

Town and Country Planning Act 1990 (As Amended)

East Hampshire Local Plan 2040

Regulation 18 Our Local Plan 2021-2040

On behalf of:



February 2024 V 1.2 FINAL



Contents

1. Introduction	1
2. Chapter Three: Managing Future Development	1
i. Housing Requirement	1
ii. Settlement Hierarchy and Spatial Strategy	2
3. Chapter 12: Site Allocations	3
4. Site-Specific Representations: Land South of Hole Lane, Bentley (LAA/BEN-009)	4
Access from Hole Lane	4
Surface Water Flooding	5
Gradient of the Site	5

Tables

Table 1: Accessibility and IIA Comparison of Sites	3
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Appendices

Appendix A	Site Location Plan and Illustrative Masterplan
Appendix B	Representations to the EHDC Local Plan Review Regulation 18 Part 1 Consultation

1. Introduction

- 1.1 Neame Sutton Limited is instructed by [REDACTED] to prepare representations in response to the East Hampshire District Draft Local Plan (Regulation 18) (herein referred to as the draft Local Plan).
- 1.2 The National Planning Policy Framework (2023, para.15) (NPPF) states that succinct and up-to-date plans should provide a positive vision for the future of each area; a framework for meeting housing needs and addressing other economic, social, and environmental priorities. Paragraph 16 of the NPPF highlights that plans should:
 - Contribute to achieving sustainable development.
 - Be positively and collaboratively prepared, as well as clear and unambiguous.
 - Be accessible to assist public involvement.
 - Serve a purpose and be consistent with national policy.
- 1.3 These representations have been prepared in the context of the NPPF and corresponding Planning Practice Guidance (PPG) and specifically address the specific topics identified throughout the draft Local Plan, in accordance with the Regulation 18 process, identifying the relevant paragraphs and policies where appropriate.

2. Chapter Three: Managing Future Development

i. Housing Requirement

- 2.1 The starting point in addressing the housing requirement is the Government's standard method (NPPF 2023, para.61). The Planning Practice Guidance (PPG, para.002, ID 2a-002-20190220) reiterates that the standard method identifies the minimum, annual housing need figure, but does not provide the housing requirement. Paragraph 61 of the NPPF goes on to state that, in addition to the local housing need figure, any need that cannot be met within the neighbouring authorities, should also be accounted for in establishing the housing requirement.
- 2.2 Based on the standard method, the Council (including the SDNP) should be providing a minimum of 10,982 homes over the Plan period (2021-2040), which equates to 578 dwellings per annum. However, the Council is relying on the PPG provision (Paragraph: 014 Reference ID: 2a-014-20190220) in relation to where strategic policy-making authorities do not align with local authority boundaries (specifically the National Park), to set a locally identified housing need figure, which has been set as 8,816 homes (464 dwellings per annum).
- 2.3 The draft Local Plan (p.227, Table 9.8) identifies the need for 613 affordable dwellings per year across the whole of the district, including the South Downs National Park. This in itself is a huge requirement, which necessitates the allocation of appropriately sized sites that can contribute to this need.
- 2.4 With reference to unmet need across the neighbouring authorities, particularly the South Downs National Park, the Reg 18 Plan has estimated a potential unmet need of 14 dwellings per annum, or 266 over the Plan period, which has been based on historic agreements with SDNPA, and increases the housing requirement to 9,082 houses (478 dwellings per annum). As the Statement of Common Ground between South Downs National Park Authority and East Hampshire District Council (January 2024) highlights, the

extent of the unmet need in the South Downs National Park Authority is not yet available and although the Council is taking a pragmatic approach based on historic agreements, the extent of the unmet need is unknown, and as such, the standard method housing need figure should be applied to ensure that the housing requirement set out at the beginning of the Plan period is accurate and sufficient sites are identified.

