design and Access Statement
Revision	G
Document Status	Final
Release Date	13/05/2022
Author	CW/DH

Preface

Origin 3 have been appointed by Bromford to develop design proposals for land at Snow Capel, Matson, Gloucester (henceforth referred to as “the Site”).

A Full Planning application for residential development of 190 no. dwellings (Class C3); vehicular and pedestrian access from Winnycroft Lane; public open space and landscaping; drainage attenuation and other associated works has been prepared for the site following comprehensive technical and design analysis.

Design and Access Statement

This Design and Access Statement has been prepared to support the Full Planning Application and should be read in conjunction with the other submitted material.

This statement explains the principles and concepts that have been pursued in respect of the following:

Amount, Layout, Scale, Landscape & Appearance

This statement demonstrates how the site and its locale has been assessed, and gives details of assessments and design decisions taken in that respect as well as a summary of public engagement.

This document is set out as follows:

Section 1.0 provides an overview.

Section 2.0 describes the site and context.

Section 3.0 summarises dialogue with local stakeholders, council officers and members of the public. It also sets out the evaluation of the above and concepts for the site.

Section 4.0 presents the design proposals.

Bromford.

ORIGIN3

Planning . Design . Development

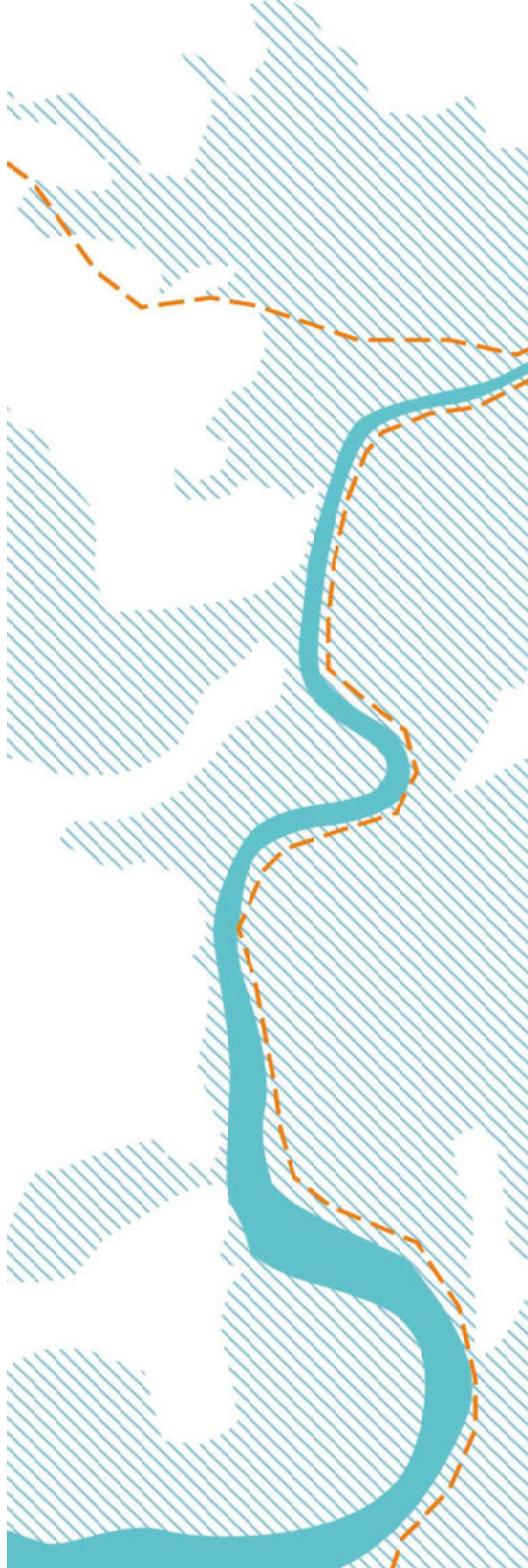
1.0 | Overview
1.1 | Location

The site lies south of the Gloucester suburb of Matson between the city's urban edge and the M5 Motorway. The nearest local centre is 1km to the north within Matson with Gloucester's city centre ~4.5km to the north-west.

The M5 forms the site's eastern boundary beyond which is the Cotswolds Area of Outstanding Natural Beauty (AONB). To the west is Robinswood Hill, a local recreation area and nature reserve.

The Wysis Way, a 55 mile walking route connecting Monmouth and Kemble passes the site's south-west corner which along with other Public Rights of Way provide a network of walkable footpaths which connect to Gloucester to the north and west and the open countryside to the east and south.

- Site boundary
- Major Roads
- Motorway
- Railway
- Public Rights of Way and Byways
- Long Distance Footpaths
- Local Authority Boundary
- Wysis Way
- Glevum Way
- Gloucester Railway Station
- Urban Area
- Areas Under Development
- Water Bodies
- Flood Plain
- Country Park/AONB



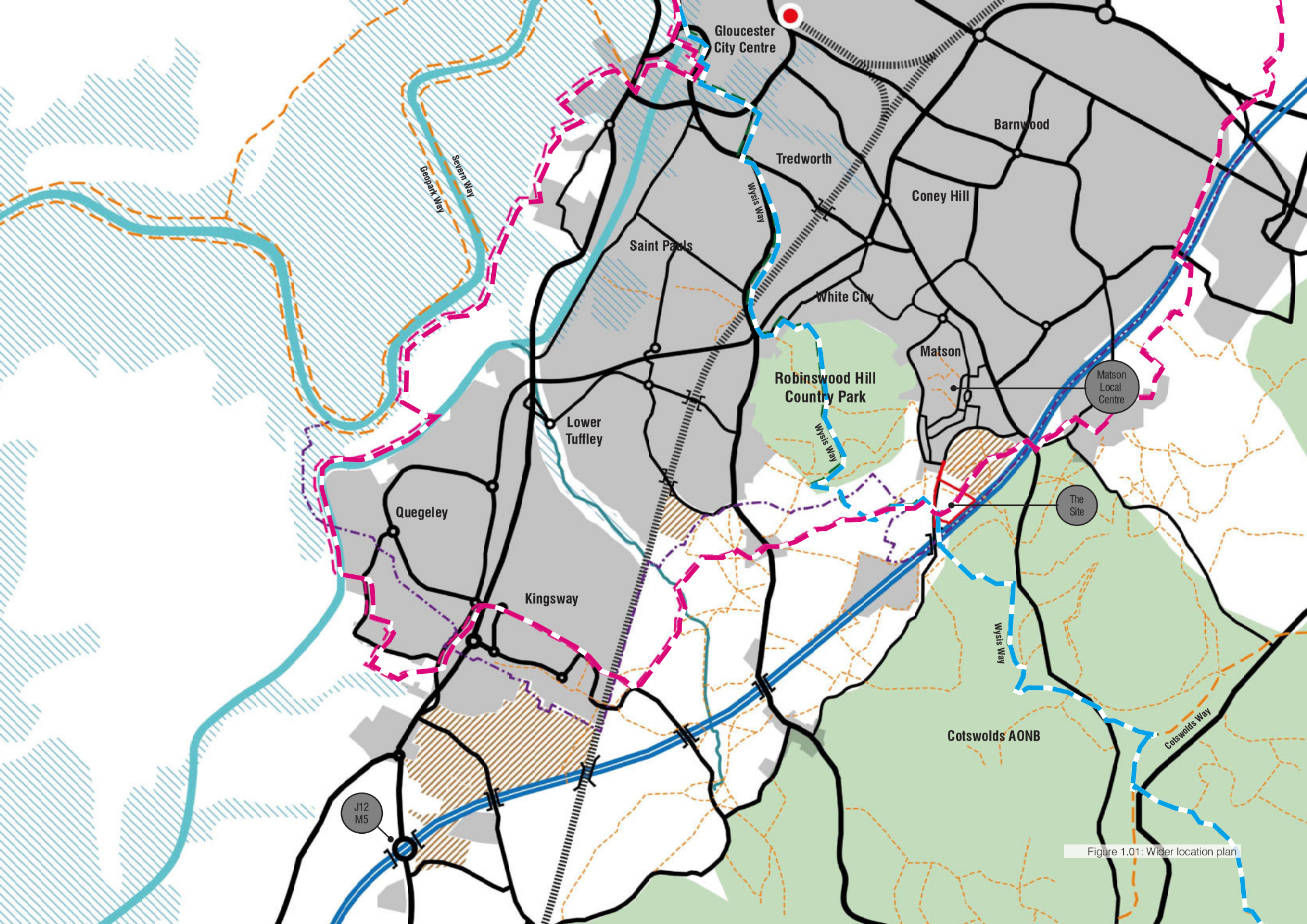


Figure 1.01: Wider location plan

1.0 | Overview
1.2 | The Site

Upon approach from the south along Winnycroft lane, Sneedham's Common and the site to the east form a gateway location to the southern fringe of the city of Gloucester.

The site is approximately 7.98 hectares / 19.72 acres in area and is currently formed of pastureland and consists of a single open field containing the remains of a historic Moat, a feature which is designated as a Scheduled Monument.

To the immediate west is Sneedham's Green, an area of Common land, beyond the Common the land rises again forming the southern slope of Robinswood Hill, a local country park. There are domestic scale dwellings forming a small settlement on the edge of the grassed common.

The site is enclosed by dense mature hedgerows on the south, west and east sides and a thin hedgerow on the north side.

To the east of the site is M5 Motorway which forms a barrier between Gloucester and the Cotswolds Area of Outstanding Natural Beauty. Within the AONB the land rises steeply from ~61m to 145m across approximately 600m. This creates inter-visibility between the site and the AONB with the rising landform forming the eastern backdrop to the site area.

To the south is Green Farm and Snow Capel Farm small collection of farmstead buildings set within fields and tree groups, shielding the farms from Winnycroft Lane and the M5 Motorway.

The landscape setting directly to the north of the site at Winnycroft Farm is set to change as development of this area into a new residential community has been approved with construction now underway.

Figure 1.02: View looking south along Winnycroft Lane.

Figure 1.03: View looking south-east from the site's northern access gate.

Figure 1.04: Looking eastwards towards the M5 Motorway.

Figure 1.05: View looking north across the Medieval moat.

Figure 1.06: Looking north-westward across the moat with Robinswood Hill beyond.

Figure 1.07: View south-eastwards towards the M5 Motorway and the AONB beyond.

Figure 1.08: Site location plan

1.0 | Overview
1.3 | Vision

A Placemaking Approach

The primary design aim is to strike the right balance between delivering quality housing and the desirability of conserving the moated site at Sneedham's Green, having regard to the Scheduled Monument (SM) itself and its setting.

This Design and Access Statement will describe the proposed development framework, and how it intends to deliver a high-quality development for a variety of new homes, which is designed to sit considerately within its immediate context and create a positive relationship with the SM.

The following three design objectives of the proposal set out the rationale behind the design decisions that inform the development proposal:

1. **Heritage Conservation via Placemaking**

   The scheme provides a respectful treatment to the SM, both in terms of the physical conservation of the nationally important archaeological remains it contains, and in terms of the creation of the 'Manor Green', a central landscape space intended to retain a respectful setting, as well as provide public accessibility to, and engagement with, this heritage asset. The openness of the masterplan towards Sneedham's Green will provide opportunity to facilitate views towards the wider historical setting. Well placed interpretation boards on walking routes will also highlight this link between Sneedham's Green and the Scheduled Monument.

2. **Defining an Edge to the City**

   The site will form a natural expansion of the city's urban fringe and define a new settlement edge with native landscaping to the boundaries and stitched into the existing urban context.

3. **Facilitate Local Connections**

   A significant part of the placemaking approach is to integrate green infrastructure linking to a network of landscape spaces. Pedestrian routes will link across this network to the key destination 'Manor Green', a central area and the existing green infrastructure and to local facilities within walking distance of the site.

Achieving these objectives will require a masterplan strategy engaging design scales and inter-disciplinary skills from the analytical to the strategic through to detail design. This document records the evaluation process and early assessment of the scheduled monument setting and the sites physical attributes that has informed the proposed scale and form of development.

Figure 1.09: Concept sketch of Manor Green

2.0 | Assessment

2.1 | Planning Policy and Design Guidance

Background

The adopted local plan in Gloucester is the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy 2011-31 (the 'JCS'). The JCS establishes strategic policies to be used in decision making by the three authorities, and is supplemented by plans adopted by each of the three local planning authorities.

The adopted plan covering the Gloucester City administrative area is the 1983 Gloucester City Plan. This plan is now significantly out of date and two policies remain 'saved' from the plan. Albeit the Second Stage Deposit City of Gloucester Local Plan (2002) has been used in the determination of planning applications for some time. Notwithstanding this, there is a policy vacuum at local level within the City.

The JCS and the Gloucester City Plan are read together and collectively form the Development Plan, against which planning applications submitted to Gloucester City Council are considered.

Gloucester City Council are in the process of adopting an up to date plan covering the Gloucester City administrative area, the Gloucester City Plan 2011-31 (the 'Emerging Plan'). This Emerging Plan sets out the vision, key issues and strategic objectives for the City over the plan period.

The Emerging Plan has undergone submission consultation (Regulation 19) and has undergone examination by the Planning Inspectorate, resulting in a series of recommended 'main modifications' by the examiner. The plan is therefore at an advanced stage and is a material consideration in planning decisions. However, Bromford have engaged proactively during the examination process and significant objections remain to it. The objections which remain limit, significantly, the weight which can be afforded to it currently in a decision making context.

Planning Policies

The application will be considered against the Local Plan and National Planning Policy Framework (NPPF) and their policy provisions, alongside relevant material considerations.

A Planning Statement has been prepared which sets out in detail how the proposals have been prepared in accordance with these policies.

As identified within the Planning Statement, the provision of 190 homes at Snow Capel represents a suitable and sustainable location for development in accordance with the requirements of the Development Plan. The proposal offers additional benefit in addressing the longstanding and significant under provision of affordable housing within the Gloucester City administrative area as well as increasing wider housing supply within Gloucester City.

In addition, the proposal will have no direct impact upon the Scheduled Monument within the site, and any limited impact that the development would have on the setting of the monument is outweighed by the significant benefit of preserving and enhancing this heritage asset.

Furthermore, the proposal avoids any adverse impact to the setting of the Cotswolds Area of Outstanding Natural Beauty and conserves its setting, whilst also protecting the wider landscape character of the area.

The proposal therefore complies with the relevant policies of the Development Plan, the Emerging Plan, and national policy.

Environmental Impact Assessment and Environmental Statement

An Environmental Impact Assessment (EIA) has been undertaken in support of the full planning application. An Environmental Statement (ES) has been prepared by a team of specialists in support of the determination of the planning application.

The scope of the ES includes such aspects as ecology and biodiversity, socio-economic and heritage matters.

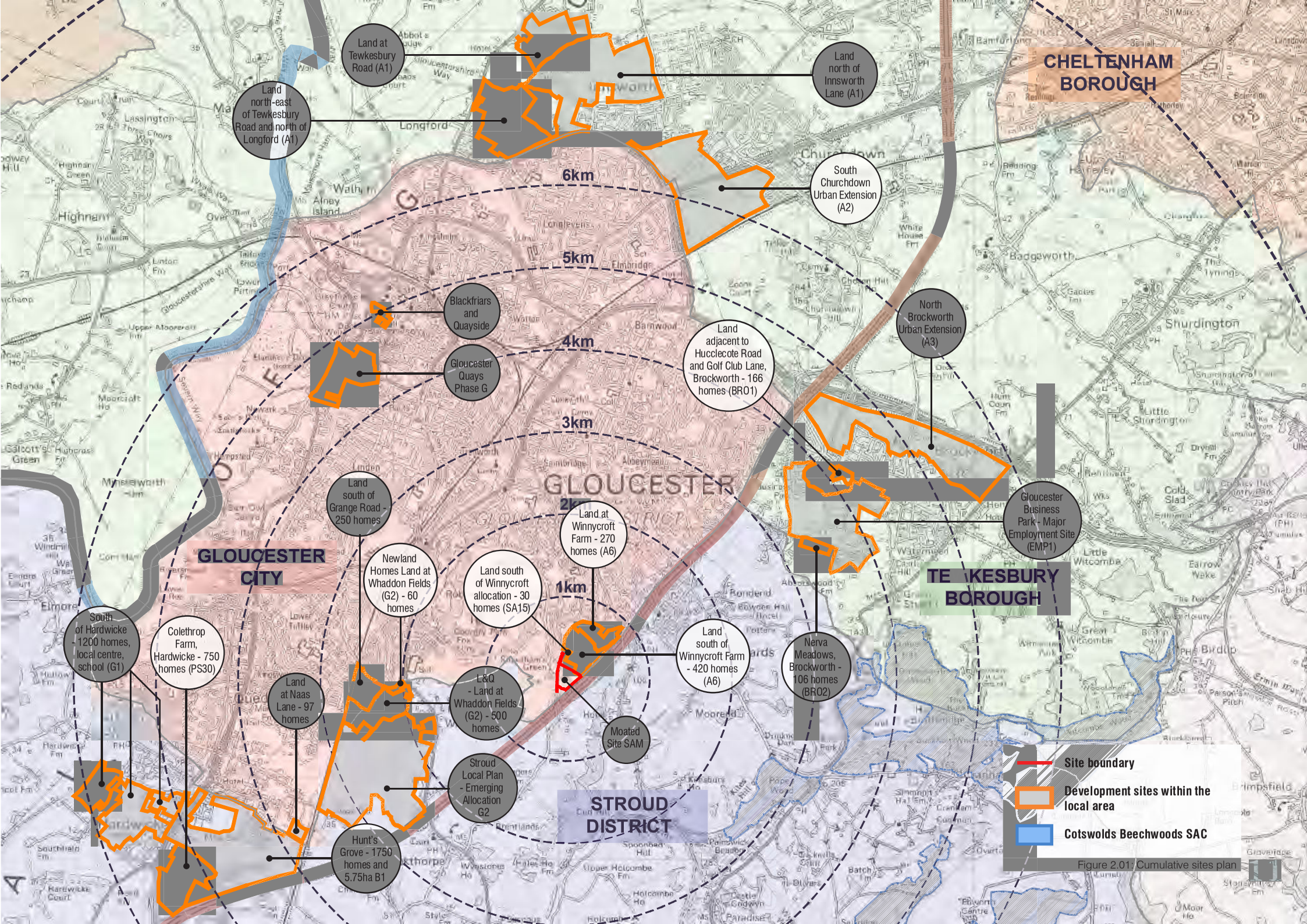


Figure 2.01: Cumulative sites plan

2.0 | Assessment

2.1 | Planning Policy and Design Guidance

Within the emerging City Plan, in its current draft section E is concerned with the historic environment. Of relevance to the current application are Polices E1 and E2 as well as Design Policy G12.

Policy E1: Historic environment development management

The City Council will support development that conserves the significance of designated and non-designated heritage assets including archaeological remains and locally listed buildings.

Great weight will be given to the conservation of the City's heritage assets. New development affecting a designated or non-designated heritage asset or its setting, including alterations and additions, will be expected to make a positive contribution to its character, appearance and significance.

Policy E2: Recording and advancing understanding of heritage assets

Where development will result in the loss (wholly or in part) of a heritage asset, the City Council will require developers to record and advance understanding of the significance of that asset prior to or during development.

The appropriate form of mitigation employed will be dependent on the nature of the impact but may include:

- *Historic building recording;*
- *Archaeological watching brief;*
- *Archaeological evaluation;*
- *Archaeological excavation; and*
- *Preservation in situ by design.'*

Policy G12: Design standards

Design is of a high quality that takes every opportunity to drive up the standard of development in an area.

It is simply not acceptable to reproduce poor or low quality design to be 'in keeping with the local area'. This outlook goes against the intention of national and local design policy and guidance. It is also integral to the ambitions of the City Council to ensure that all new development achieves a high standard of integrated design, which reflects the local context and takes advantage of any opportunities to improve the character and quality of an area.

Historic England's Guide: The Setting of Heritage Assets

Historic England design guide has also been influential in the design approach adopted, and the extract below sets out design principles to incorporate the wider setting of the Scheduled Monument, Moat Site at Sneedham's Green.

Historic Environment Good Practice Advice in Planning Note 3 (Second Edition)

'Step 4: Explore ways to maximise enhancement and avoid or minimise harm:

Maximum advantage can be secured if any effects on the significance of a heritage asset arising from development likely to affect its setting are considered from the project's inception. Early assessment of setting may provide a basis for agreeing the scope and form of development, reducing the potential for disagreement and challenge later in the process.

38 Enhancement (see NPPF, paragraph 137 may be achieved by actions including:

- *removing or re-modelling an intrusive building or feature,*
- *replacement of a detrimental feature by a new and more harmonious one,*
- *restoring or revealing a lost historic feature or view,*
- *introducing a wholly new feature that adds to the public appreciation of the asset,*
- *introducing new views (including glimpses or better framed views) that add to the public experience of the asset, or*
- *improving public access to, or interpretation of, the asset including its setting.'*

National Design Guide, Planning practice guidance for beautiful, enduring and successful places, January 2021

The Government has published the recent National Design Guide which addresses the question of how we recognise well-designed places, by outlining and illustrating priorities for well-designed places in the form of ten characteristics.

The ten characteristics are derived from sound design principles, which have been influenced from a catalogue of informative design guides, such as the Design Compendium, Manual for Streets and Building with Nature.

The Characteristics are;

- Context – enhances the surroundings.
- Identity – attractive and distinctive.
- Built form – a coherent pattern of development.

- Movement – accessible and easy to move around.
- Nature – enhanced and optimised.
- Public spaces – safe, social and inclusive.
- Uses – mixed and integrated.
- Homes and buildings – functional, healthy and sustainable.
- Resources – efficient and resilient.
- Lifespan – made to last.

The application of these cross-cutting themes for good design set out in the National Planning Policy Framework, all contribute to the delivery of a successful place and demonstrated in this proposal.

Living with Beauty, Promoting Health, Well-being, and Sustainable Growth, January 2020

This report sets out a new development and planning framework, should address the following principles:

- Ask for Beauty
- Refuse Ugliness
- Promote Stewardship

The integrated team of a landscape architect, heritage expert, engineers, and architects have collaborated throughout the design process to ensure the scheme reached a quality benchmark on all matters relevant to placemaking. This included strategies to promote sustainable development and achieve a healthy life.

The proposal sets out how built and natural environment come together to provide a scheme that integrates into its immediate setting and is locally inspired. The landscape led approach has created a green infrastructure and public spaces that enhance the setting of the place and providing opportunity to provide biodiversity net gains.

Design Considerations

The masterplan design approach has both integrated the 'landscape-led' approach advocated in the six design objectives set out in the Historic England's design guide **'The Setting of Heritage Assets'**, and demonstrated in the Chapter 4.0 'Design'.

Figure 2.03: The ten characteristics of well-designed places from National Design Guide p.8 (ref: National_design_guide).

Figure 2.02: The cover for Historic England's The Setting of Heritage Assets design guidance document.

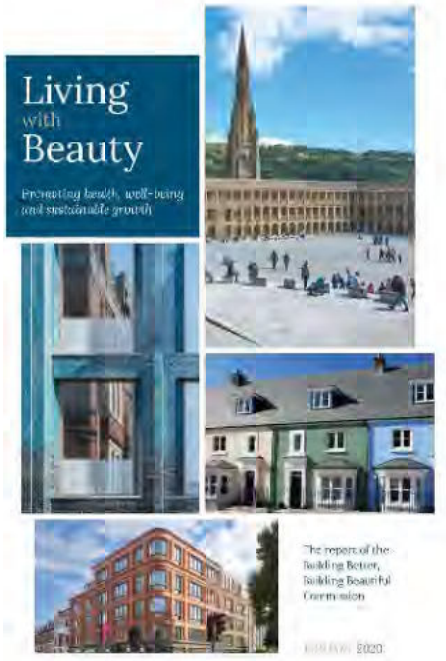


Figure 2.04: The cover for BBBBC's Living with Beauty report (ref: Living_with_beauty_BBBBC_report).

2.0 | Assessment

2.2 | Local Facilities & Connections

Overview

A wide variety of facilities can be found within 2km of the site including doctor's surgeries, dentists, supermarkets, recreation facilities, as well as primary and secondary schools.

The Matson Local Centre on Matson Avenue contains the nearest concentration of amenities including convenience stores, a pharmacy, laundrette and cafés. The Redwell Centre and Matson Rugby Football Club are also located in this area. A 10 minute bus service (Stagecoach Route 1) operates on Matson Avenue providing a connection to Gloucester city centre.

Two Public Rights of Way (PRoW) cross the site which provide connections to a wider network of footpaths and recreational routes including the 55 mile Wysis Way which connects Monmouth to the village of Kemble. These PRoWs will require diversion and incorporation into the proposal's pedestrian movement structure.

Site Boundary

Main Roads

M5 Motorway

Public Rights of Way

Byways

Bus Routes and Stops

Schools

1. Calton Primary School
2. Robinswood Primary Academy
3. Moat Primary School
4. Heron Primary School
5. Abbeymead Primary School
6. Upton St. Leonards Primary School
7. Willow Primary Academy
8. Ribston High School
9. Finlay Community School
10. Gloucester Academy
11. Coopers Edge School
12. St Peters High School College
13. Wyndstone School

Sports and Recreation

14. Gloucester Golf Centre
15. Matson Rugby Football Club
16. Gloucester Dry Ski Slope
17. Gloucester Rifle Range
18. St. Leonards Cricket Club
19. Bedland Paintball
20. Brooklam Motorcross Track

Places of Worship

1. St. Barnabas Church
2. Trinity Baptist Church
3. Upton St.Leonards Parish Church
4. St. Margaret Whaddon Parish Church
5. Matson Church
6. Abbey Church
7. St Augustine of Canterbury Church
8. St. Katherines Church

Public House

9. Three Oaks Inn
10. The Fox and Elm
11. The Club at Tuffley Park
12. The Ridge and Furrow
13. The Turmet Hoer
14. The Kings Head

Petrol Stations

15. Gloucester Services M5
16. Ecotricity Charging Station
17. Esso EG Tuffley
18. Shell

Hotels

19. Gloucester Robinswood
20. Mercure Bowden Hall
21. Hatton Court
22. The Hawthornes

Doctor's Surgeries

21. Matson Lane Surgery
22. Glevum Way Surgery
23. Wheatway Surgery
24. Saintbridge Surgery

Dentists

25. Cotteswold House
26. BUPA Dental
27. Abbeymead Dental

Supermarkets

28. Morrisons
29. Co-op
30. Tesco

Nurseries

31. Best Friends
32. Chipmunks
33. Shooting Stars

Community Centres

34. The Phoenix Centre
35. The Redwell Centre

Park

36. Robinswood Hill

Figure 2.05: Matson Local Centre

Figure 2.06: Matson Rugby Football Club

Figure 2.07: The Redwell Centre

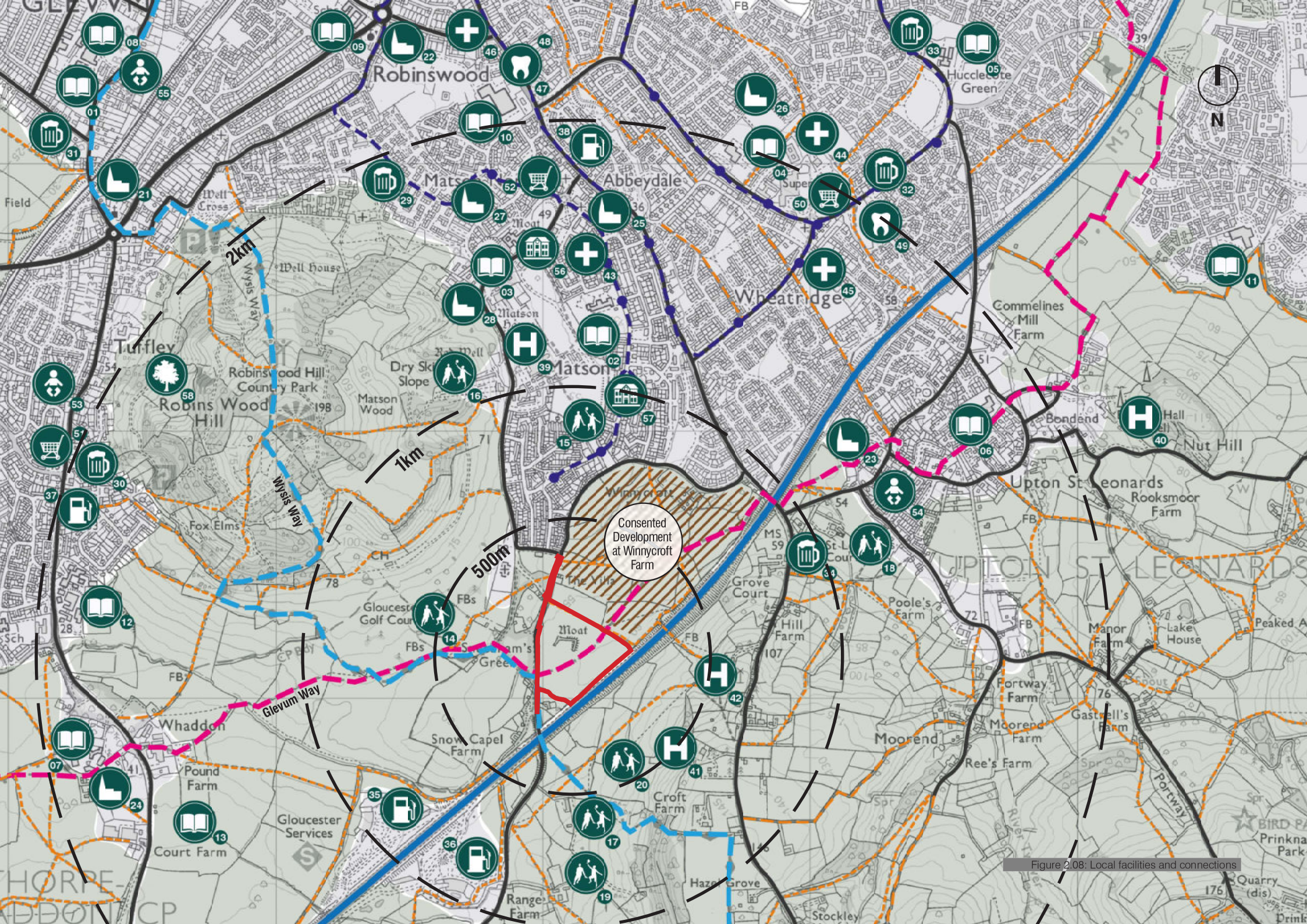


Figure 2.08: Local facilities and connections

2.0 | Assessment
2.3 | Heritage and Archaeology

Figure 2.09: View southeast across moat

Figure 2.10: View southeast across Sneedham's Green

Figure 2.11: Looking north across the Medieval moat

Heritage Assessment

The development framework has been progressed in light of baseline work completed by EDP in terms of the SM's heritage significance, and the contribution made to that by its current setting, clearly recognising the extent to which that has changed and evolved over time.

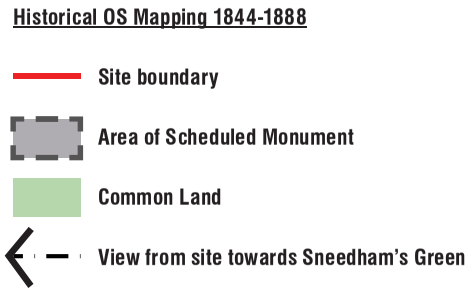
This baseline work has underpinned the identification and assessment of potential impacts, but it is quite clear that the asset's existing setting has been denuded of value and richness through the construction of the M5 motorway in the 1950's. The construction activity disturbed ~90% of the ground surface of the site, and concealed elements of the SM's earthworks and potential archaeological remains beneath accumulations of dumped spoil.

Analysis of OS historical mapping dating back to 1885, clearly illustrates the extent to which the setting of the moated enclosure has been changed by the construction of the adjacent motorway even since the late 19th century.

The relationship of the moat with the Common at Sneedham's Green and the field boundary and public routes are characteristic features of the monument's setting, which has suffered through the loss of historic field boundaries. The same is true of the asset's physical form and fabric, specifically reflected in the infilling of the enclosure's southern arm.

Design Considerations

In response, the design proposes to form a memory of the moat's southern arm and to replant the historical field boundary. This intervention will provide a landscape element to inform the spatial structure of the housing enclosure and to stitch into to the wider field pattern, as well as combining with other measures (such as the provision of interpretation boards) to provide increased public engagement with and enjoyment of this nationally important monument.



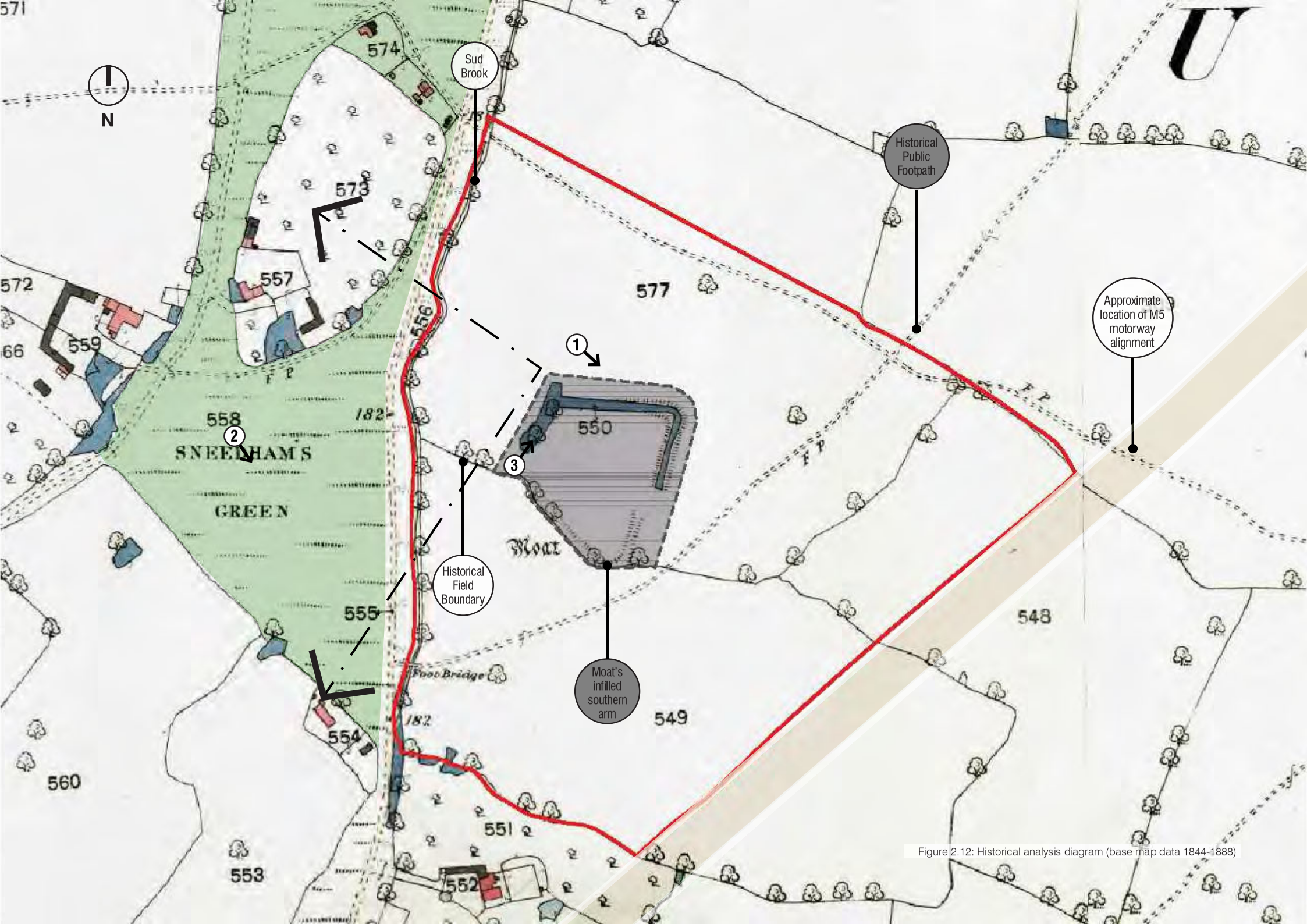


Figure 2.12: Historical analysis diagram (base map data 1844-1888)

2.0 | Assessment

2.4 | The Moated Site and Sneedham's Green

History of the Moated Site

The SM located within the Site, referred to as 'the Moated Site at Sneedham's Green' is thought to have been occupied by a manor house, from the 12th and 13th centuries with documentary evidence suggesting that it was the residence of Norman nobles, the 'De Sneedhams'. The Sneedham's gave their name to the manor of Sneedham and the adjacent area of common land, Sneedham's Green, which may have at the time have formed part of the grounds of the manor.

The remains of the Moated site at Sneedham's Green are located within a fenced enclosure roughly at the centre of the Site. The monument in the present day is experienced as a linear pond surrounded by open pasture, containing reeds, scrub vegetation, and trees at its eastern end.

Sneedham's Green is shown on the Tithe Map of Upton St Leonard's Parish dating from 1840 with several farms and other dwellings set around it and on 'island' of land at its centre, comprising the small manorial hamlet of Sneedham's Green. The Green appears to have formed at the confluence of four local routes between villages and was probably used for grazing animals being driven along these routes, forming a central feature with the small settlement.

Due to the visual screening of hedgerows which bound the site, the monument is not readily experienced from the wider landscape that contributes to its historical significance. As such much of the visual relationship between Sneedham's Green and the moated site has been lost. Additionally as noted on the previous page the wider landscape setting has been compromised by the loss of historic hedgerows and the construction of the M5 Motorway.

Design Considerations

The proposal will seek to re-establish the historic link between Sneedham's Green and the moated site by framing viewpoints through the hedgerow which forms the Site's western boundary.

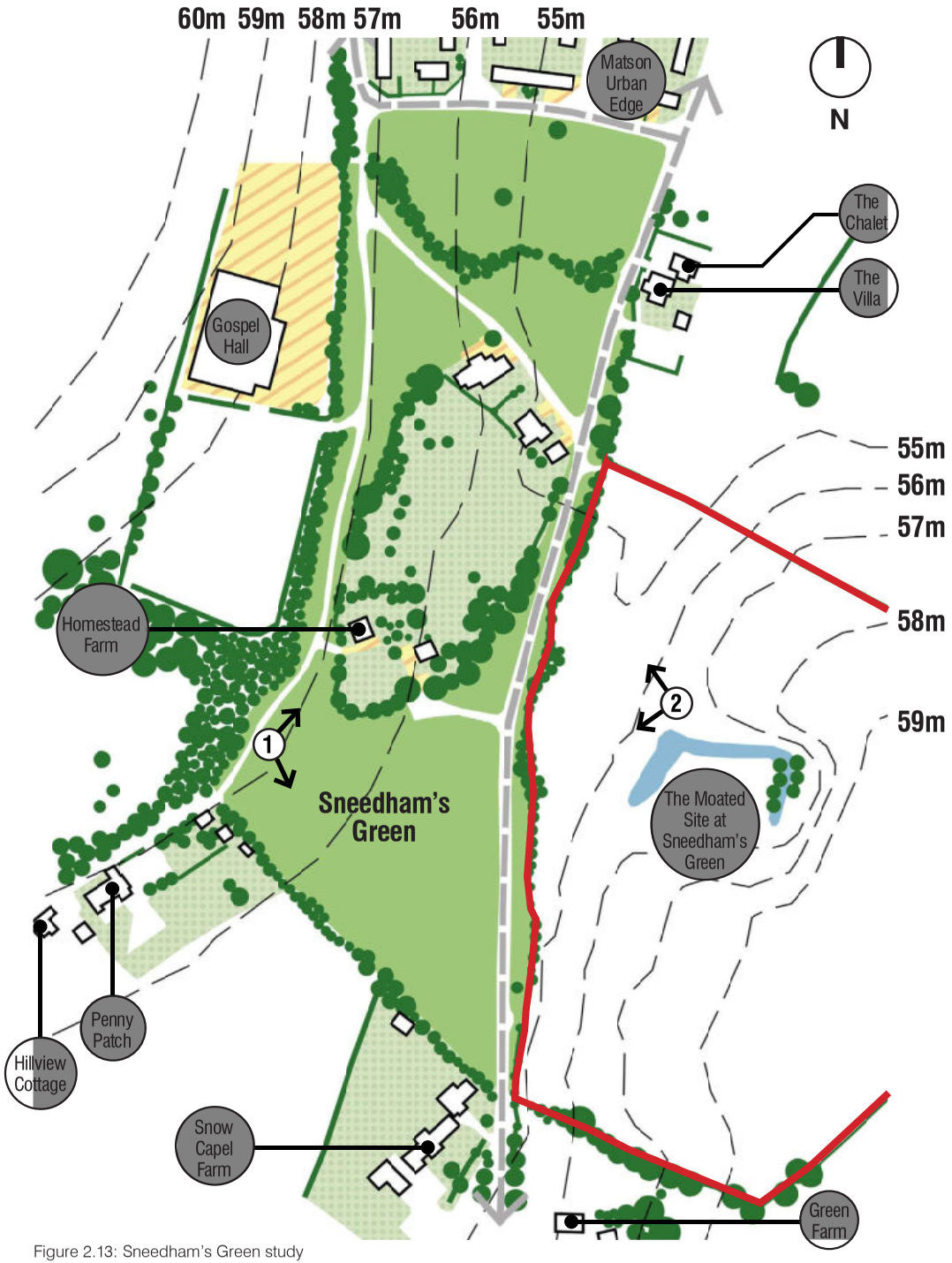


Figure 2.13: Sneedham's Green study

Figure 2.14: Looking eastwards across Sneedham's Green towards the site

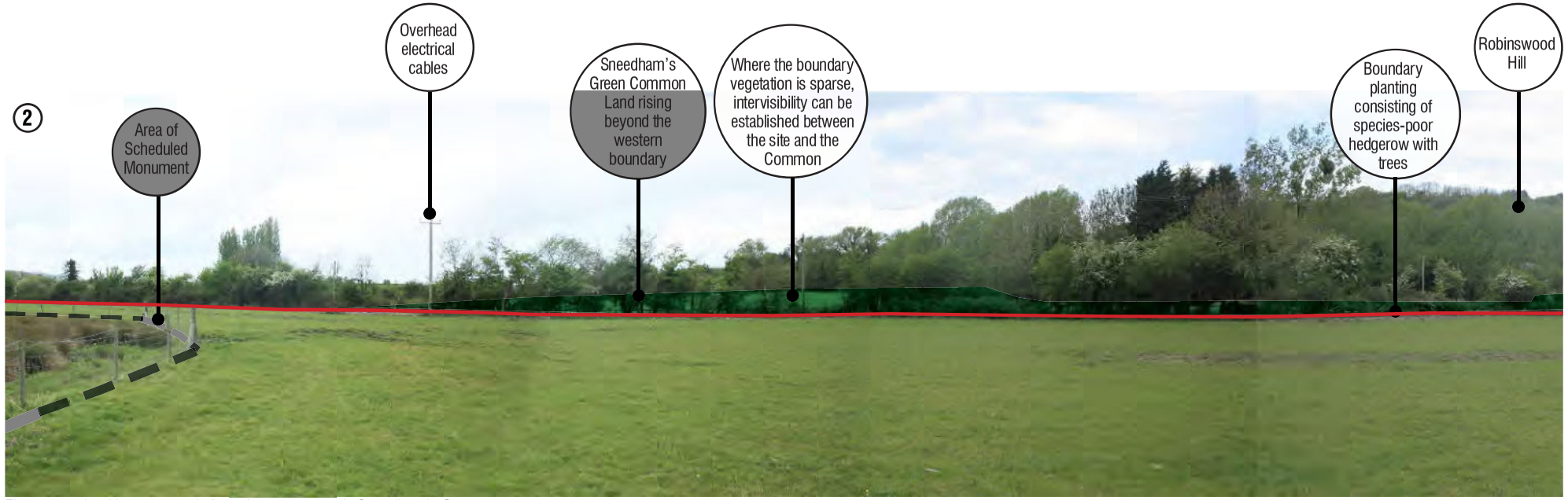


Figure 2.15: Looking westwards from the moat towards Sneedham's Green

2.0 | Assessment
2.5 | Local Context

Historical Growth

Throughout much of it's history the area of Matson was predominantly rural comprising of scattered farmsteads and agricultural land. Winnycroft Farm, Larkham Farm (now Hallmark Health Club), Matson House, Robin's Farm and Grove Farm were the largest of these rural clusters.

The area changed significantly with the construction of the 1950's council estate to the north changing the overall character of the locality from rural to settlement edge. The construction of the M5 Motorway further urbanised the area and altered the landscape.

The development of the allocated site at Winnycroft Farm will further urbanise the area and bring the settlement edge directly adjacent to the Site.

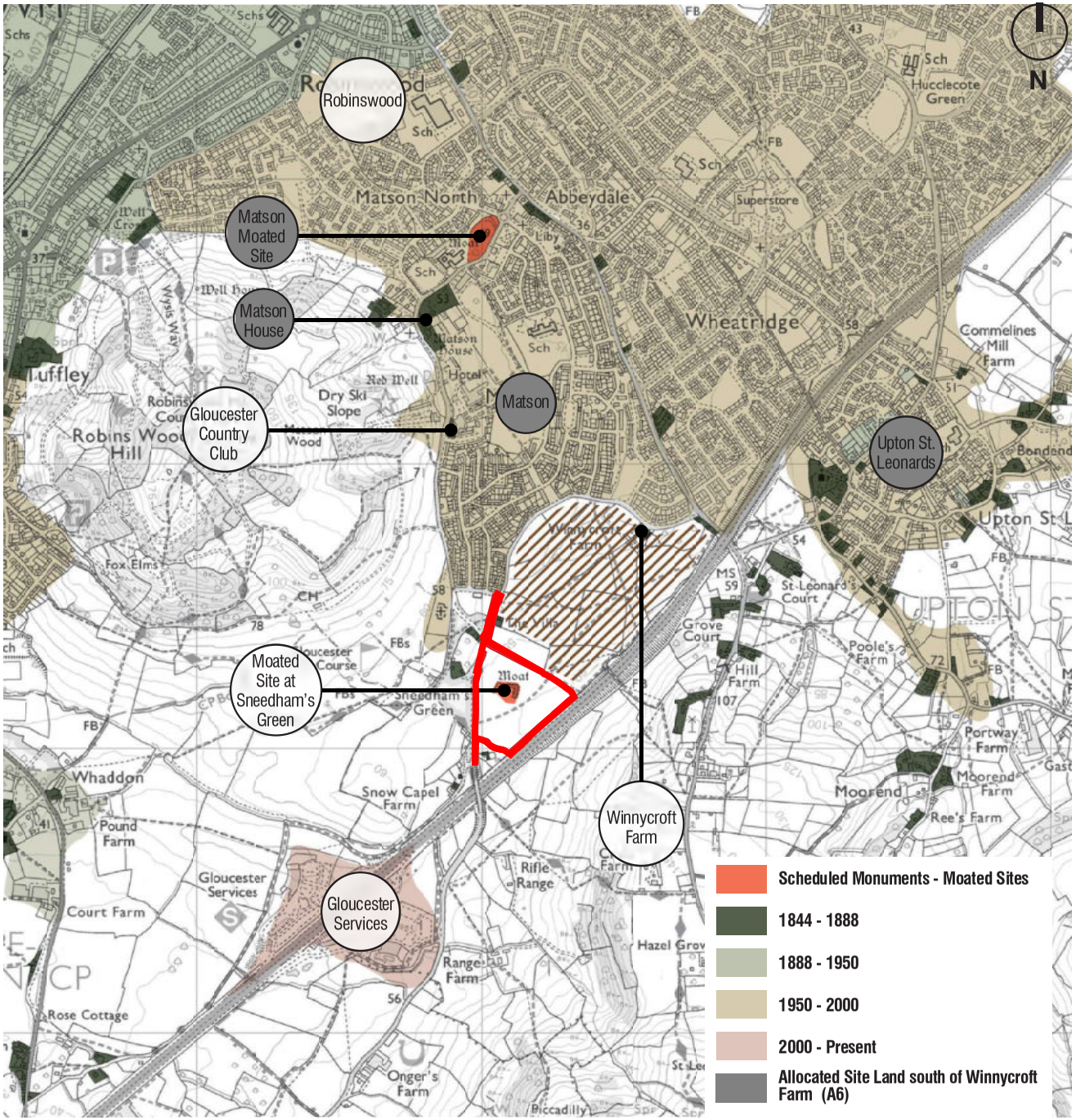


Figure 2.16: Historical morphology diagram

Sneedham's Green Today

Sneedham's Green is a large open area of common land presently used as pasture. Around the green are a few dwellings and farmsteads including Green Farm, Homestead Farm and Yew Tree Cottage.