- 2.5 The Council cannot reasonably seek to rely on historic agreements as the basis for determining how much of the LHN figure, calculated via the Standard Method, is apportioned to the SDNP. The historic agreements were prepared on the basis of previous Local Plans, which applied the Objectively Assessed Needs (OAN) analysis to housing requirement, and as a result, cannot accurately represent the current position for either EHDC or SDNP.
- 2.6 The Council must, therefore, plan for the LHN calculated via the Standard Method as a minimum and, until such time as up-to-date evidence exists to establish the extent of the need that can be met by the SDNPA.
- 2.7 In addition to the SDNPA, the Council has failed to consider the unmet need arising from other neighbouring authorities, such as Waverley in Surrey. This needs to be addressed as part of the Council's statutory and ongoing duty to cooperate with its neighbours.
- 2.8 Lastly, the Council has not considered whether it is appropriate to plan for a higher level of housing need than that identified by the standard method, to address matters such as the acute affordable housing need in the district, as well as the historic higher levels of delivery that may not be accurately reflected by the 2014 based household projections.
- 2.9 Robert Camping considers that the standard method figure of 578 dpa, is the minimum that the Council should be planning for in the district and that further detailed work is required prior to any reduction in this figure. It is more likely that the figure will need to be increased to reflect the actual need across the district and to assist in tackling the acute affordable housing need.

ii. Settlement Hierarchy and Spatial Strategy

- 2.10 Paragraph 3.33 highlights that Policy S2 provides a revised and updated settlement hierarchy, informed by a re-assessment of the existing Joint Core Strategy (2014) hierarchy, and that this policy will ensure that new development is directed to the more sustainable settlements. Paragraph 3.38 goes on to explain that outside of the higher order settlements (Tier 1 and 2), Tier 3 settlements provide a focal point for the surrounding villages and rural areas in terms of the provision of local services and facilities, recognising that, whilst they do not have as wide a range of services as the Tier 1 and 2 settlements, they are still sustainable locations.
- 2.11 It is considered that new development should be dispersed to a wider range of settlements to reduce the overreliance on the larger, strategic sites, allowing a more reliable source of housing delivery, particularly in the early years of the Plan period. A wider distribution of housing across the settlements, in combination with proportionate allocation by population, which is reasonably evenly split across the three planning areas (northwest, northeast and south) (p.211), could provide smaller to medium housing sites in the Tier 3 settlements, such as Bentley, which has been identified as a sustainable location for accommodating a moderate amount of growth.

- 2.12 Policy H1 (Housing Strategy) directs 600 units to Tier 3 settlements. However, the proposed site allocations in Tier 3 settlements account for just 574 units, with just twenty of those being provided in Bentley. It is as a result, considered that the Council has failed to utilise the opportunity to accommodate additional dwellings in the sustainable settlement of Bentley, despite several sites, in particular LAA/BEN-009 (Land South of Hole Lane), being available and assessed as deliverable in the LAA (2023).
- 2.13 Further allocations are, therefore, required even if just to reach the minimum requirement for Tier 3 settlements, set out in the Housing Strategy. Based on the representations above, it is highly likely that more allocations will be required, beyond those set out, to address any uplift to the minimum housing requirement.
- 2.14 As explained in Section 3 below, Land South of Hole Lane, Bentley, is ideally suited to be able to assist the Council in meeting the housing need in a sustainable manner.

3. Chapter 12: Site Allocations

- 3.1 This chapter proposes 42 sites for new development. The Plan makes it clear that the sites are proposed for allocation but have not yet been confirmed as suitable for development (p.333). As the proposed site allocations have not been confirmed, there is no criteria to regulate development. A summary of the reasons for including the sites has been provided, and a high-level assessment of the sites included in the LAA (2023) undertaken in the Integrated Impact Assessment for the East Hampshire Local Plan (January 2024) (IIA).
- 3.2 However, there is no reasoned justification for the selection of the site allocations proposed. For example, the proposed allocation in Bentley (BEN1 – Land West of Hole Lane, Bentley), is not dissimilar in assessment in the IIA to BEN-009 (Land South of Hole Lane). In fact, Site BEN-009 has a higher score in terms of overall accessibility in the East Hampshire Accessibility Study (January 2024). It is noted that the accessibility study postdates (24 January 2024) the publication of the draft Local Plan for consultation (22 January 2024) and it is, therefore, questionable whether the proposed allocations are based on the most recent evidence.