The settlement at Sneedham's Green does not contain any medieval dwellings, indeed its northern edge is defined by modern development but, on account of its status as common land the Green has retained its historic form and its openness.

Winnycroft Lane passes through the Green with no division or screening between the roadway and the common. However, The Green is not easily experienced from the remains of the moat and vice versa, with views for the most part screened by the western boundary hedgerow and the fall of the landform.

Matson

The local urban area of Matson is largely defined by the council estate which was constructed in the 1950's. The character of this estate is typical of the era and features a mixture of semi detached and terraced housing as well as 3-4 storey blocks of flats.

There is a recent suburban scale infill housing project at Marlstone Close pictured in fig 2.22 which reflects scale and massing of similar projects in the Gloucester area.

Design Considerations

Create a place with local identity by incorporating the distinctiveness of a historical Gloucestershire village scale and character.

Figure 2.17: Green Farm, beyond the southern boundary

Figure 2.18: The Villa and The Chalet, north of the site

Figure 2.19: Dwellings within Sneedham's Green

Figure 2.20: Flats and terraces in Matson

Figure 2.21: Semi-detached dwellings in Matson

Figure 2.22: Recent C21 housing in Matson

2.0 | Assessment
2.6 | Local Distinctiveness

Matson Moated Site

There is another moated site approximately 1.6km north of the site within the urban area of Matson. Like the moat at Sneedham's Green this feature is a Scheduled Monument.

This monument is formed of a moated enclosure set on low-lying ground. The northern and western parts remain visible as earthworks, enclosing a central island measuring 100-70m. The southern and eastern arms have been in-filled although when this occurred is uncertain. The moat area is enclosed on three sides by steel mesh fencing and is inaccessible to the general public.

The present day context is now urbanised with the margins of Norbury Avenue and Matson Lane enclosing the moat to the north and east, the grounds of a school abutting the moat to the south and the rear aspect of adjacent dwellings backing onto the moat to the west.

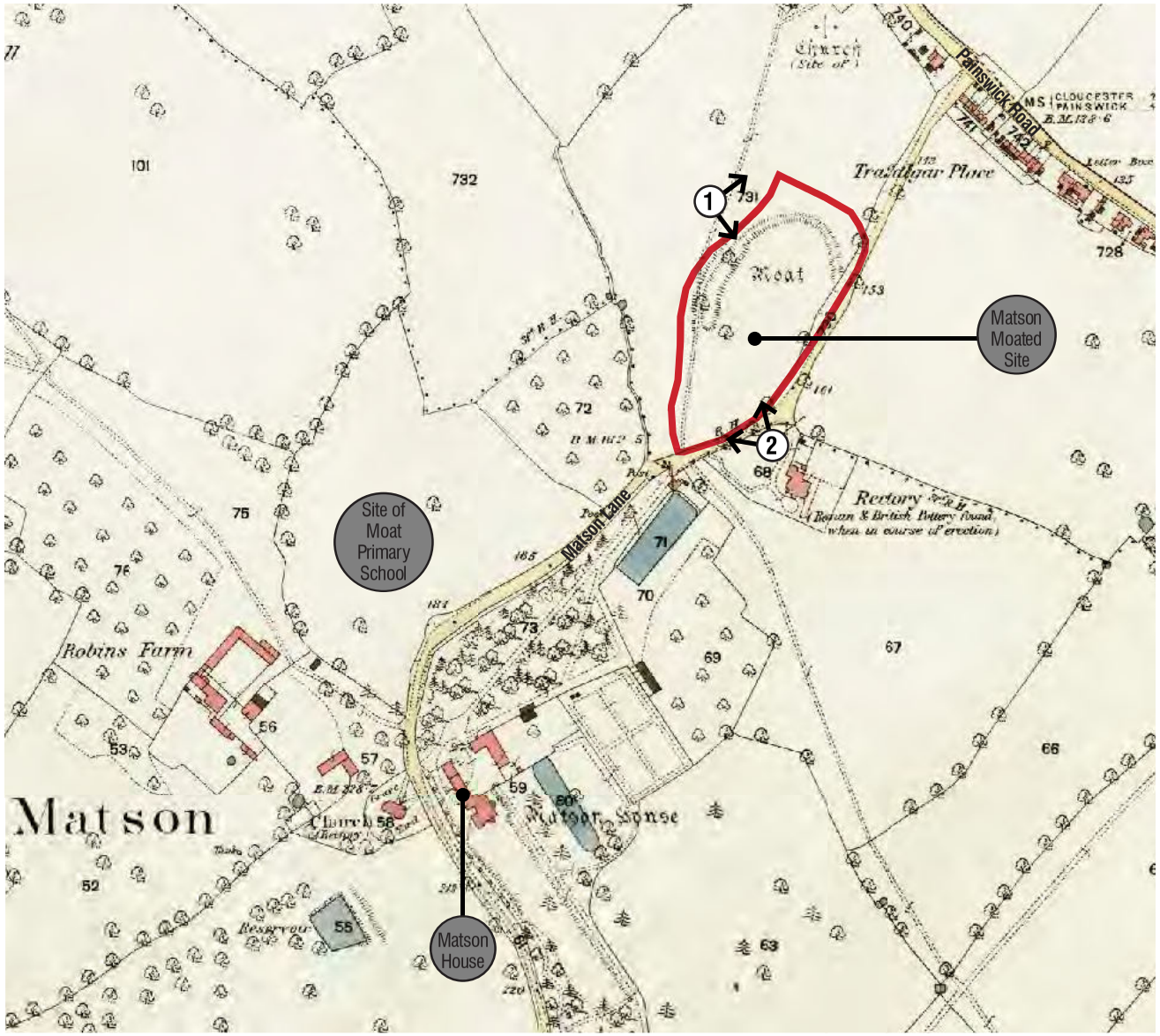


Figure 2.23: Historical mapping of the Matson Moated Site (1844-1888)

Lessons Learnt

- The Matson Moated Site is maintained as an enclosed inaccessible mown field. In contrast, the proposal for the site at Snow Capel will integrate the moat feature into a carefully planned park setting and use the characteristics of a Gloucestershire village to set an attractive, safe, and successful public realm and place to live.
- In reference to Historic England's design guide the scheme will aim to improve public access to, or interpretation of, the asset including its setting.

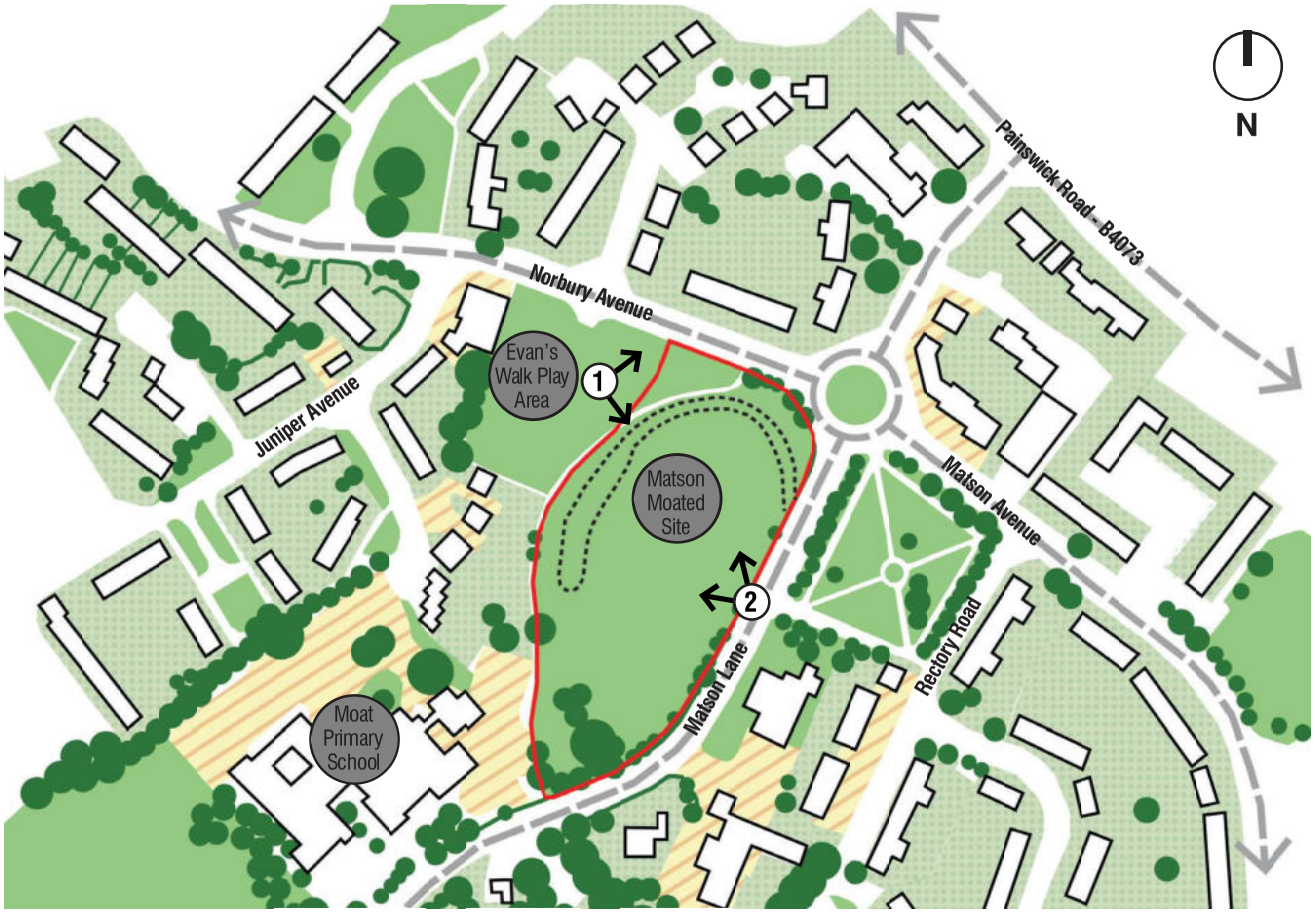


Figure 2.24: Study of the urban context at the Matson Moated Site

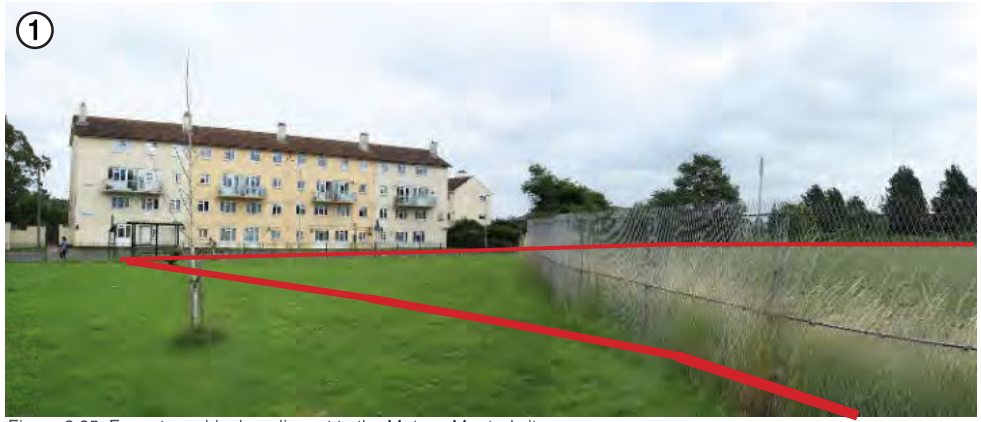


Figure 2.25: Four storey blocks adjacent to the Matson Moated site

Figure 2.26: View across the Matson Moated Site (note a perimeter fence prohibits direct access)

2.0 | Assessment
2.6 | Local Distinctiveness

Frampton on Severn

Given that the sites immediate context is of varied C.20 character, observations from the initial site assessment have primarily drawn upon the settlement of Frampton on Severn as a good example of a typical Gloucestershire village structured around a key green public realm.

Frampton on Severn is a uniquely arranged village approximately 7 miles from the site a short distance from the southern edge of Gloucester. The distinctive feature of this village is its large village green which overall is approximately 22 acres in size.

Fronting onto the green is a mixture of house types from different eras including timber framed cottages, Georgian manor houses, combinations of long frontage dwellings and gable ends, as well as more modern 20th century in-fill housing. Housing within the village has a simple but varied materials palette including brick painted render, local stone, clay tile and slate. Older cottages feature distinctive timber framing.

Frampton on Severn is a useful precedent as it shows successful and characterful compositions of housing facing onto a large area of open space.

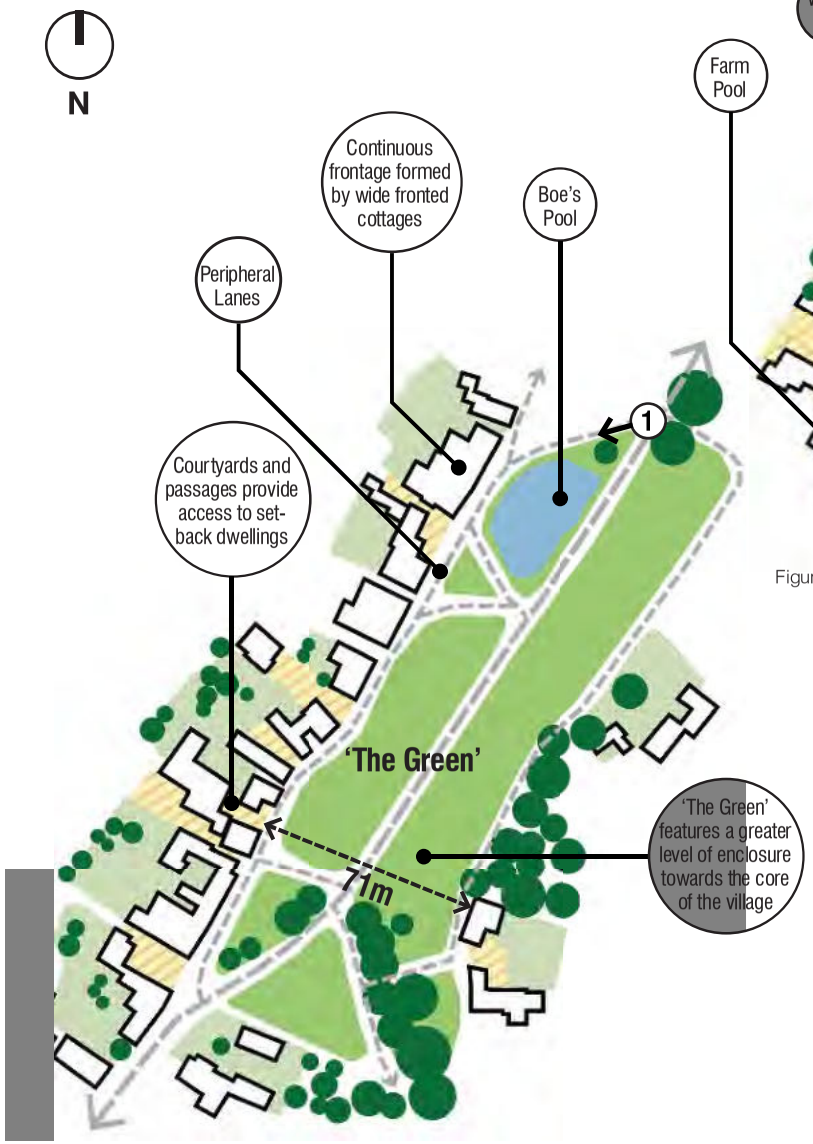


Figure 2.27: Study of the southern end of Frampton on Severn's village green

Figure 2.28: Study of the northern end of Frampton on Severn's village green

Design Considerations

Elements of the character of Frampton on Severn will inform the arrangement of open space, scale of built form and character of the proposal.

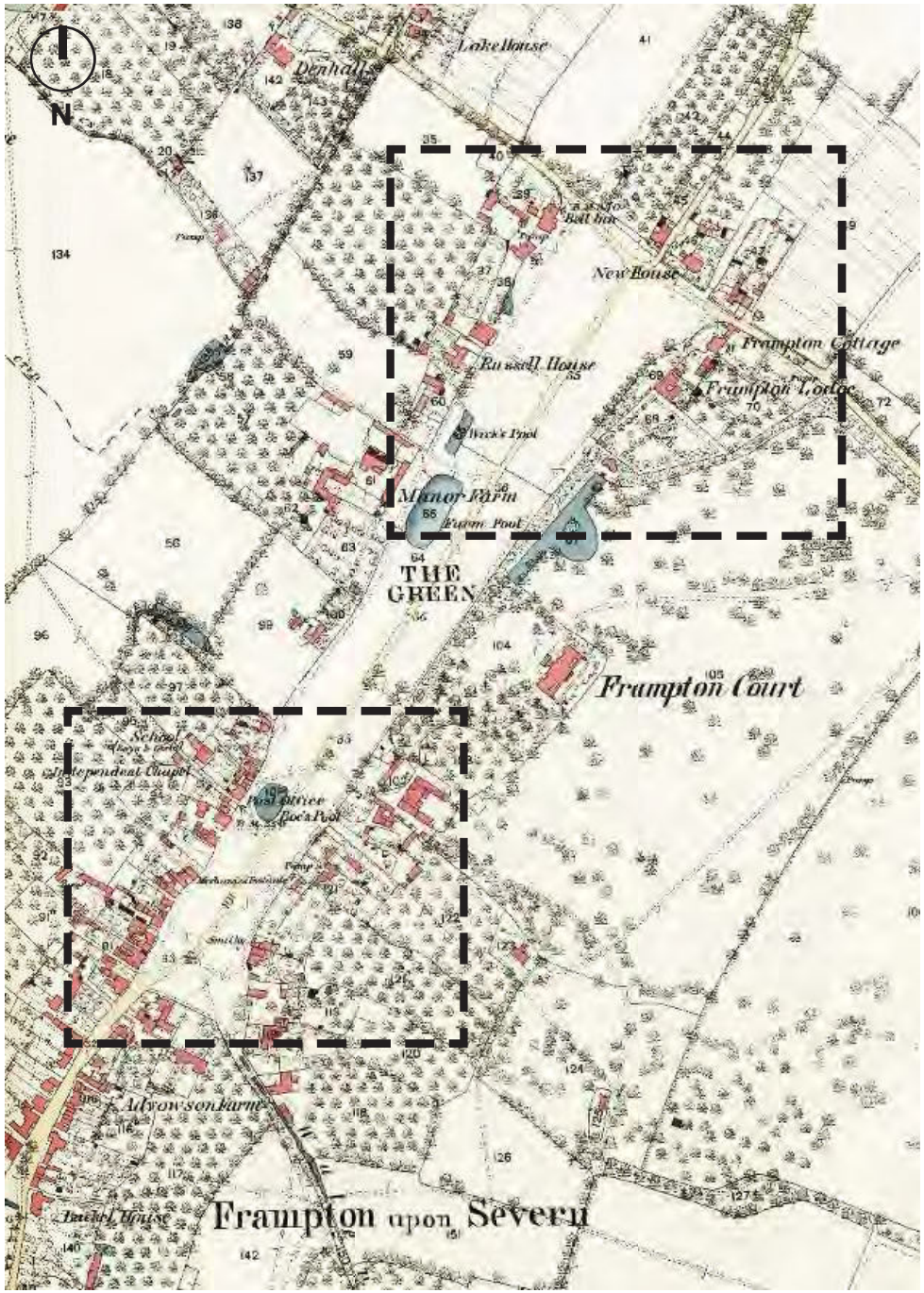


Figure 2.29: Historic map of Frampton on Severn (1844-1888)

Figure 2.30: View westward across Boe's Pool

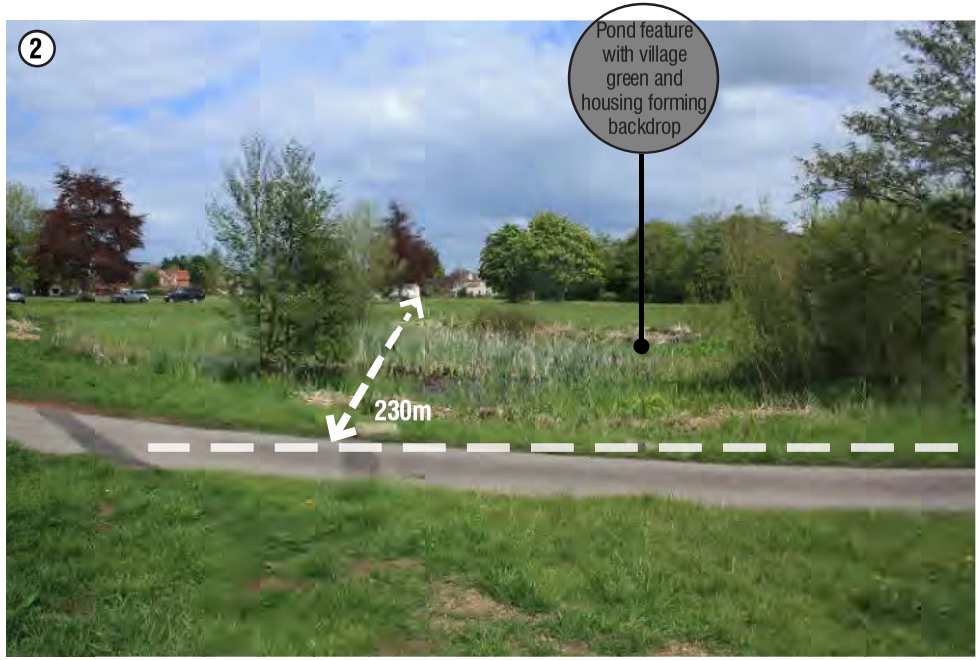


Figure 2.31: View across Wick's Pool towards housing on the north side of 'The Green'

2.0 | Assessment
2.6 | Local Distinctiveness

With the aim of reinforcing local distinctiveness and respecting local context in the design process, the architectural character of the local area has been considered to assess what aspects may influence the scale, form, appearance and materials of the scheme.

There are several historical farmsteads dotted within the landscape and generally feature a principal farmhouse, adjoined by ancillary outbuildings to form an enclosed courtyard.

Winnycroft Farm

Winnycroft Farm consists of a principal GII listed two-storey C18 farmhouse with a sequence of ancillary outbuildings. The farmhouse is constructed from red brick with a projecting plinth and corbelled eaves. The gable addresses the roadside with the primary frontage opening onto an internal court.

Snow Capel Farm

Snow Capel Farm is a smaller farmstead featuring a main 1.5 storey farmhouse and L-shaped grouping of outbuildings. The building has been adapted through the C20 and the origin of the original building was formed by 3 bay wide frontage cottage dwelling fronting onto the lane.

Settlements

Further beyond the farmsteads are nearby settlements of Brookthorpe and Upton St. Leonards. The character and pattern of the C17 settlements are referenced due to their proximity to the study Site to provide an insight to the local distinctiveness of the area.

Upton St. Leonards

The junction of Rance Pitch and the High Street pictured in fig. 2.36 shows older parts of the village buildings. The materiality shows a mix of local stone, brick and timber applied to different building forms. The different typology, building heights and footprints create a varied roofscape. The terrace grouping is formed of different style cottages providing a diverse character.

A prominent detached corner house marks the entrance to High Street and is forward of the terrace building line. Upton St. Leonards High Street is formed of short terraces of historic dwellings which feature a varied roof-line and a mixture of short and wide frontage units.

Brookthorpe

The origins of small linear Gloucestershire village dispersed along the route of the A4173. Brookthorpe Court is a Grade II * Listed 16th Century former Manor House which forms a principle grouping of buildings as pictured in fig 2.35 in 1844-1888 OS plan.

The principal Court building was built as a large country house with supporting ancillary barns forming an enclosure around a landscape area and court. The local materials are random rubble limestone and stone slate steeply pitched roof. The manor house main elevations have 2 principal gables providing prominent architectural feature.

Figure 2.32: Winnycroft Farm from Winnycroft Lane

- Farmstead courtyard enclosure formed of a farmhouse and u-shaped arrangement of ancillary buildings.
- Principal materials consist of red brick, timber weather boarding and plain clay tile roofing.

Figure 2.33: Snow Capel Farm

- 1.5 storey structure with lowered eaves with and a repeated dormer feature
- Materiality of the main farmhouse is formed of rendered walling and plain clay tile roofing. Ancillary buildings feature red brick walling and pan-tile roofing.

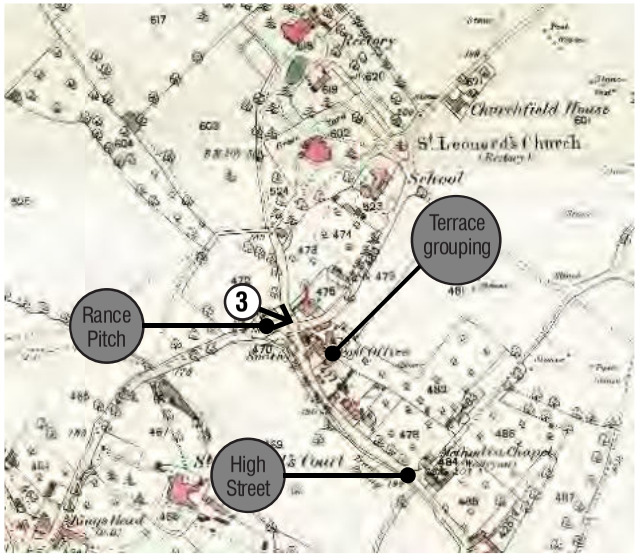


Figure 2.34: Historical map of Upton St. Leonards (1844-1888)

Figure 2.36: Upton St. Leonards Rance Pitch and High Street junction

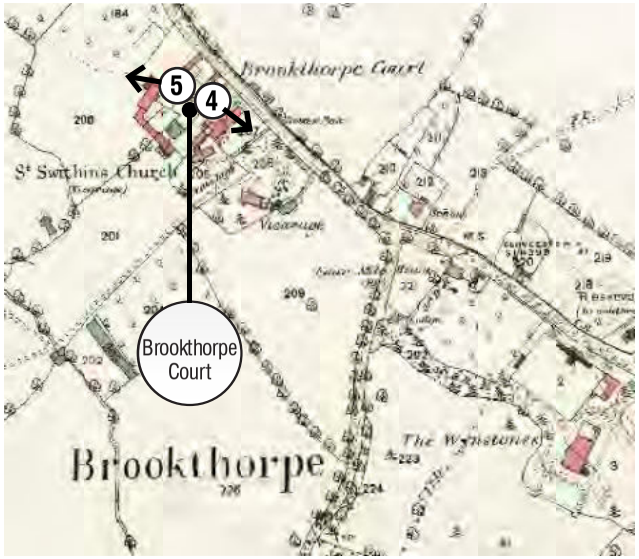


Figure 2.35: Historical map of Brookthorpe (1844-1888)

Figure 2.37: Brookthorpe Court principal building

Figure 2.38: Brookthorpe Court ancillary building

- Brookthorpe Court features a central courtyard enclosed by a principal manor house and a series of ancillary buildings. The ancillary buildings have been converted to use as dwellings with areas of the former farmstead courtyard providing access, parking and front garden areas.

2.0 | Assessment
2.6 | Local Distinctiveness

Moated Site at Manor Farm

Located within Kingsway, Gloucester, approximately 3.6km west of the site this moated site known as the Moated Site at Manor Farm is also a Scheduled Monument. Unlike the Moated Site at Sneedham's Green and the Moated Site at Matson this SM is within the private grounds of a Manor House. The house itself is GII Listed and originally dates from late C15, with additions of a C16 north wing and C19 south wing.

The moated site at Manor Farm survives in a relatively undisturbed condition. It comprises a rectangular four-armed moat, three arms of which remain visible, enclosing an island orientated north west-south east. The modern development of Kingsway has introduced residential frontage south of the Scheduled Monument area, additionally a segregated pedestrian and cycleway runs alongside the southern edge of the SM. The local centre of Kingsway which includes a small scale retail park and car parking areas has been constructed east of the SM area adjacent to the historic ancillary buildings of Manor Farm.

Manor Farm itself has been converted into a mixture of private residences and business premises, The Barn Owl, a public house and restaurant is located within the eastern outbuildings whilst Manor Farm Dog Grooming operates within an enclosed courtyard. The land surrounding Manor Farm now forms a mixture of Public Open Space, the grounds of Kingsway Primary School, Kingsway Community Centre, the local centre and to the south developed residential land.

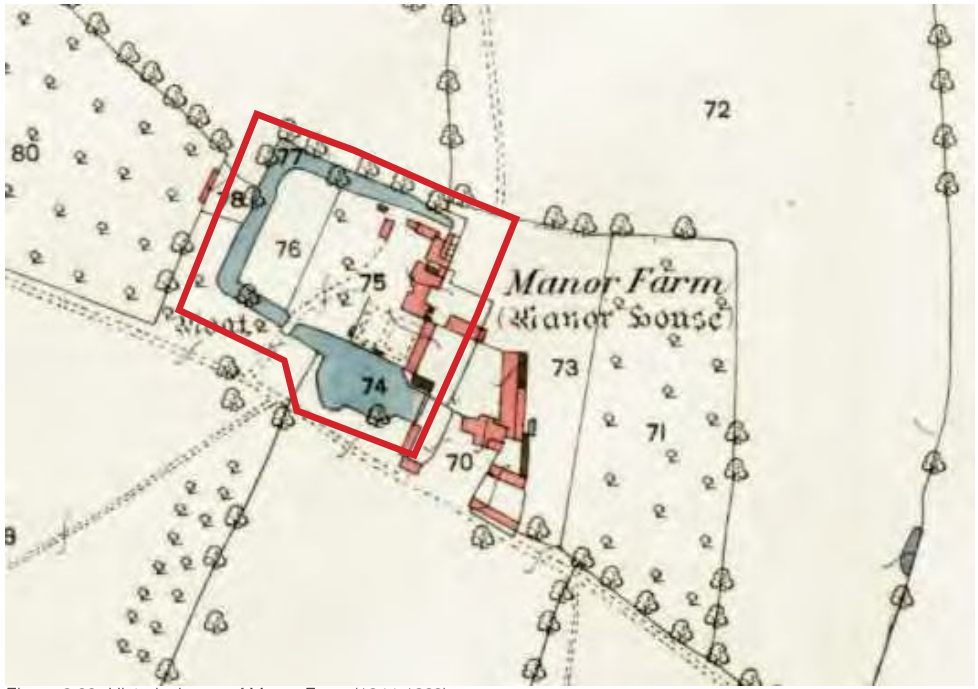


Figure 2.39: Historical map of Manor Farm (1844-1888)

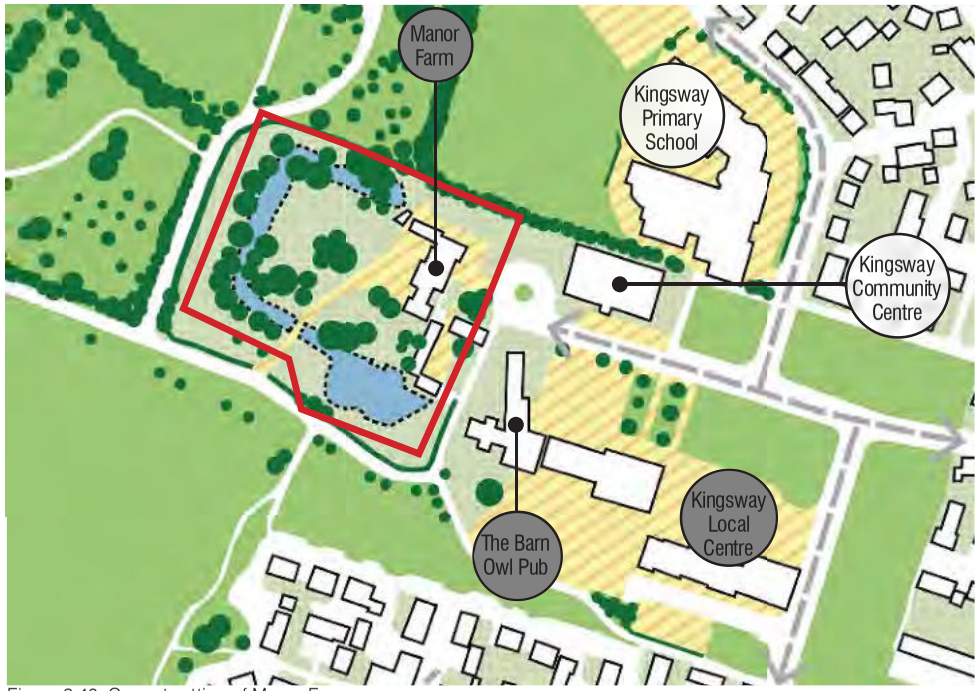


Figure 2.40: Current setting of Manor Farm

2.7 | Precedent - Hadnall

Overview

Although this development at Hadnall, is in Shropshire, it is a useful precedent to cite as the development involved the construction of residential dwellings and the restoration of a historic moat which is designated as a Scheduled Monument.

Lessons Learnt

- The landscape framework for the site provides both a set back from development and opportunity to protect the setting of the heritage asset.
- An offset has been formed between the frontages of new dwellings and the edge of the Scheduled Monument area. The moat remains continue to be appreciable within grassed open space from where the monument can be experienced. The setting of the monument is sensitively transformed with a domestic scale of architecture forming an active backdrop.
- The restoration involved clearing the overgrown site, cleaning the moat out, planting new hedging, reseeding the site of the old Manor House and ensuring the site will continue to be maintained to a high standard.

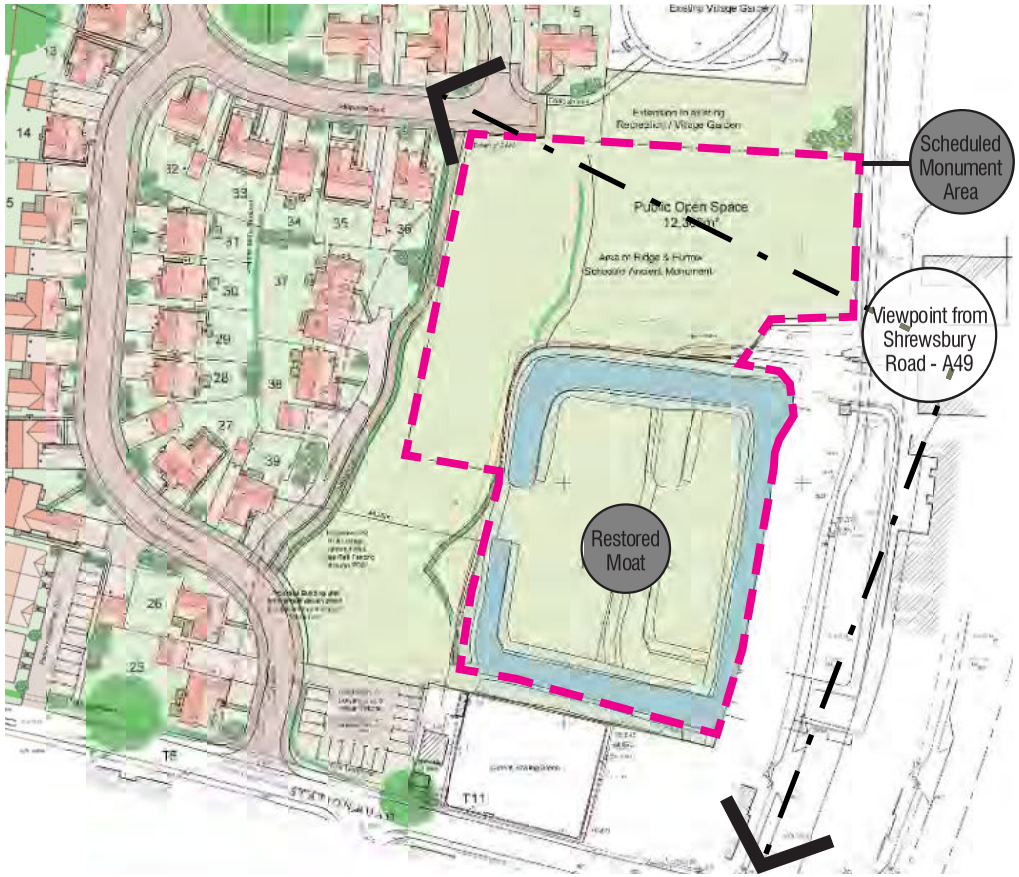


Figure 2.41: View from Shrewsbury Road showing historic moat at Hadnall in the foreground with recent development behind (taken from Google Streetview)

2.0 | Assessment
2.8 | Physical Audit

Site Boundaries (Northern)

The site's northern boundary is made-up of a hedgerow and trees. At the boundary's western end the hedgerow is species poor and relatively newly planted. At the eastern end the hedgerow is species rich and contains unmanaged mature trees. Beyond this boundary is the site 'Land south of Winnycroft Farm' which has been allocated for residential development and the provision of new public open spaces.

Site Boundaries (Eastern)

The eastern boundary is formed of a combination of species rich hedgerow with trees and scattered scrub. Beyond this boundary is the M5 Motorway which has a traffic noise impact upon the site. The Cotswolds AONB is east of the motorway corridor.

Site Boundaries (Southern)

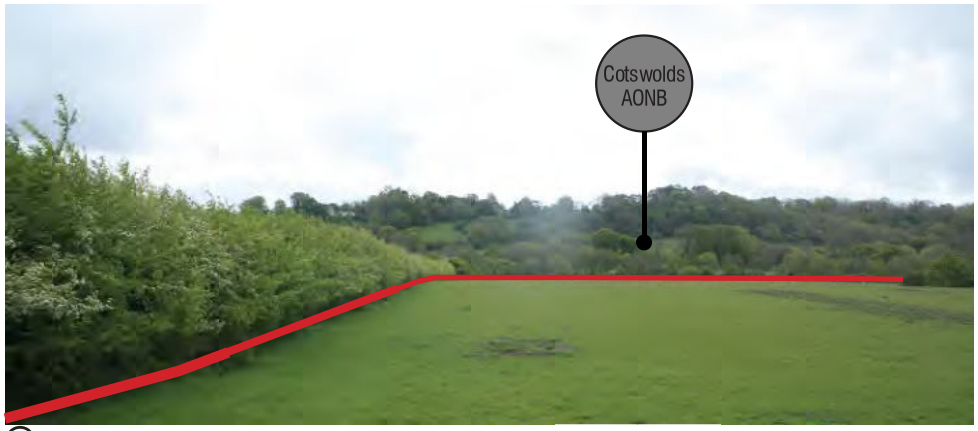
A defunct species-poor hedgerow with trees forms the southern boundary. Beyond this boundary is the property of Green Farm.

Site Boundaries (Western)

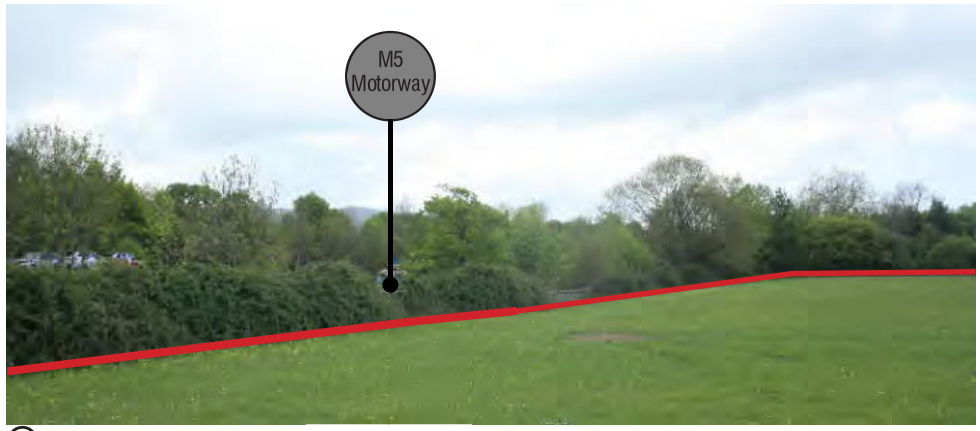
This boundary consists of a largely intact species poor hedgerow with trees. A local watercourse, Sud Brook runs within this hedgerow flowing northwards.

In places there are gaps in this hedgerow allowing glimpses through to Sneedham's Green to the west. Further to the west is the Robinswood Hill Nature Reserve.

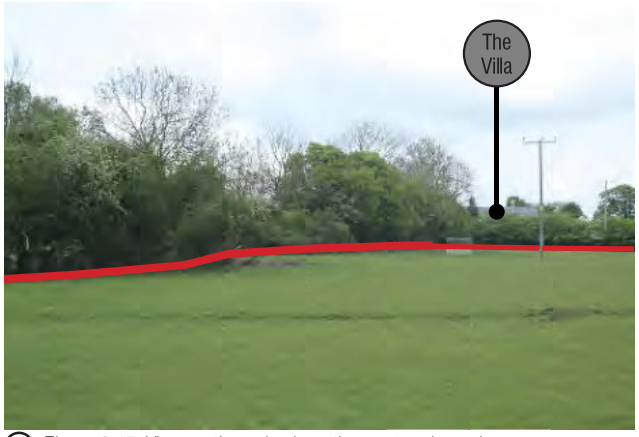
Figure 2.42: Site boundary diagram



1 Figure 2.43: View eastwards along the northern boundary



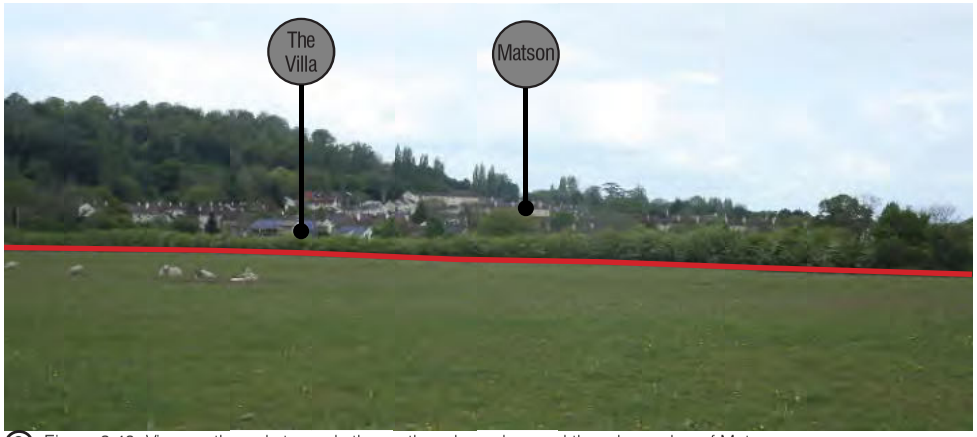
2 Figure 2.44: View southwards along the eastern boundary



3 Figure 2.45: View northwards along the western boundary

4 Figure 2.46: Close-up of the western boundary

5 Figure 2.47: View eastwards along the northern boundary



6 Figure 2.48: View northwards towards the northern boundary and the urban edge of Matson

7 Figure 2.49: View westward towards the site boundary and Robinswood Hill

2.0 | Assessment
2.8 | Physical Audit

Topography

The Site has a gentle slope from west to east, rising from approximately 55m AOD along Winnycroft Lane to 60-61m AOD alongside the M5. The Proposed Development will not require any major regrading of the existing land form in order to facilitate the proposed residential development.

Within the wider landscape the site resides within a valley area known as the Vale of Berkeley. Beyond the eastern boundary and the M5 the land rises from 60m to ~140m AOD over a distance of 540m.

To the west is Robinswood Hill which rises to 198m AOD and provides prominent viewpoints of the surrounding area.

Flood Risk and Drainage

The Site is situated within Flood Zone 1, these areas carry the lowest risk of flooding with a <0.1% chance of flooding in any year.

Utilities

Overhead electrical cables run roughly adjacent to the site's western boundary before crossing into Sneedham's Green.

Design Considerations

Topography and flooding present a very minor constraint to development. A strategy will need to be considered to deal with surface water run-off from the development and explained in the design chapter of this document.

The electrical cables can be undergrounded removing them as a constraint.