Table 1: Accessibility and IIA Comparison of Sites

	BEN-009 Land South of Hole Lane	BEN-017 Land West of Hole Lane (Proposed Allocation BEN1)
Accessibility Score	16	12
IIA Objective		
1. Biodiversity	Negligible effect	Negligible effect
2. Carbon Emissions	Significant positive effect	Significant positive effect
3. Climate Adaptation	Minor negative effect	Negligible effect
4. Accessibility	Minor positive effect	Minor negative effect
5. Health and Wellbeing	Minor positive effect	Mixed minor effect
6. Economy	Minor positive effect	Minor positive effect
7. Heritage	Likely effect uncertain	Minor negative effect
8. Housing	Minor positive effect	Minor positive effect
9. Landscape	Minor negative effect	Minor negative effect

10. Natural Resources	Significant negative effect	Significant negative effect
11. Water Resources	Significant negative effect	Significant negative effect
12. Pollution	Negligible effect	Negligible effect

3.3 As summarised in the table above, land to the south of Hole Lane (BEN-009) presents a better option for residential development by the Council's own evidence but is neither identified as a rejected site nor taken forward for detailed assessment in the IIA. It is therefore, recommended that land south of Hole Lane (BEN-009) is given detailed consideration for allocation as a realistic and arguably less constrained site, either as a replacement site or in addition to the proposed allocation (BEN1), because, as identified through the settlement hierarchy, Bentley is a sustainable location for accommodating residential development, and additional housing will be required across the district to meet the need identified.

4. Site-Specific Representations: Land South of Hole Lane, Bentley (LAA/BEN-009)

4.1 [REDACTED] has an option on the land west of School Lane, to the north of the settlement of Bentley, which has been extensively promoted through the East Hampshire District Local Plan Review process, as a suitable and sustainable location for accommodating housing.

4.2 The Site Location Plan and Illustrative Masterplan are included in Appendix A. The masterplan has been informed by comprehensive landscape and highways advice, as well as the results of the necessary technical studies, which demonstrate that there are no overriding constraints to the residential development of the site.

4.3 The details of the site are set out in [REDACTED] representations (Appendix B) to the Part 1 Regulation 18 consultation in January 2023 and as such, are not repeated here. It is however, noted that the site is positively assessed in the Council's Land Availability Assessment (LAA) (November 2023) (Ref: BEN-009), concluding that the site is developable.

4.4 In terms of suitability, the LAA (2023) identifies three constraints, namely:

- An area of the site is susceptible to surface water flooding.
- The gradient of the site.
- Poor access from Hole Lane.

4.5 These matters have been assessed in detail through the submission of a planning application (Ref: 59717/001).

Access from Hole Lane

4.6 The site is accessed from School Lane, via an access to the north of Broadacres, School Lane. As part of the scheme, a 'Quiet Lanes' design solution is proposed to School Lane, which provides highways improvements to School Lane for the wider benefit of Bentley:

- Widening of School Lane to provide a consistent width of 3.9m.
- Widening of School Lane at the site access to allow two vehicles to pass.
- Installation of 'Pedestrian in Road' signage to the northern and southern extent of the school.
- Resurfacing the footway along School Lane to the junction with Eggars Field.
- Alteration to the access to enable a refuse vehicle to pass a car at the access.

- Relocation of the brick wall to the rear of the visibility splay.
- Removal or cutback of the hedge adjacent to the site access.

4.7 These works have been agreed with Hampshire County Council, who raise no objection to the development of the site from a highway perspective.

Surface Water Flooding

4.8 Hampshire County Council, as Lead Local Flood Authority, raises no objection to the residential development of the site. Therefore, flood risk and drainage do not present constraints to the development of this site.