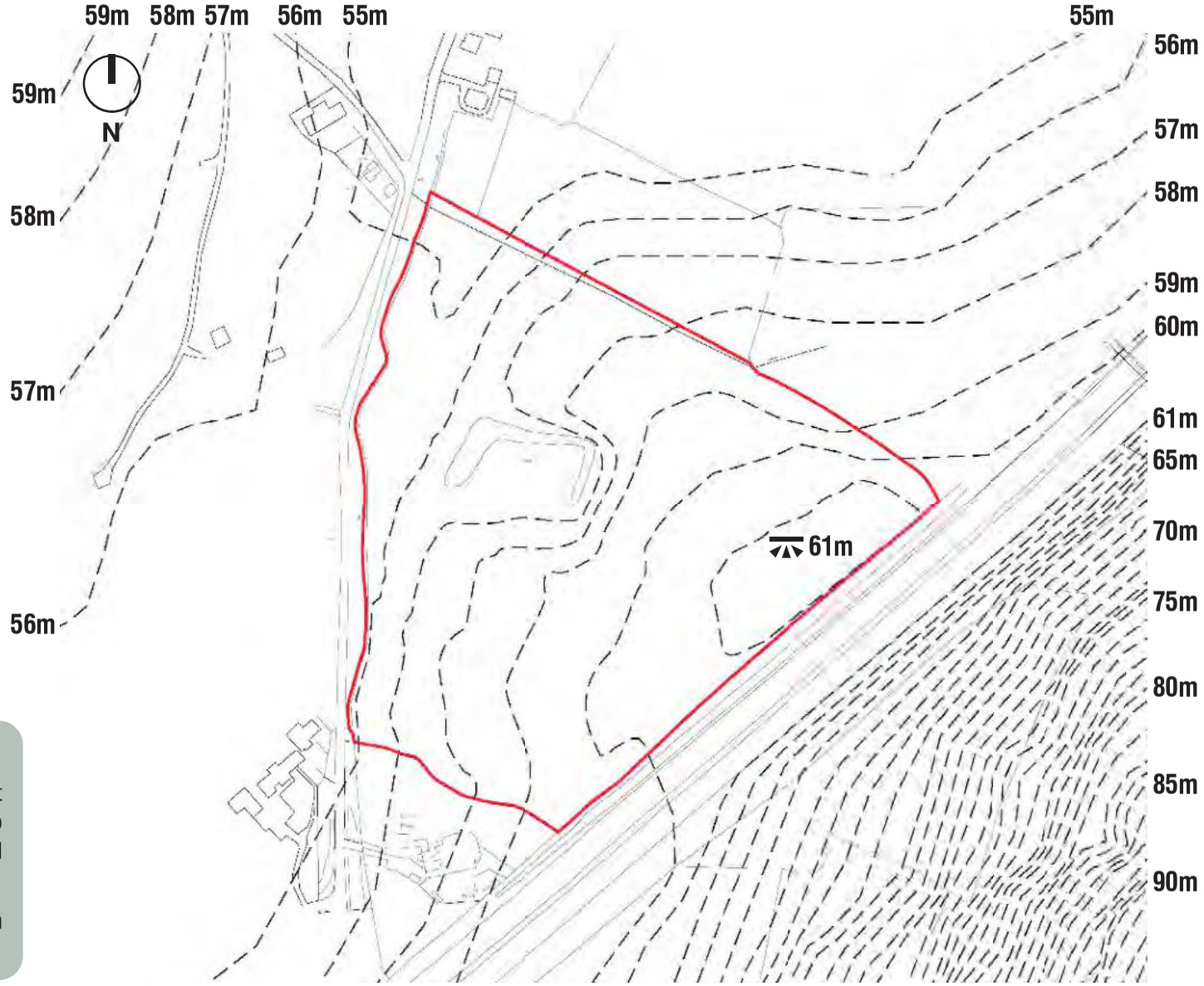


Figure 2.50: Site topography diagram

Figure 2.51: Wider topography plan (ref: JBA LVIA Figure 8 Landform Analysis)

2.0 | Assessment
2.8 | Physical Audit

Ecology

Ecology surveys and a baseline ecology assessment have been completed by EDP (ref: EDP3746_03a). The conclusions of this report are summarised below.

The Site consists of a single, poor semi-improved grassland field currently subject to grazing. Its boundaries to the north east, south and west are delineated by native hedgerows, with scattered scrub forming the south eastern and southern boundaries. A large, freshwater moat is located within the centre of the field, with scattered scrub present along its banks.

Bats

Manual transect and automated bat activity surveys of land north of the Site during June and July 2014, recorded moderate levels of bat activity across the site, dominated by relatively common and widespread species of local importance. Relatively high levels of activity, in particular, were recorded along the north eastern edge of the Study Area.

Badgers

A badger survey undertaken during the Extended Phase 1 survey identified an active, outlier badger set on the north eastern boundary, within a native species-rich hedgerow.

Figure 2.52: Phase 1 Habitat survey (ref: Landscape baseline assessment _EDP3746_02a)

Great Crested Newts

An Extended Phase 1 Survey completed on 1st February 2017 confirmed the presence of a Great Crested Newt population within the moat. It is proposed that the Great Crested Newts will be translocated to an off-site habitat.

Reptiles

Scrub and hedgerow boundaries provide suitable habitat for the dispersal of this species, whilst brash piles across the site provide suitable refugia. The heavily grazed species-poor, semi-improved grassland field is, however, considered sub-optimal as a foraging resource.

Arboriculture

An arboricultural survey was carried out by EDP for the Site. The majority of the trees in and around the Site are of Categories B and C, however two Category A trees (T34, T35) have been identified to the south-east just beyond the site boundary.

Specific trees within certain distances from the proposed accesses and dead elms, as specified in the tree schedule reference: Tree work Environmental Practice Document: 220511-1.2 SCG, AIA A, will be considered for removal.

Design Considerations

- New buffer planting could be used to provide additional screening particularly on the northern, eastern and western boundaries. An eastern boundary bund could both mitigate the M5 noise impact and also be integrated as an ecological wildlife corridor.
- Development areas will remain clear of the two Category A trees, care should be taken to ensure the proposed acoustic bund does not disturb the root protection areas of these trees.
- Consideration will need to be made for identified protected species either via an on-site design solution or off-site contribution.

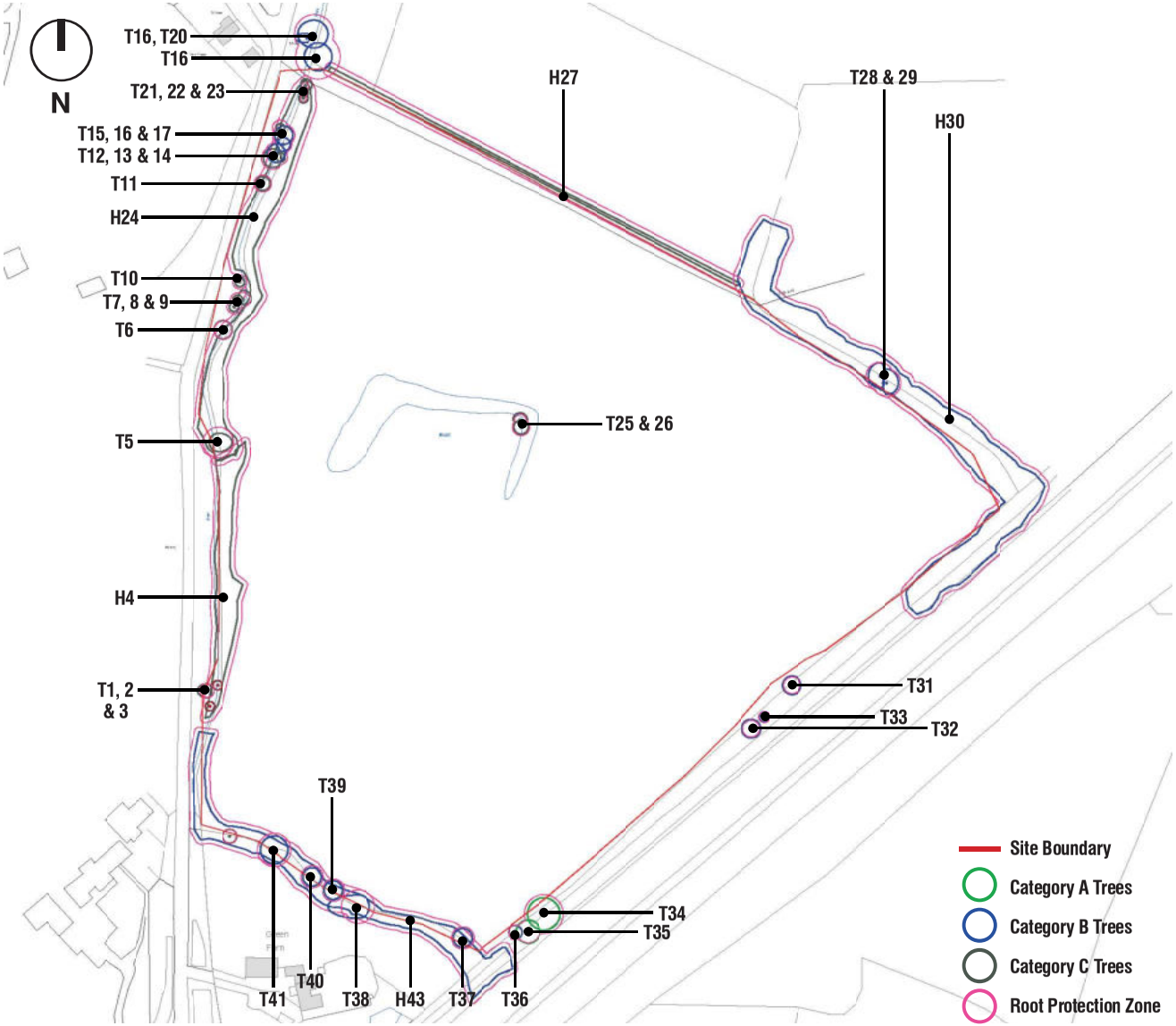


Figure 2.53: Arboriculture survey

2.0 | Assessment
2.8 | Physical Audit

Hydrology

Anecdotal evidence suggests that the historic moat is presently waterlogged at all times of the year, creating an area of ecological importance and helping to preserve any archaeological remains which may exist within the moat.

Historic England have expressed concerns that development of the site may disrupt the mechanism which supplies water to the moat. A Water Environment Baseline for the moat concluded that the most likely water supply mechanism to the moat is a combination of direct rainfall, surface runoff, and shallow groundwater seepage/interflow. The Water Environment Assessment did not identify conclusive evidence that the moat is fed by a spring, and its constituent water is demonstrably partly comprised of run-off from the surrounding fields.

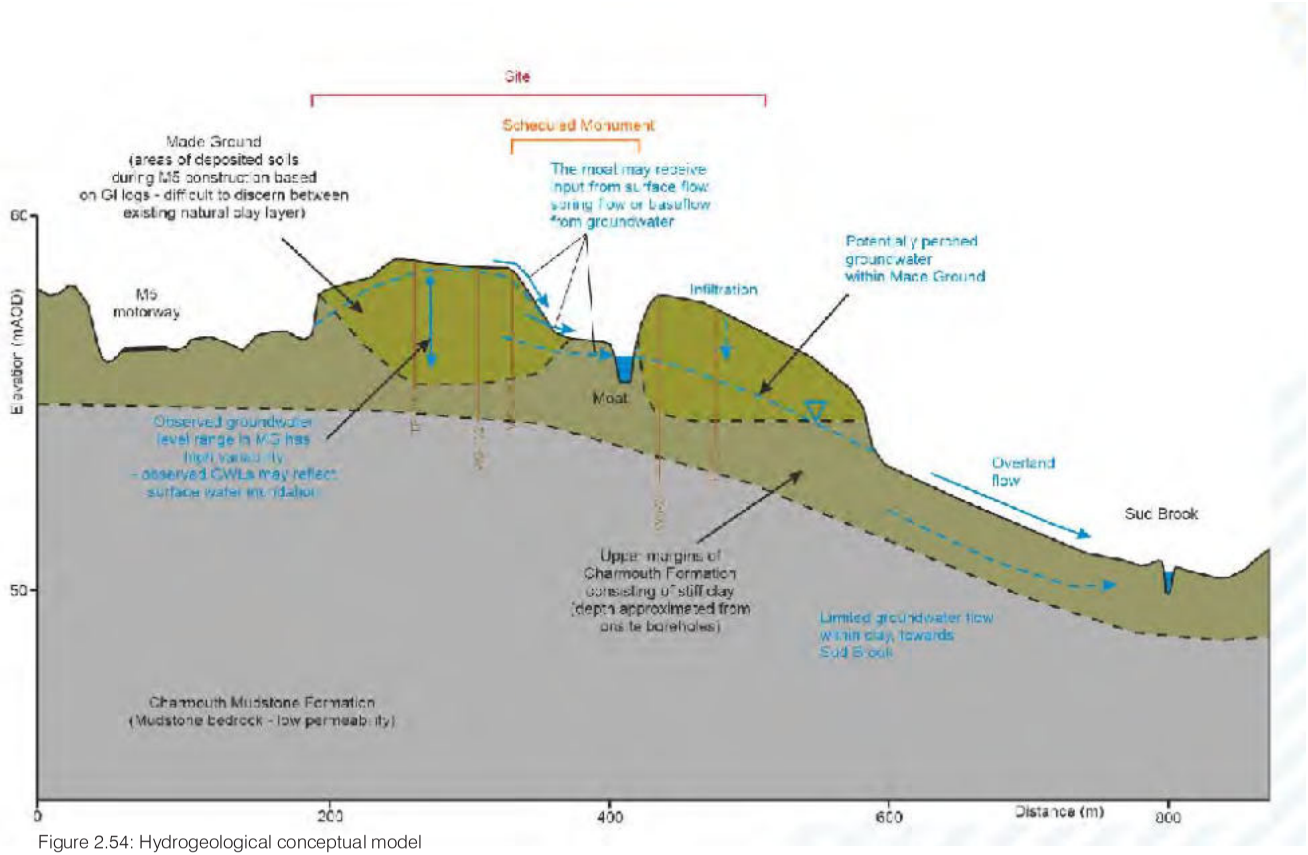


Figure 2.54: Hydrogeological conceptual model

Design Considerations

- Development of the site and the construction of any drainage infrastructure should ensure that the moat continues to remain waterlogged post-development.
- The proposed drainage system should ensure there is no increase in pollutants entering the water environment of the moat.

Acoustics

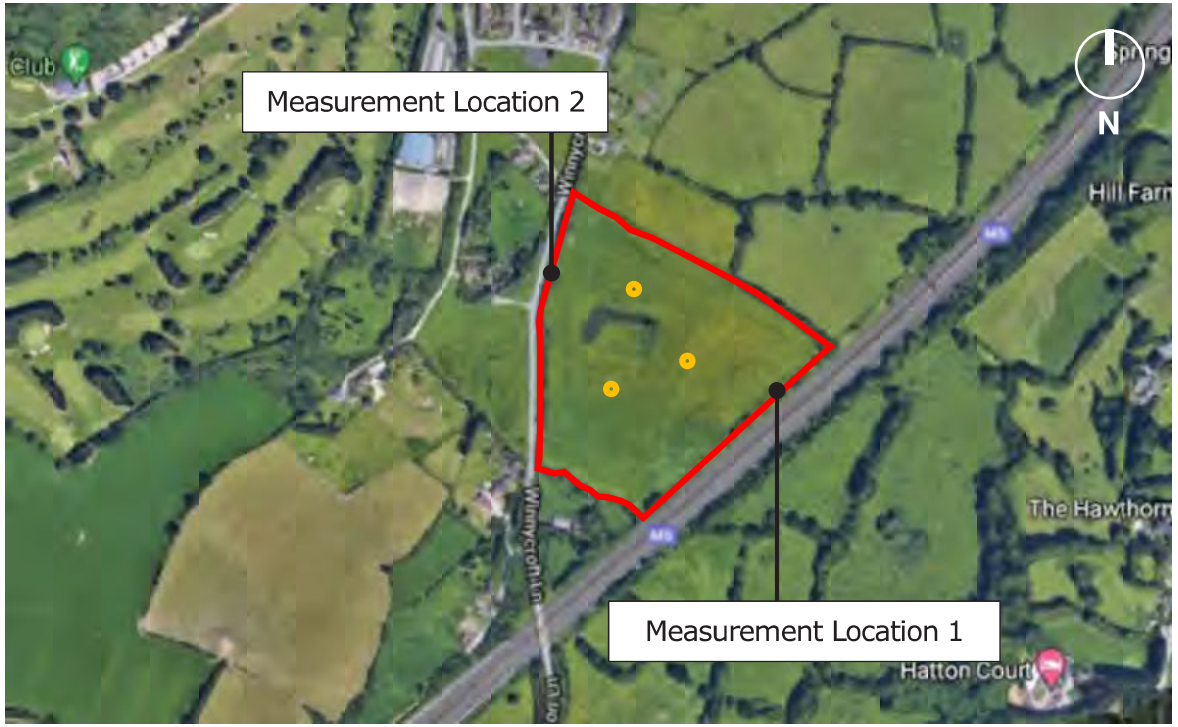
24 Acoustics have been commissioned to carry out an acoustic survey and generate a Noise Impact Assessment to determine the level of noise generated by the M5 Motorway and the potential impact this might have on any proposed development.

The Noise Impact Assessment calculated that a satisfactory internal environment in all habitable rooms, in regards to noise, can be achieved via the specification of appropriate glazing and ventilation.

On the above basis, the report concludes that the noise levels created by traffic on the M5 can be sufficiently mitigated to enable adequate acoustic conditions post-development.

Design Considerations

- An earthwork bund or acoustic fence will be required to provide an adequate level of mitigation against noise generated by the M5.
- Acoustically rated window systems will be required to achieve the minimum sound reduction performance for dwellings closest to the eastern boundary
- Material will be needed to construct this bund necessitating a cut-and-fill strategy for the site.



Location 1: Measurement Results		
Day 07:00- 23:00 hours Average dB $L_{Aeq\ 16\ hour}$	Night 23:00- 07:00 hours	
	Average dB $L_{Aeq\ 8\ hour}$	Typical dB $L_{Amax\ f}$
74	70	81

Table 3: Measurement Results, Location 1 (Eastern Boundary)

Location 2: Measurement Results		
Day 07:00- 23:00 hours Average dB $L_{Aeq\ 16\ hour}$	Night 23:00- 07:00 hours	
	Average dB $L_{Aeq\ 8\ hour}$	Typical dB $L_{Amax\ f}$
60	53	76

Table 4: Measurement Results, Location 2 (Western Boundary)

Figure 2.55: Acoustic measurement locations and results

2.0 | Assessment
2.8 | Physical Audit

Landscape and Visual Impact Assessment

A Landscape and Visual Impact Assessment (LVIA) has been carried out by James Blake Associates (ref: JBA 21/169 - Doc 1) to review the potential impact that development of the site may have on the landscape of the area.

Landscape Character Areas

Four distinct Landscape Character Areas (LCA) exist within the local area. The site resides within the SC6A Vale of Berkeley with Urban Gloucester to the north SV14A Robins Wood Hill to the west and the Cotswolds AONB to the east.

The Vale of Berkeley is described as comprising of a large scale, gently undulating landscape with extensive almost flat areas lying between the undulations. Views towards the Cotswold escarpment and other landscape features such as Robinswood Hill give a sense of enclosure to areas of the vale.

The vale is primarily formed of rural features such as arable cultivation and pasture which are disrupted by settlement features such as such as the M5 corridor. Settlement forms a strong influence on the overall character of the Vale of Berkeley with views towards built form, such as the conurbation of Gloucester, commonly occurring in the wider landscape.

Key Views

The LVIA analyses the potential impact development at the site may have on viewpoints around the site and local area including from prominent overlooks such as Robinswood Hill, Painswick Beacon as well as from walking routes within the AONB such as the Wysis Way and Cotswolds Way.

It was determined that development would have the greatest impact on views from Winnycroft Lane, Robinswood Hill and Sneedham's Green. This impact is considered to be moderate adverse on views from Winnycroft Lane and Sneedham's Green falling to minor adverse 15 years post-construction. From Robinswood Hill the impact is considered to be major adverse falling to moderate adverse after 15 years.

The report also found that development would have no impact on any viewpoints from the AONB.

Conclusions

The report concludes that whist any development will give rise to change in the landscape of the area, and be visible from certain key viewpoints, this can be mitigated by creating a sensitively considered and designed layout. Areas of retained open space and enhancement of existing vegetation, along with new internal development planting will help to visually integrate the scheme into the surrounding landscape.

The Site is well contained within the wider landscape and visual effects are localised. To conclude, in landscape terms there are no overriding landscape or visual effects that should prevent the development of the Site as proposed.

Figure 2.56: View towards the site from Sneedhams Green

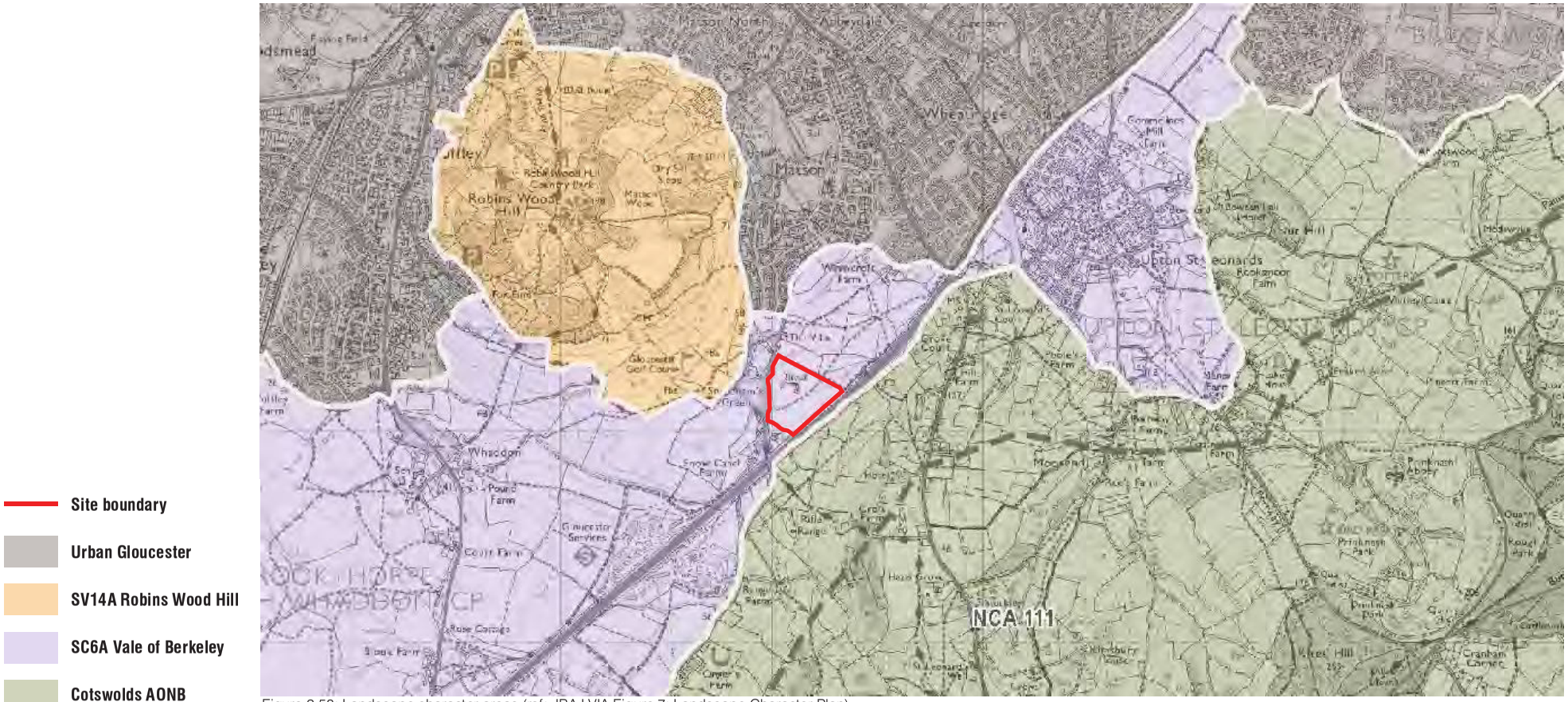


Figure 2.58: Landscape character areas (ref: JBA LVIA Figure 7: Landscape Character Plan)

Figure 2.57: View south-east from the Wysis Way ridgeline near the summit of Robinswood Hill

2.0 | Assessment

2.9 | Constraints and Opportunities

The Site has been assessed by the team of specialist consultants to gather information about possible technical constraints. The framework masterplan seeks to respond to these constraints and create a resilient development framework to guide subsequent planning of the site.