Gradient of the Site

4.9 In relation to the visual effects of development, the level of enclosure provided by existing vegetation and the landform results in limited views of the site. The illustrative layout and proposed density have been carefully considered in response to the local landscape and townscape, with an area of open space to the north, along the edge of Hole Lane. This retains the perceived openness and views into the site.

4.10 In summary, there are no technical constraints to the development of the site. In addition to delivering necessary housing, the development of the promotion site would generate several economic benefits in terms of increased spending at local services and the ongoing landscaping, management of SUDS, site management and maintenance jobs. Land west of School Lane offers the potential for early delivery of a sustainable residential development.

Appendix A

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rev.	date	changes description	Status	issued by
P02	21/12/2022	Planning issue	S4	AD
P01	18/10/2022		S0	KM



RE-FORM
AT

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project title
School Lane, Bentley

document title
Masterplan

date created	drawn by	checked by	approved by
Oct 2022	KM	MS	NA

scale at A1
1:500

project	originator	volume	level	type	role	number
P22049	RFT	00	00	DR	A	0101

status	suitability description	revision
S4	Suitable for Stage Approval	P02

Appendix B

Town and Country Planning Act 1990 (As Amended)

East Hampshire Local Plan Review

Regulation 18 Consultation Part 1: Issues and Priorities

On behalf of:

Robert Camping

January 2023 V 1.1 ISSUE



Contents

1.	Introduction.....	1
2.	Representations to the Key Issues and Priorities.....	1
	i. Population and Housing.....	1
	POP1 How do you think we should proceed?	1
	POP1a Please explain your answer	1
	ii. Types of Housing.....	2
	HOU8 Are there any other forms of housing that the Local Plan should refer to?.....	2
	HOU8a If yes, please state what other forms of housing.....	2
	iii. Development Strategy and Spatial Distribution.....	2
	DEV1 Please rank the options in order of preference	2
	DEV2 Why have you ranked the options in this way?	2
3.	Site-Specific Representations: Land West of School Lane, Bentley	3
	i. Site and Local Context.....	4
	ii. Technical Summaries	5
	Landscape	5
	Flood Risk and Drainage.....	5
	Flood Risk	5
	Drainage	5
	Ecology.....	6
	Arboriculture	6
	Transport and Highways	6
	Archaeology	7
	iii. Summary	7

List of Figures

Figure 1: Site Location Plan	4
------------------------------------	---

Appendix B

1. Introduction

- 1.1 Neame Sutton Limited, Chartered Town Planners, has been instructed by [REDACTED] to prepare representations to the Issues and Priorities Regulation 18 Part 1 consultation of the East Hampshire Local Plan 2021-2040 (herein referred to as the Issues and Priorities Plan).
- 1.2 This draft Plan does not include any preferred planning policies or proposals and simply identifies the options available in addressing the key issues in East Hampshire District over the course of the Plan Period (2021-2040), to inform the Regulation 18 Part 2 version of the Local Plan, which will include the development strategy, allocate sites, and set out the draft policies.
- 1.3 These representations address the options presented and introduce Robert Camping's promotion site, land west of School Lane, as suitable for allocation for residential development to help meet the housing needs of East Hampshire District.

2. Representations to the Key Issues and Priorities

- 2.1 Representations are made to the following questions:

- Population and Housing
- Types of Housing
- Development Strategy and Spatial Distribution

i. **Population and Housing**

POP1 How do you think we should proceed?

- 2.2 Use the Standard Method for calculating housing need as the basis for determining the requirements, against which, the five-year housing land supply and Housing Delivery Test are measured.