Heritage

- A landscape framework formed to create an open space from which the asset will be experienced.
- The boundary of the Scheduled Monument is within this proposed green space, with no development impeding upon the periphery.
- The western aspect of the Moat is left as grassland and meadow to provide openness towards Sneedham's Green common land to the west.
- Inter-visibility will be improved between the Moat and the Common through careful consideration of framing views, via thinning of existing gaps within the western boundary edge.
- Reinstate the historical hedgerow forming the southern enclosure of the Moat.
- The PRoW will be realigned 'outside of the SM boundary' whilst providing public access and a new appreciation of the heritage asset.
- Water levels within the moat will be retained through the provision of a considered drainage strategy.
- Existing powerlines can be grounded removing their negative visual impact upon the immediate moat setting.

Green and Blue Infrastructure

- Opportunity to provide ecological enhancements within the site and deliver a biodiversity net gain.
- Buffer planting will reinforce existing vegetation within the boundaries of the site.
- Maintain ecological enhancement along the western boundary whilst improving inter-visibility between the site and the common.
- Enhance the brook that runs along the site's western boundary.
- Retain species rich habitats such as trees and intact species rich hedgerow boundaries.
- Incorporate generous green buffers around veteran trees on the site boundary, as well as buffers to trees with high ecological or visual amenity value.
- Enhance hedgerow boundaries where gaps occur. Native species planting palates will be utilised to maximise biodiversity value of the site and local green infrastructure network.

Connections

- A primary vehicle access point can be provided from Winnycroft Lane in the north western corner of the site.
- An emergency access can be served from the south-western corner of the site. Access here can also form an attractive arrival space for users of the PRoW and a link to the Wysis Way.
- The PRoW diagonally crossing the site can be diverted around Manor Green.
- The northern PRoW will be realigned around the Scheduled Monument and Manor Green facilitating public experience of the asset from this route.
- Internal pedestrian pathways will facilitate connectivity to the redirected PRoWs, through to the adjacent development to the north, Land South of Winnycroft Farm, and towards the local facilities at Matson.

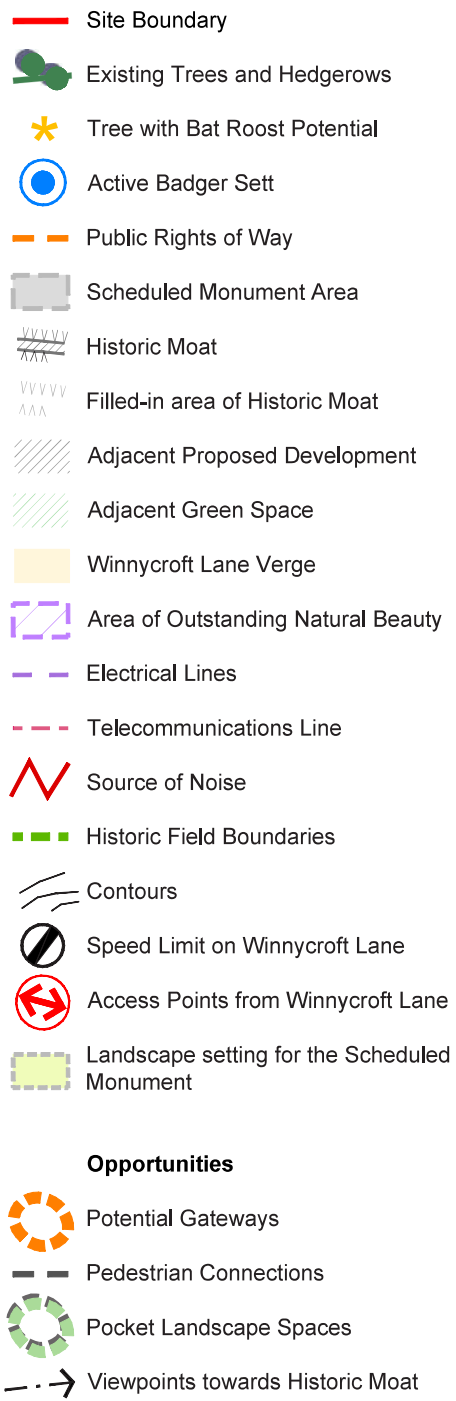


Figure 2.59: Constraints and Opportunities diagram

3.0 | Evaluation

3.1 | Design Criteria

Assessment of the site and its context, along with responses to officer dialogue and consultation has been used to guide and inform the proposals for development of the site.

The table to the right records the evaluation of the constraints and opportunities to establish a set of specific design choices which have played a part in structuring the proposal. This was the start of the design process in considering how the development may be put together.

	MASTERPLAN DESIGN CONSTRAINTS	RESULTANT DESIGN CHOICE
1.	At the heart of the site lies a historic moat which is listed as a scheduled monument.	The proposed development will seek to create a sympathetic context with the area surrounding the moat formed of Public Open Space. There will be a landscape setting between the façades of dwellings and the boundary of the monument area.
2.	The site is visible from land to the west including Sneedham's Green and Robinswood Hill.	In order to reduce the visual impact of proposed dwellings on views from the surrounding landscape additional boundary planting is proposed. When matured this vegetation will reduce the visual impact to minor adverse from Robinswood Hill.
3.	The M5 Motorway presents a significant visual and acoustic constraint with vehicle noise presently heard across the site.	A 3m high acoustic bund and fence will be provided along the Site's western boundary helping to mitigate against the impact of vehicle noise. The bund will also provide a visual screen between the development and the motorway reducing its visual impact. Acoustically rating glazing will also be provided to dwellings nearest the western boundary.
4.	Historic England have expressed concerns that the proposal may alter the hydrology of the site and cause the moat to dry out.	The proposed drainage strategy will work to ensure the moat remains waterlogged all year round in order to help preserve any archaeological remains which may reside within the moat.
5.	The site has a historic relationship with Sneedham's Green to the west.	This relationship will be re-established by creating a greater level of intervisibility between the sites moated area and Sneedham's Green common. This will be achieved by maintaining existing gaps and planting proposed trees either side of the view corridor.
6.	Two Public Rights of Way PROW EUL23 and EUL24 cross the site.	These routes will be redirected within the development's proposed footpath network.
7.	There is currently no footway access between the site and services within Matson.	A pedestrian route will be provided along the western edge of Winnycroft Lane linking to the existing footpath at the junction of Sneedham's Road. Further, pedestrian access will be facilitated to the Public Right of Way (EUL23) along the northern boundary.
8.	Existing low-voltage power lines cross the site near to the western boundary.	These electricity cables will be grounded removing them as a constraint to development.
9.	Great Crested Newts have been confirmed to inhabit the moat.	The Great Crested Newt population will be translocated to an off-site habitat.
10.	The site will need an adequate drainage strategy to avoid the impact of surface water run-off on adjacent land areas.	The use of Sustainable Drainage features whist best practice elsewhere was ruled out for this site due to the potential impact attenuation basins or swales might have on the hydrology of the moated site. Subterranean cellular storage will instead be used to hold water and mitigate the impact of surface water flows caused by the development of the site.

Figure 3.01: Masterplan design choices table

3.2 | Masterplan Concept

The primary aims of the masterplan concept are as follows:

① Creation of new public open space setting for the Moated Site at Sneedham's Green which will preserve the heritage asset and create an area from which people will be able to appreciate the scheduled monument.

② Introduce framed views from the moat towards Sneedham's Green.

③ Provide heritage interpretation boards to explain the historical relationship between the heritage assets.

④ Provision of vehicle access from Winnycroft Lane towards the north of the site. Additional pedestrian and emergency access will be provided at the current southern access gate.

⑤ Provide a pedestrian link to the existing PROW route running northwards through the Winnycroft Farm development providing a safe route through to Matson local facilities.

⑥ Retention and enhancement of existing tree habitats and integration of new boundary planting.

⑦ Formation of a logical system of movement through the site with clear routes for vehicles and pedestrians.

⑧ Creation of an acoustic bund and landscape buffer along the Site's south-eastern boundary to mitigate noise from the M5 Motorway.

⑨ Provide a quality housing enclosure around the proposed 'Manor Green' park.

Figure 3.02: Masterplan concept

3.0 | Evaluation

3.2 | Consultation Timeline

The project team have actively engaged with Gloucester City Council officers, Historic England and local stakeholders over the project duration to try and gain consensus on the design approach of the proposal.

SITE PROMOTION FOR JCS

The site was promoted for inclusion within the Joint Core Strategy (JCS; coordinated by Gloucester City Council in tandem with Tewkesbury Borough Council and Cheltenham Borough Council and adopted on 11 December 2017).

The monument was highlighted by the Council's evidence base for the JCS as warranting and needing improved management but omitted the site from the wider Winnycroft allocation.

SEPTEMBER - NOVEMBER 2017

CONSULTATION BETWEEN HISTORIC ENGLAND AND EDP

Advice was sought by EDP from Historic England (HE) at pre-application stage to determine the potential impact that development of the site may have on the scheduled monument, Moated Site at Sneedham's Green.

Feedback from Melanie Barge of HE stated that the proposal shown at pre-app stage would 'cause harm of significance' to the monument by removing the connection between the moat and its historic rural landscape and setting.

Counter-argument was made by EDP that the relationship between the moated site and its rural landscape had already been compromised by the construction of the M5 Motorway and the encroachment of urban development in the form of Matson and the more recent Winnycroft allocation to the north.

Andrew Crutchley added that the council's own evidence base prepared for the JCS concluded that "Development should seek to create a positive relationship with the scheduled moated site at Sneedham's Green, such that it becomes a borrowed landscape – in order to reduce the risk of it becoming side-lined and neglected as a result of the development's proximity. Consideration should be given to the provision of an interpretation panel on footpath network".

Mr Crutchley also argued that, 'whilst development on this site has the potential to cause harm to the scheduled monument through change within its setting, it also has potential to bring forward significant benefits in terms of the delivery of much needed new housing, but also in terms of the moat's long-term conservation and management'.

2020 - 2021

CONSULTATION WITH RELEVANT AUTHORITIES; SEVERN TRENT WATER, GCC LLFA, GLOUCESTERSHIRE HIGHWAYS

FEBRUARY 2020 - PRESENT

SITE PROMOTION THROUGH GLOUCESTER CITY PLAN

Black Box Planning (BBP) has engaged in and promoted the site through the Gloucester City Plan preparation and examination through the following stages:

- Pre-Submission Gloucester City Plan (Regulation 19) - February 2020
- Gloucester City Plan Examination – May 2021 to present

JUNE 2020

PRE-APP SUBMITTED TO GLOUCESTER CITY PLANNING

SEPTEMBER 2020

MEETING WITH ANDREW ARMSTRONG, GLOUCESTER CITY ARCHAEOLOGIST

A meeting was held with Andrew Armstrong, the Gloucester City Archaeologist. At this meeting it was requested that any application would have to be accompanied by a Water Environment Assessment in accordance with Historic England's guidance Preserving Archaeological Remains Appendix 3 – Water Environment Assessment Techniques (2016). An archaeological evaluation of the site was also requested as well as evidence to demonstrate that the site no longer contains any archaeological earthworks. A limited evaluation was carried out in December 2020 which tested the site's disturbance as well as the thickness of made ground.

Later correspondence with Andrew Armstrong and Melanie Barge after the submission of the evaluation report resulted in a further request for 'profiles across the site using geo-technical and evaluation results which show us the depth of over burden across the site and at least infers/predict the depth of overburden with the scheduled area'.

MARCH 2022

FINALISATION OF DESIGN

Further evidence base was collated to inform the masterplan response to the site including drainage, and ecological assessments.

In response to HE's request to investigate the source of water within the moat, further hydrological modelling was carried out to ascertain the source. The evidence informed a drainage strategy to retain run-off water into the moat and improve the water quality.

Further ecological surveys and landscape visual impact studies informed an integrated approach to the design of the POS and connected GI corridors to provide multifunctional functions. The result provided a generous landscape setting to the moat whilst also providing ecological enhancement including a biodiversity net gain.

APRIL 2022

27 April 2022

Public Exhibition held at the Redwell Centre, Matson, Gloucester

Members of the public had change to view the design proposals of the scheme via a series of exhibition boards with consultant team members and client representatives from Bromford.

The key concerns raised related to the traffic impact of the scheme upon the local road network. Pegasus Transport engineer was on hand to answer technical questions relating to congestion, traffic calming, concerns over car parking and pedestrian safety. Further detail is set out in the Statement of Involvement.

3.0 | Evaluation
3.4 | Design Evolution

June 2020

The first masterplan concept was generated to form a large area of open space around the moated site.

Access was established from Winnycroft Lane, with two points of vehicular entry. Pedestrian links to Matson were to be provided via the proposed development of Land at Winnycroft Farm.

This proposal also sought to create a stronger connection between the moat and Sneedham's Green with emphasis on views into the site from the common.

Figure 3.03: 19-026 400 Concept Masterplan

April 2021 - 210 Unit Scheme

Further assessment of setting and the historical mapping informed an idea to reinstate the historical hedgerow that formed the southern arm of the moat. The spatial structure of the development also changed informed by the local character studies, entailing key groupings of buildings around nodal spaces such as the arrival points into the site from Winnycroft Lane, the central parkland, and at the crossing points of pedestrian and vehicle routes.

The scheme was further developed with a view to providing 210 dwellings on the site. This however required a greater area of land to be developed north of the moat area bringing the build-line closer to the monument. Because of the increased impact this would have on the moat site the design and client team agreed to scale-back the scheme to 190 dwellings.

Figure 3.04: 19-026 400 Concept Masterplan

May 2021

in response to additional highways evidence provided by Pegasus transport, a single point of access from Winnycroft Lane was favoured, located at the northern end of the site with a primary road serving vehicle movements to the development.

This change in the vehicle movement, provided opportunity to pull back development south of the moat to help reinforce a visual relationship between the Site and Sneedham's Green.

Figure 3.05: 210 Unit Scheme ref: 3250-O3S-SnowCapelFarm_0030-Proposed Site Plan rev P9

March 2022

A refined attenuation strategy for the scheme and established the use of underground holding tanks given the context of the moat.

The housing plot arrangements were developed to accommodate parking standards and improved car manoeuvring, whilst ensuring a non-vehicular route was maintained around the edge of the central green.

A mews style parking arrangement was removed in favour of rear served parking spaces serving the housings fronting onto Manor Green. Shared surfacing in the lanes was also refined at this design stage.

Figure 3.06: Proposed site plan ref: 3250-O3S-ZZ-XX-GA-A-0030-ProposedSitePlan-S0-P16

4.0 | Design
4.1 | Overview

The Masterplan shows how the vision and design principles, shaped by the site analysis, have been applied to the site.

The development framework includes provision of 190 new dwellings with associated vehicular and pedestrian access as well as provision for new landscape uses. The heart of the scheme is arranged around 'Manor Green' containing the SM, reclaimed hedgerow, new planting and recreational areas.

The eastern edge of the site is set aside as a green corridor which provides a 3m acoustic bund with fence and wildlife open space, along with new boundary planting. The motorway has a negative impact upon the current moat setting, due to the noise that dominates the setting of the SM. The proposed development would transform this experience through layers of noise mitigation from the motorway edge, starting with an acoustic bund and carefully configured built form. This approach will aid in providing additional planting to blend the proposed roof scape from elevated views from the East and the Cotswolds AONB.

Spatial Structure

The 'Manor Green' forms a green heart to the scheme, providing both amenity and public access to the SM. The PRoWs on site are realigned to provide improved pathways that loop to proposed footpaths around the moat enclosure.

The development is structured into a loose grid to maximise permeability for pedestrians and cyclists. Linkages through to the recently approved urban development to the north and along Winnycroft Lane will provide connectivity with the network of routes and green spaces. Existing Local facilities are closely situated within walking distance of this site and it is possible to improve the pedestrian routes to reach these. Connections to local bus stops will also be facilitated to provide alternative means of transport from the site to wider City destinations.

The entry into the housing area is marked by a gateway entrance space and view to a green street that threads a series of nodal spaces in the movement network. These points are defined in the structure via a series of squares and key building clusters.

Heritage

Whilst development on this site has the potential to cause harm to the scheduled monument through change within its setting, it also has promise to bring forward benefits in terms of a quality housing scheme, and also in terms of the moat's long-term conservation and management. The following considerations to provide public benefits are listed below;

- As recorded in Chapter 2.3 analysis of historical mapping revealed a historical hedge which formed the southern enclosure of the designated monument boundary. The restoring of this hedge is considered to aid the legibility of the former setting of the moat lost through the C20 farming of the site.
- The careful framing of views from the moat towards Sneedham's Green, further explained in the Landscape Chapter 4.4, will also further enhance the public's understanding of the historical setting of the moat.
- The heritage interpretation board is also located at the convergence of the PROW's crossing the site and at an elevated position on the north eastern corner of the moat setting. From this vantage point, a view through to Sneedham's Green is best appreciated. To mark this point, a nodal area is created in the landscape scheme around the moat, refer to Chapter 4.4.
- The realignment of the PROW has also been carefully considered in terms of the best vantage points of the moat, further improving public access. The wayfinding markers (finger posts) introduced at pedestrian gateway points into the site also improve to create awareness of the feature from passers walking along the Glevum Way.
- In addition to the pedestrian and potential cycle movement strategy around the moat, it was considered a key aim to remove car movements around the periphery of Manor Green, Hence the rear parking solutions identified in Chapter 4.3 Access and Movement.

Affordable and Social Housing

50% of the proposed dwellings will be affordable or social housing delivering a scheme which is double Gloucester City Council's Policy A2 minimum requirement of 25%. Pages 47-48 provide a more detailed breakdown of the types of affordable accommodation provided.

Figure 4.01: 19-026 400A Concept Masterplan

4.0 | Design
4.2 | Quantum and Scale

As presented the development will provide up to 190 new homes. The division of land-uses is scheduled below, including the total Net Developable Area and POS quantum.

An accommodation schedule detailing the house types, the number of bedrooms within each dwelling, and the overall floor area of each house is also provided on the opposite page.

Development Density

The overall density of the scheme is 39 dwellings per hectare spread over ~4.76ha of net developable area.

Application Boundary	8.51ha
NDA	4.76ha
Strategic Landscaping	1.10ha
Amenity Open Space	1.47ha
Enclosed Moat Area	0.44ha
Highways and Infrastructure	0.21ha
Off Site Works	

Figure 4.02: Land budget

Figure 4.03: House type plan

Bromford House Types Dwg Ref: 3250-O3S-ZZ-XX-GA-A-0030-ProposedSitePlan-S0-P18 12/05/2022

Snow Capel Farm

Name	Code	Beds	Area (m2)	BP	total Area		Plotted Units	Mix Breakdown
					sqm	sqft		
								22
								58
								92
								18
Total					15508.84	166,937	190	190

Figure 4.04: Accommodation schedule table

4.0 | Design
4.2 | Quantum and Scale

Affordable and Social Housing

It is proposed that 95 (50%) of the proposed 190 new homes, will be classed as affordable or social housing. Of this 95, 41 will be categorised as Additional Rent, 29 as Shared Ownership and 25 as Social Rent.

The plan on the opposite page (figure 4.08) shows the locations of the various housing tenures within the masterplan structure. The table below (figure 4.06) provides a breakdown of accommodation size and tenure type.

Building Heights

The majority of dwellings will be 2 storey in height with 17 x 2.5 storey dwellings. The enclosure around the moat is limited to 2 storeys to reduce the elevation height fronting onto the Manor Green

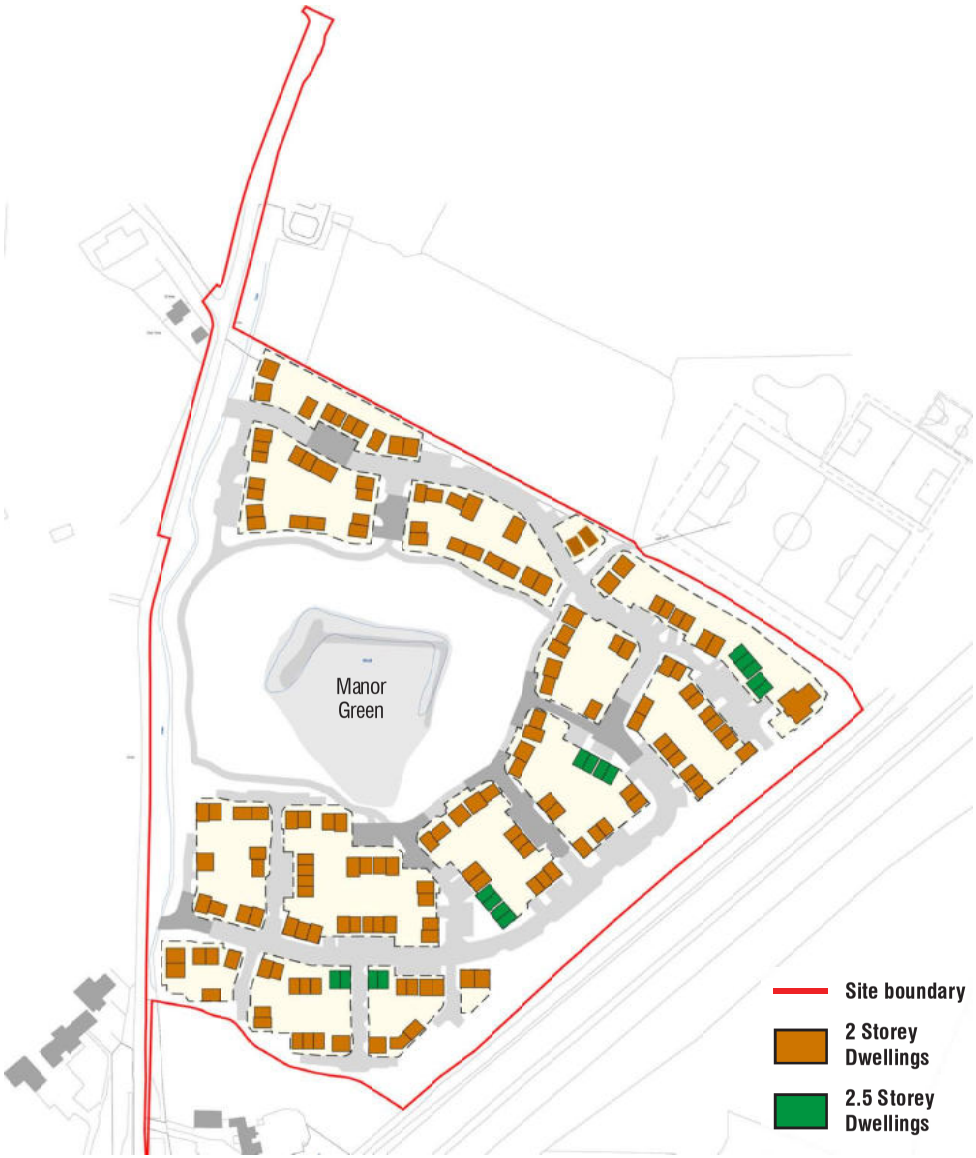


Figure 4.06: Building heights plan

 Figure 4.05: Housing tenure mix table

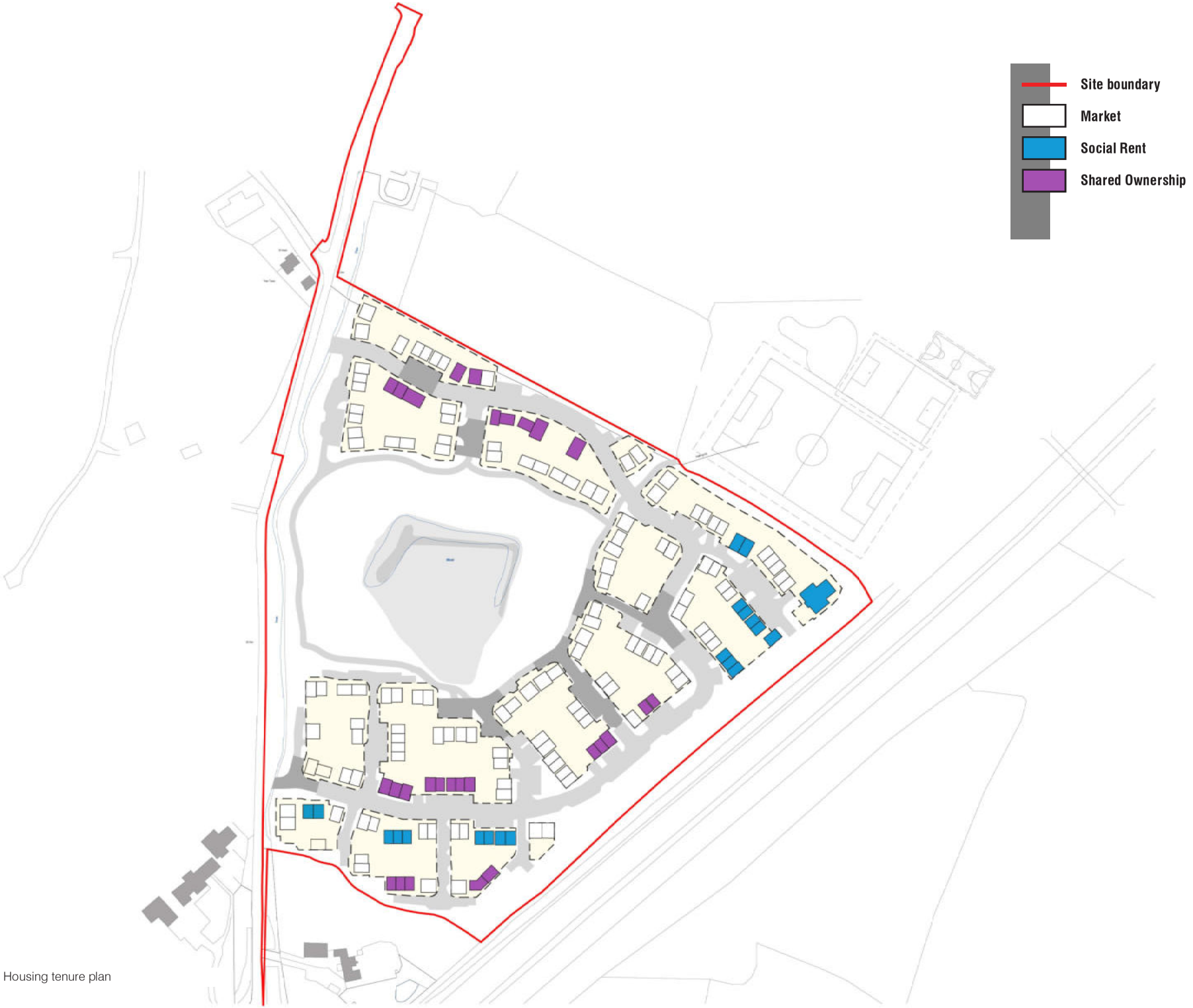


Figure 4.07: Housing tenure plan

4.0 | Design
4.3 | Access & Movement

Site Access Junction

It is proposed that primary vehicular access to the site will be provided via a new priority junction from Winnycroft Lane, around 40 metres south of the existing northern field access. An emergency access is proposed around 175 metres further south. Visibility splays can be provided in accordance with recorded 85th percentile speeds, within the adopted highway and common land.

Pedestrian Connections

Pedestrian access to Matson is proposed via a pedestrian crossing across Winnycroft Lane adjacent to the proposed vehicular access junction. An off-site footpath is also proposed on the western verge of Winnycroft Lane up to the junction of Sneedhams Road providing a safe connection to the existing footpath on the north side of the junction. Refer to Pegasus Transport drawings for further footpath design detail.

There is also provision of a footway connection to the northern boundary of the site linking to PRoW EUL23 and the Barratt Homes development to the north.

The existing north-western and south-western access gates will be adapted to provide pedestrian access from Winnycroft Lane. These gateways also serve as entry points for the two Public Rights of Way which traverse the site and as such the PRoW's will be retained at these points.

Site Highway Network

The new development road network from the Winnycroft Lane access will be designed to minimise vehicle speeds, with side roads from this to give priority for pedestrians and cyclists.

Public Transport

The nearest bus stops are located on Matson Avenue with Stagecoach route 1 providing a service to Gloucester City Centre from these stops. Improvements to footpaths and pedestrian connections to the north of the site should improve the accessibility to these stops allowing them to be reached in ~9 minutes from the site on foot.

Car Parking

The proposal features 1 parking space for one bedroom dwellings, two spaces for two bedroom dwellings, and 2-3 spaces for three and four bedroom dwellings. Overall there are 377 allocated parking spaces and 32 visitor spaces providing a total of 409 spaces.

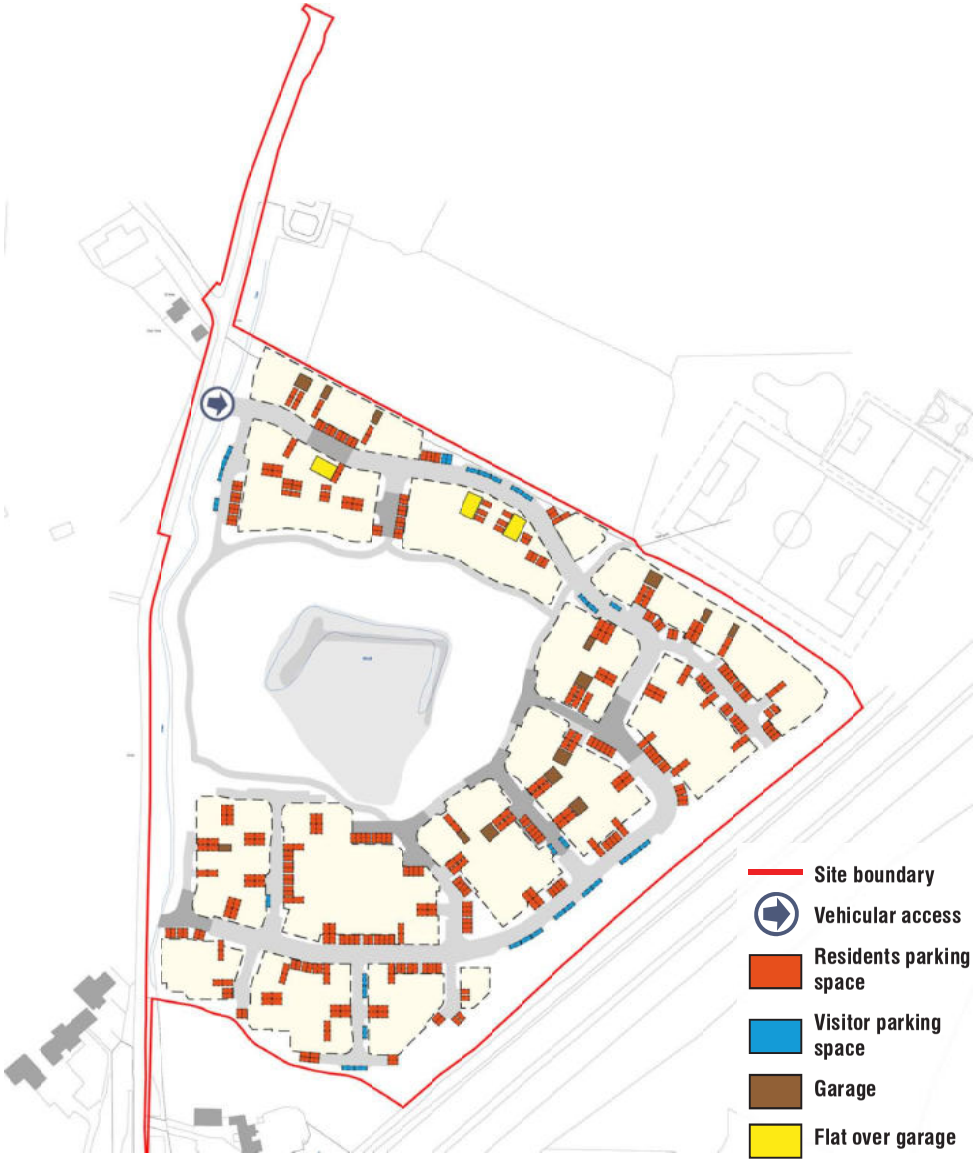


Figure 4.08: Car parking strategy

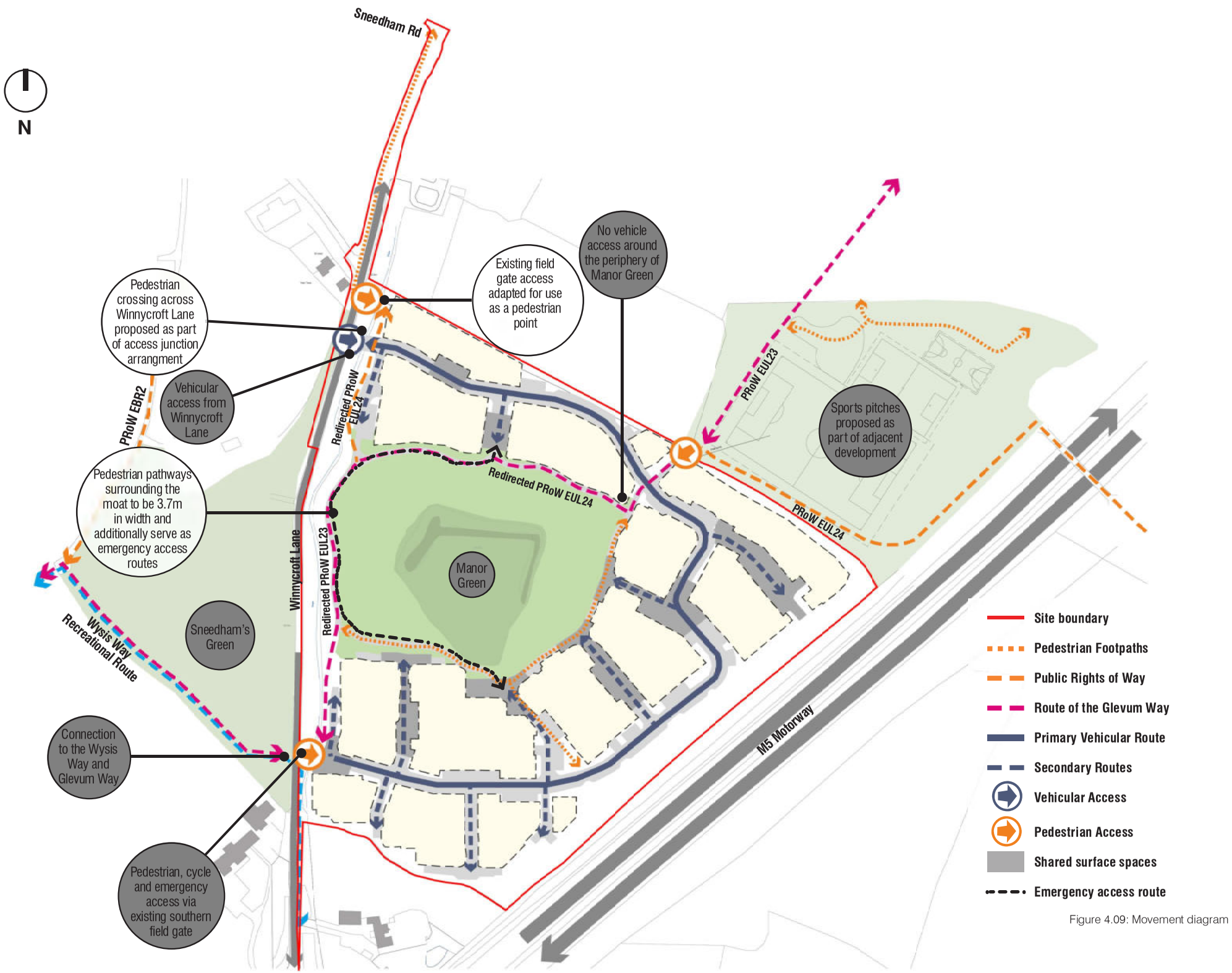


Figure 4.09: Movement diagram

4.0 | Design
4.4 | Landscape

Landscape Vision

The landscape strategy plan sets out the level of strategic spatial arrangement envisaged for the Site in order to provide a high quality landscape setting and strong green infrastructure framework to the proposed buildings. The landscape objectives of the Proposed Development include:

- Two new arrival and departure points Winnycroft Lane on its western edge.
- Development of strategic green infrastructure to create a framework for development.
- Enhancement of Public Rights of Way, pedestrian and cycle routes through the Site.
- Enhancement of ecological corridors and boundaries throughout the Site
- Screen and buffer the M5 to the south east of the Site.
- To develop and enhance the Site boundaries as nature conservation habitats for a range of locally occurring species.
- To develop and enhance the Site boundaries as nature conservation habitats for a range of locally occurring species.

Residential Areas

The residential development will incorporate areas of subtly different characters to define and create a sense of place. As a result planting will be designed to respond to the individual character areas. Semi native and ornamental hedges and ornamental shrub beds should be used in more formal areas to define the street and soften the built form. In other areas planting has the potential to be more rural in character with strategic planting used to soften the development edge and open spaces. Native species will be used adjacent to open spaces and along the Site boundaries to create an appropriate transition to the surrounding area. Appropriate street trees will be used within the residential areas to soften built form and frame local views.

A bund and buffer planting will help to reduce the noise from the M5 within residential areas and provide additional screening.

Central Moat and Green Space

The central open space will be imaginatively and sensitively designed to maintain an immediate landscaped setting of the moat which as a designated Scheduled Monument will be protected and enhanced through subtle planting of native trees to give character, break up built form, whilst not impinging on the wider setting of the moat. A network of footpaths, cycle paths, opportunities for informal recreational play alongside provision of wildlife habitat will contribute to healthy lifestyles and quality of life.

Biodiversity Enhancement and Green Links

All strategic planting will incorporate species that are native and locally appropriate to the area; plant stock will be of local provenance where possible. Existing and historic field boundaries will be enhanced to reinforce and expand ecological corridors throughout the Site and to the wider Site setting where possible. These corridors will create habitat and foraging opportunities for local fauna and connect Site features.

Green links throughout the development connect areas of public space and link the development to the wider landscape such as the registered Common Land, Sneedham's Green.

Green Infrastructure

Existing boundary hedgerows and trees will be retained (with buffers to development), reinforced and brought into regular, long-term management. This will protect visual amenity and landscape character as well as continuing to offer commuting and foraging opportunities for wildlife.

Several incidental open spaces are proposed within the development. Groups of native tree planting within the open spaces will contribute to the local amenity and biodiversity, as well as providing a green framework for the buildings in local views.

Multifunctionality is central to the green infrastructure concept and approach. It refers to the potential for green infrastructure to have a range of functions, to deliver a broad range of ecosystem services.

The Public Open Space as part of the Green Infrastructure indicated on the proposals will be 'multifunctional', enabling the land to perform a range of functions, such as the provision for healthy recreation whilst also providing ecological enhancement including a biodiversity net gain, and visual amenity improvement resulting in mental and physical health benefits for the users. Hedgerows and planting will also help to alleviate noise pollution from the M5.

Figure 4.10: Landscape masterplan
(ref: JBA 21-169 MASTERPLAN)

Soft Landscape

- Existing Vegetation
- Proposed Ornamental Shrub Planting
- Proposed Ground Cover Planting
- Proposed Ornamental Hedge Planting
- Proposed Native Buffer Planting
- Proposed Native Hedge Planting
- Amenity Grass to Public Open Space Areas
- Back Garden Grass
- Plot Frontage Grass
- Mown Path
- Wildflower Meadow Grassland
- Proposed Planted Acoustic Bund
- Area of Retained Vegetation

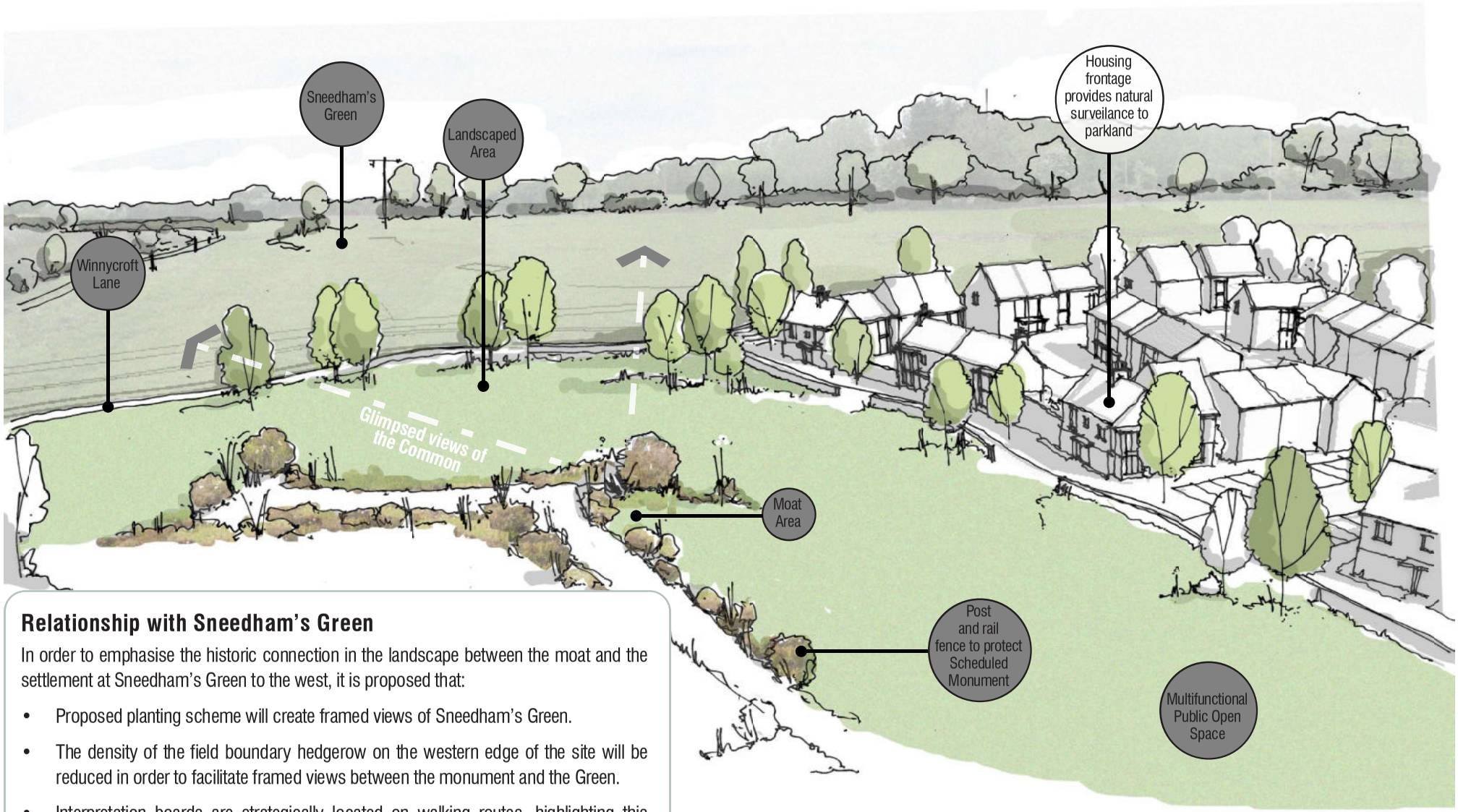
Hard Landscape

- Tarmac Paths
- Proposed Road and Parking Space Tarmac Surfacing
- Proposed Block Paving to Shared Surfaces and Private Drives
- Timber Post and Split Rail Fencing
- Slab Paving
- 3m High Accoustic Fence

Streetscape Items

- Picnic Table
- Heritage Interpretation Board
- Finger Post
- Naturalistic Play Items

4.0 | Design
4.4 | Landscape



Relationship with Sneedham's Green

In order to emphasise the historic connection in the landscape between the moat and the settlement at Sneedham's Green to the west, it is proposed that:

- Proposed planting scheme will create framed views of Sneedham's Green.
- The density of the field boundary hedgerow on the western edge of the site will be reduced in order to facilitate framed views between the monument and the Green.
- Interpretation boards are strategically located on walking routes, highlighting this historical relationship between Sneedham's Green and the moat.

Figure 4.11: Illustration showing proposed relationship between the proposal, the SM and Sneedham's Green

4.5 | Ecology

The Site provides generous areas of open green space along with tree and hedgerow planting which will connect the residents to nature and reduce recreational impacts upon nearby designated sites including the Cotswold Beechwood Special Area of Conservation (SAC) and Robinswood Hill Country Park Local Nature Reserve (LNR) and Local Wildlife Site (LWS).

Habitat and Biodiversity Enhancements

Habitats within the Site are to be enhanced and created to provide net gains for biodiversity. The pond within the centre of the Site is to be retained and buffered from development. The grassland surrounding the pond will be enhanced into a wildflower meadow to increase its benefits for biodiversity.

The boundary habitats are to be retained and buffered from development with any gaps planted with native species. The enhancements to the boundary habitats will provide nesting opportunities for birds and foraging and commuting routes for bats. The Site will be enhanced further for bird and bat species by the inclusion of bird and bat boxes that are integrated within buildings on the Site.

Fruit bearing trees and shrubs are to be planted to increase the foraging resources for bird species. The creation of a bund with scrub planting to the east of the Site and the inclusion of hibernaculum near to the pond will create suitable habitat for amphibians and reptiles.

The measures outlined will ensure that the Site provides net gains to biodiversity.

Tree Palette

Figure 4.12: Native Focal Trees such as Acer campestre, Betula pendula and Carpinus betulus

Figure 4.13: Street Trees such as Acer campestre “Streetwise” and Carpinus betulus “Frans Fontaine”

Figure 4.14: Ornamental Trees such as Pyrus calleryana “Chanticleer” and Prunus “Amanogawa”

Proposed Landscape Elements

Figure 4.15: Public Open Space Areas

Figure 4.16: Wildflower grassland

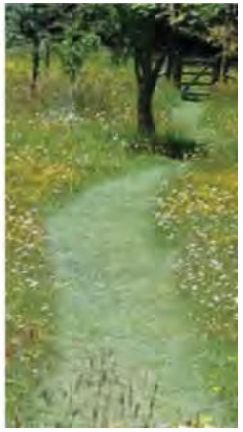


Figure 4.17: Mown paths

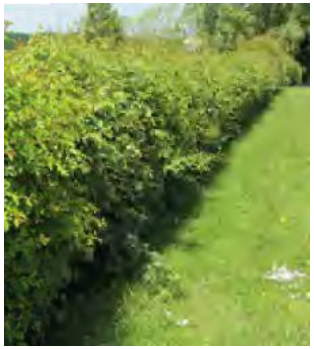


Figure 4.18: Native hedgerows

Figure 4.19: Species-rich grassland

Figure 4.20: Wildflower Grassland within Public Open Space

Figure 4.21: Buffer planting

4.0 | Design
4.6 | Drainage

Water Management

The design proposal considers the need to provide attenuation features in order to prevent the development of the site from contributing to surface water flooding downstream and within the surrounding area.

Best practice would involve the use of sustainable drainage features (SuDS) normally in the form of basins, however due to the unique hydrology of the site this was ruled out. Typical SuDS features may interfere with the currently inundated moat which remains consisted flooded throughout the year. If the moat was to dry out, archaeological remains within the moat may become disturbed or damaged.

To avoid this potential outcome and provide an attenuation solution for the scheme two underground attenuation tanks have been provided within Public Open Space areas. These tanks will function in a similar manner to a system involving SuDS features but will crucially not interfere with the hydrology of the moat.

Drainage Strategy

Catchment A: 3.55ha area to discharge into moat. Approximately 55% will be impermeable and serviced by the proposed drainage system. A flow control chamber will restrict discharge flows to 12.1l/s.

Catchment B: 2.73ha area to discharge into Sud Brook. Approximately 55% will be impermeable and serviced by the proposed drainage system.

Figure 4.22: Preliminary Drainage Strategy (ref: 3880-200 - Preliminary Drainage Strategy)

4.7 | Acoustics

Acoustics

The development proposal will provide a 3m acoustic bund and acoustically rated glazing to ensure the decibel levels within habitable rooms are limited to satisfactory levels. The acoustics assessment of the scheme also estimated that external noise levels in the majority of private gardens within the developed site are predicted to be at or below 55 dB LAeq, 16 hour with raised levels to the southern and eastern boundaries.

Figure 4.23: Acoustic glazing locations (ref: R9061-1 Rev 1 Land at Snow Capel - Noise Assessment)

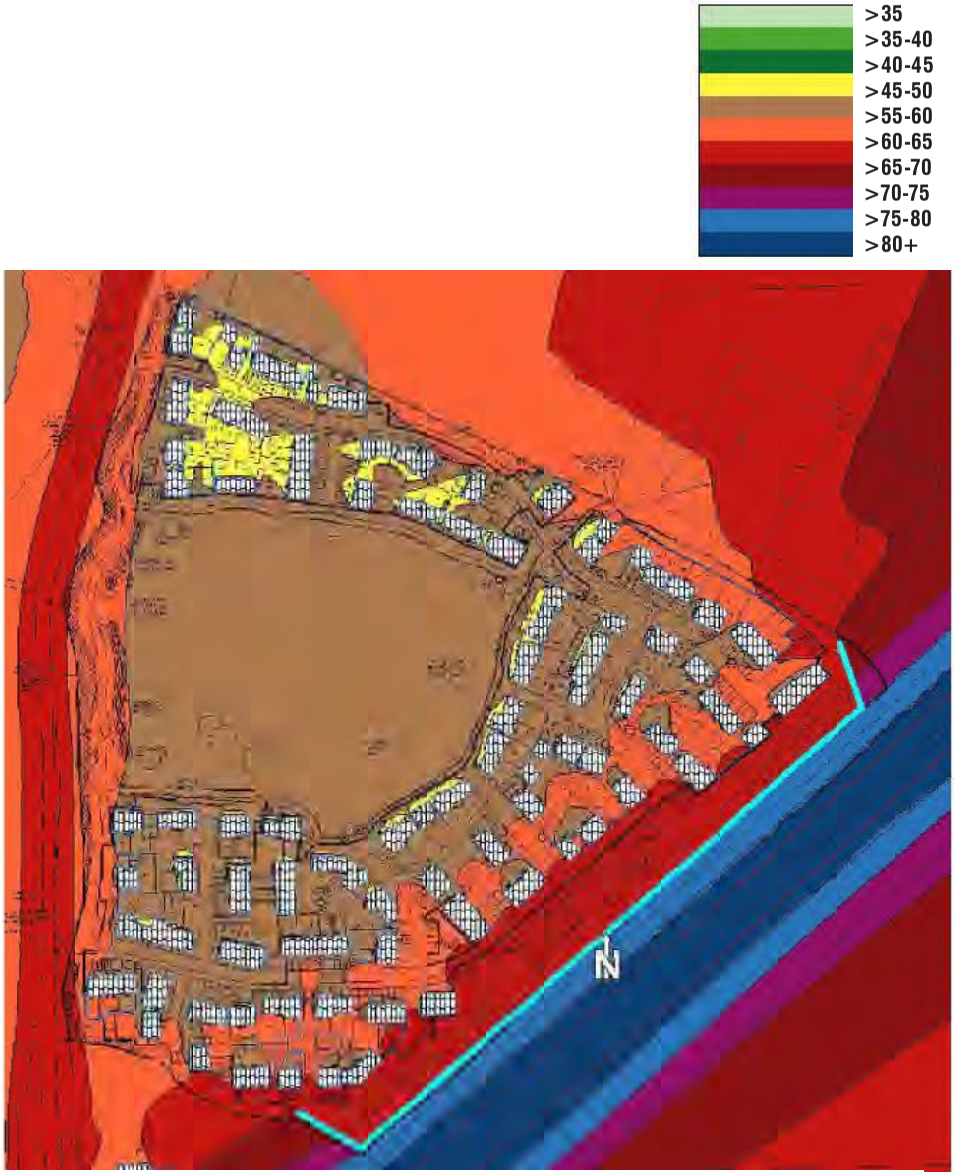


Figure 4.24: Daytime noise contours (ref: R9061-1 Rev 1 Land at Snow Capel - Noise Assessment)

4.0 | Design
4.8 | Appearance

Development Character Strategy

The character of the scheme will be derived from a village scale and propose a contemporary take on traditional forms and characteristics found within rural Gloucestershire settlements, with emphasis on achieving simplicity with considered detailing. Direct copying of historical features will be avoided to prevent a pastiche. A limited palette of style and materials will maintain a simple character and consistency.

The diagram on the right highlights the key features of the layout and how the scheme seeks to create a positive relationship to the Scheduled Monument.

Character Principles

Overall, the proposal will draw references from traditional village building form, massing and groupings. It is proposed that the scheme uses a natural material palette of earthy tones to assist in creating a development which complements the landscape.

These colours, combined with traditional and characterful built forms will integrate the scheme to sit comfortably within its setting.

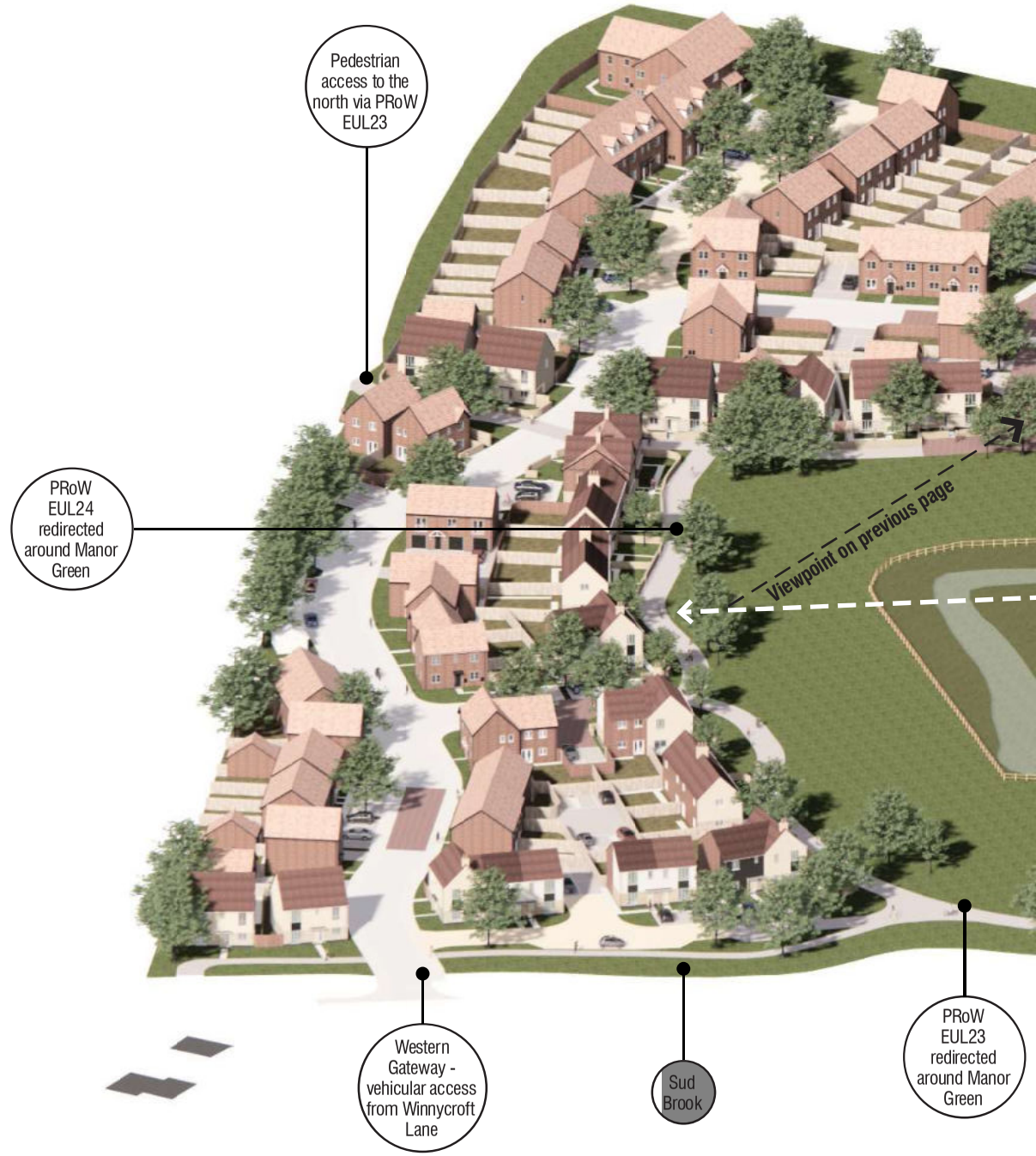


Figure 4.25: Precedent for wide fronted cottages found at Frampton on Severn

4.0 | Design
4.8 | Appearance

Development Precedents

Analysis of Local Distinctiveness recorded in Chapter 2.6 has informed the design appearance of the scheme. Fig 4.26 and 4.27 show a pair of precedent and context photos as character influences.

In reference to Policy G12: Gloucester Draft City Plan: Design standards, the local character assessment has meaningfully informed the architectural character of the proposal. Reference is made to the local vernacular; however the direct copying of architectural features is avoided. Instead, the design approach has been to reinterpret the local distinctiveness into a contemporary idiom to provide a high-quality scheme of its time.

Built Form

- Predominantly 2 storey detached, cottage pairs and grouping of three to four dwellings fronting the Green.
- Combination of symmetrical and asymmetrical facade compositions.
- Use of both wide and narrow fronted units, consequently creating a varied roofscape
- Occasional gable fronted dwellings pronounce key locations.
- A varied palette of materials creating a diverse and rich streetscape.

Plot Boundaries

- Low stone or brick walling with short front gardens in fig 4.27 and considered an appropriate treatment of gardens edging the Manor Green.

Materiality

- Primarily red-brick with a variation of hue and tone.
- White painted brick.
- Clay tile roofing.

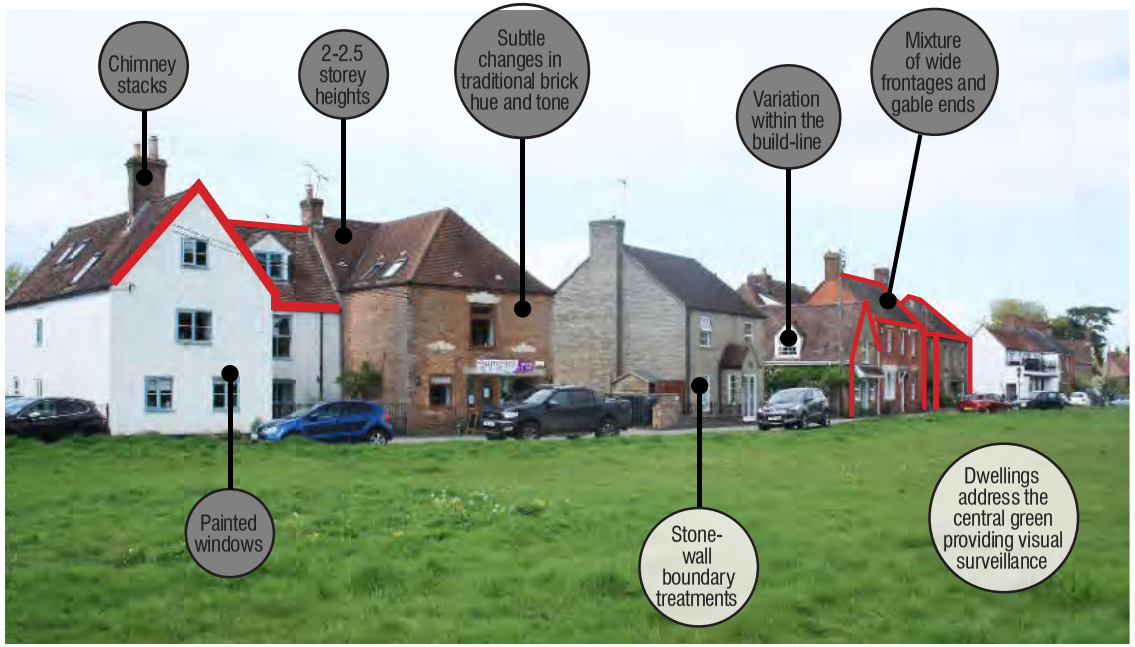


Figure 4.26: Precedent for architectural and layout composition found at Frampton on Severn

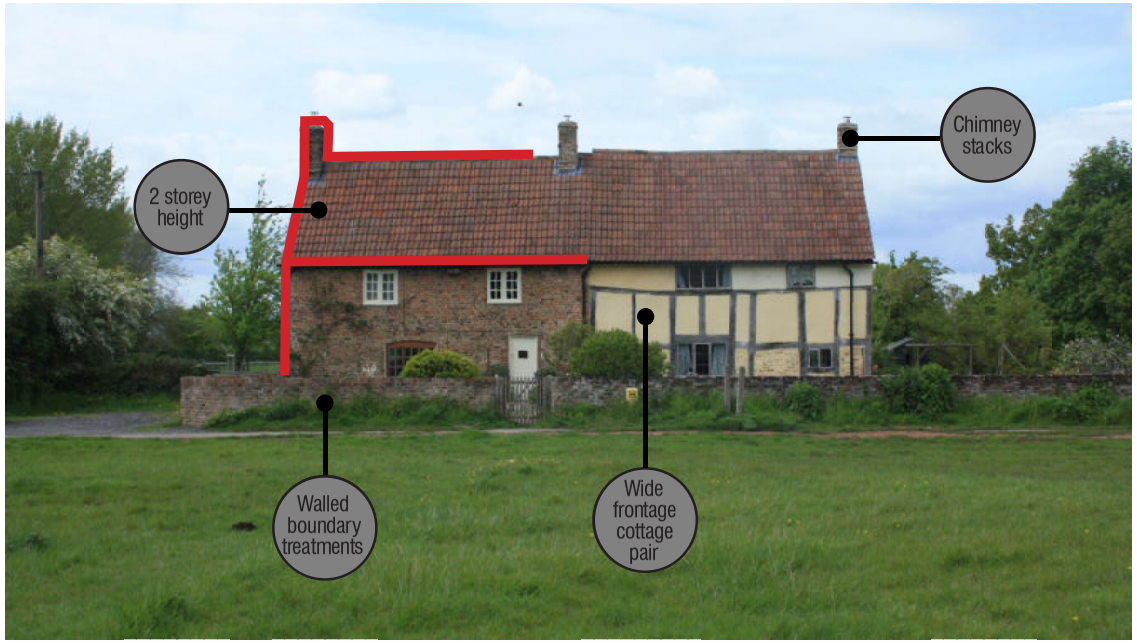


Figure 4.27: Precedent for wide fronted cottages found at Frampton on Severn

Frontage Definition

The development parcels are structured to create frontages which define and enclose the Manor Green, key cluster areas and nodal spaces. Whilst all routes and spaces are overlooked, it is the frontages which are key to the scheme. These give the spaces their character, enclosure and give security from surveillance and overlooking.

The proposal will have a series of housing tiers, each tier will create a subtle alteration in the appearance of the housing in different areas of the masterplan.

Tier One: The Manor Green

The enclosure of housing around the moat and the western gateway will be considered as key frontage, with an application of a high specification of materials to provide a subtle and appropriate setting to the moated site. These dwellings will also feature an interpretation of local village architectural characteristics translated into a contemporary approach.

Tier Two: Hinterland

Comprising of the areas beyond the 'Manor Green' these dwellings serve to provide the base-line aesthetic and colour palette for the rest of the development, yet part of the same family.

Figure 4.28: Urban Structure and frontages diagram

4.0 | Design
4.8 | Appearance

Proposed Materiality

The materiality of the two housing tiers is listed below:

Tier One consists of:
External walls:
- Rough dressed imitation stone buff finish
- Weather boarding – HardiPlank Mid Night Black or similar.
- Buff render.
- UPVC facisas and soffit RAL 7011Black or colour to be approved UPVC Windows RAL 7016 or colour to be approved.
- GRP front door, colour to be approved.

Chimney:
- Buff brick and red clay plots

Roof:
- Red Clay or Concrete Tiles from Russell Highland Slate Grey or Forticrete Slate Grey
- Russell Highland Cottage Red or Mixed Russet Forticrete Sunrise Blend Gemini

Tier Two consists of:
External walls - Brick:
- Brunswick Antique Red - red
- Brunswick Farmhouse Mix - red
- Brunswick Autumn – buff
- UPVC facisas and soffit RAL 7016 or colour to be approved UPVC Windows RAL 7016 or colour to be approved
- GRP front door, colour to be approved.

Roof:
- Russell Highland Slate Grey or Forticrete Slate Grey
- Russell Highland Cottage Red or Mixed Russet Forticrete Sunrise Blend Gemini

Proposed Plot Boundaries

1. Low stone-walling (1m in height) to front gardens of Tier 1 housing.
2. Ornamental hedging, where space permits, to front gardens of Tier 2 housing.
3. Screening walls to be provided where rear and side boundaries meet public spaces - highways and POS (brick to match plot).
4. Close boarded fencing to divide rear private garden spaces.

(See drawing 3250-O3S-ZZ-XX-GA-A-0210-SiteProposedBoundaryTreatmentStrategy-S0-P01 for further details)

Figure 4.29: Examples of Tier One 'paired dwellings'

Figure 4.30: Boundary treatments diagram (ref: 3250-O3S-ZZ-XX-GA-A-0210-SiteProposedBoundaryTreatmentStrategy-S0-P01)

4.0 | Design
4.8 | Appearance

Bringing it Together

The scheme has been produced via collaboration between engineers, planners, landscape architects, architects and ecologists. The success of this scheme will require the continual integrated design approach through the detailed delivery of the scheme.

The integrated design principles aim to create a memorable landscaped environment and a characterful scheme with a recognisable local identity.

1. Rear parking served dwellings to create a pedestrian priority environment
2. Tree planting located at lane junctions
3. Meadow planting
4. Stone walling boundary treatment to Tier One housing
5. Wide frontage cottages
6. Manor Green frontage (Tier One)
7. Paired dwellings with gable pronouncing entrance to lane
8. Scheduled Monument Medieval Moat Area
9. Contemporary application of local material palette
10. Chimney feature to prominent Tier One house types

Figure 4.31: Perspective of Manor Green

4.0 | Design
4.8 | Appearance

1. Scheduled Monument Medieval Moat Area
2. PRoW EUL24 redirected around Manor Green with vantage points towards the moat

3. Cars purposefully removed from Manor Green via rear parking solutions
4. Low stone walling
5. Proposed Tier 1 housing frontage overlooking Manor Green

6. Tier 2 housing street scene
7. Integration of car-parking within streetscape

8. Visual links towards the Manor Green
9. Shared surfacing at nodal points within street hierarchy

4.0 | Design
4.9 | Sustainability

Key Aspects

Emphasis is placed on addressing the scheme's sustainability regarding:

- Social - to engender an inclusive, healthy, facilitated and motivated new community;
- Economic - to support the sustainability of the local community;
- Environmental - to protect the environment and its resources;
- Community Safety - a safer place will be a place residents will value for the future.

The proposal aims to make a positive contribution by:

- Providing a sustainable setting for the scheduled monument;
- Making the most efficient use of land;
- Placing the proposed development in an accessible location;
- Providing a layout that gives the opportunity to create a valued built and natural environment;
- Protecting and enhancing natural habitats and local surroundings through the development process; and
- Accommodating a viable water management strategy.

Social Sustainability

The site is within walking and cycling distance of facilities in Matson which includes a number of amenities including schools, recreation, healthcare and a range of shopping outlets. Cycle storage has been provided to all dwellings within the development.

Room for the provision of affordable and family housing both to buy and to rent as well as social housing and shared ownership tenures. Provision of a range of home sizes and tenures allows a broad social mix to develop to strengthen local communities.

Inclusivity

The public realm can be designed to ensure that it is compliant with highway guidance, including provision of dropped kerbs and tactile paving as required. Signs will be clearly displayed, legible and kept to a minimum to avoid creation of obstructions.

Environmental Sustainability

It is proposed that all dwellings on this site will be designed and constructed to achieve the building sustainability benchmarks which are now set and enforced through the Building Regulations (the level to be achieved will be determined by the date by which Building Regulations applications are submitted).

Ecological Sensitivity

The proposal seeks to be environmentally responsive by protecting and enhancing natural habitats throughout the development process. Habitats are respected with careful placing of open space to afford protection.

Material Management

Materials can be sourced to ensure that embodied energy is minimised - materials from accredited local manufacturers and suppliers will be sourced where possible. A construction waste management scheme can also be considered at a more detailed stage.

Landscape

Use of Green Infrastructure will lessen potential urban heat island effects, with vegetated surfaces which reduce thermal storage associated with large expanses of paved surfaces. Tree planting gives summer shade and buffers against wind exposure.

Community Safety & Security

A range of current guidance and planning policy has been considered in order to 'design out crime' within the development.

"Safer Places: The Planning System and Crime Prevention" is an ODPM document which gives guidance for new development.

The document establishes that there are 7 attributes that are particularly relevant to crime prevention. These are general guides to promoting careful thinking about crime prevention and community safety and creating quality for the locality.

The seven attributes of a sustainable community which are relevant to crime prevention are:

- Access and Movement
- Structure
- Surveillance
- Ownership
- Physical Protection
- Activity
- Management and Maintenance

All of these points have been considered as part of the proposed design. Aspects which are integral to the scheme include:

- Ensuring that dwellings overlook open spaces, with clear demarcation of public and private areas;
- Communal areas designed to allow for informal surveillance from nearby dwellings;
- Provision of robust boundaries in vulnerable areas (side and rear boundaries);
- Careful consideration of the orientation of dwellings;
- Promoting informal surveillance through articulation of side elevations with windows;
- Green infrastructure designed to respond to the need for passive surveillance and to reinforce security;
- Street lighting designed and coordinated carefully and to be compliant with adoptable standards.

"When thinking about cities, towns or neighbourhoods, start with Life! Then think about spaces, then about the built form that creates such spaces. Then think about movement. Doing it the other way around never works."

Jan Gehl, Life Between Buildings, 1987

ORIGIN3