POP1a Please explain your answer

- 2.3 The starting point in establishing the housing requirement for the district is the Government's Standard Method (NPPF, para.61). The NPPG confirms that the Standard Method is a minimum figure, which does not predict the impact of future Government policies, changing economic circumstances or other influencing factors may have on demographic behaviour (Paragraph 010 Reference ID: 2a-010-20190220). For example, where an authority will be meeting unmet need from a neighbouring authority, in this case, unmet need from the South Downs National Park Authority (SDNPA).
- 2.4 It is important that the Council recognises that the Standard Method Local Housing Need Figure (LHN) is just the starting point for establishing housing need, and all other relevant factors must be assessed, and an adjustment made, particularly where these factors indicate an upward direction to the LHN. This assessment then establishes the minimum housing requirement for the Plan going forward. The relevant factors include, but are not limited to:
 - Affordability in the district
 - Affordable housing need
 - The past performance of the district in terms of housing delivery
 - The current housing delivery test result and housing land supply position
 - Unmet need arising from neighbouring authorities

Appendix B

- The need for and/or size of an appropriate buffer
- The spatial development strategy and the size and type of sites to be allocated, together with the subsequent lead times and infrastructure requirements

2.5 These factors must be considered early in the Plan making stages to ensure that the Council is able to proceed with a draft Plan that identifies an accurate level of housing to meet the need of the residents in the district.

ii. Types of Housing

HOU8 Are there any other forms of housing that the Local Plan should refer to?

2.6 Yes, self-build and custom-build housing.

HOU8a If yes, please state what other forms of housing

2.7 The Self-build and Custom Housebuilding Act 2015 was approved to place a duty on the local planning authority (LPA) to keep a register of individuals who wish to purchase serviced plots for self-build and custom housebuilding projects and to account for these registers in their planning decisions. This is in line with the Government's manifesto (2015) to double the number of custom and self-build homes by 2020, as part of their agenda to significantly boost the supply of housing.

2.8 The Housing and Planning Act 2016 inserted a legal duty on the LPA to provide suitable development permission in respect of serviced plots to meet the demand for self-build and custom housebuilding in the area arising in each base period. The Act confirms that the demand for self-build and custom housebuilding arising in an area is the demand as evidenced by the number of entries added to the register kept by the LPA.

2.9 The Act places a legal duty on the Council to grant planning permission or permission in principle within a base period of twelve months, from 31 October, which is when the Act came into force, and any subsequent additions to the register in the following base year. The AMR (2020/2021) confirms that between 1 April 2020 and 31 March 2021, permission for nineteen self-build homes was granted (identified through CIL exemption).

2.10 This is supported by Paragraph 60 of the NPPF, which states that the Council should deliver a wide range of homes to meet the needs of different groups with specific housing requirements, including those that want to build their own home.

2.11 It is noted that the Council does not appear to have a clear local initiative that will enable the scale of delivery of self- and custom-build plots required.

iii. Development Strategy and Spatial Distribution

DEV1 Please rank the options in order of preference

- Option 1: Disperse new development to a wider range of settlements
- Option 3: Distribute new development by population
- Option 2: Concentrate new development in the largest settlements
- Option 4: Concentrate development in a new settlement

DEV2 Why have you ranked the options in this way?

2.12 Robert Camping considers that a hybrid approach of two options should be considered:

Appendix B

- Option 1: Disperse new development to a wider range of settlements. Housing growth should be distributed to more settlements, but in accordance with a revised settlement hierarchy that prioritises accessibility by walking and cycling.
- Option 3: Distribute new development by population. Housing growth should be distributed in proportion to the existing population levels.

2.13 The advantage of the wider distribution of housing extends beyond reducing transport-related greenhouse gas emissions, as set out in the Spatial Development Background Paper. Wider distribution of housing sites prevents an overreliance on one or two, large, strategic sites, allowing a more even and reliable source of housing delivery even in the early years of the Plan Period. The Council has experienced this problem in the context of the adopted Joint Core Strategy, which remains an issue at the time of preparing these representations, as demonstrated by the current lack of five-year housing land supply.

2.14 This wider distribution amongst settlements in combination with the proportionate allocation of housing by population, which is reasonably evenly split across the three planning areas (northwest, northeast and south), the larger population being in the northeast, could allocate small to medium housing sites to areas that can accommodate growth.

2.15 Bentley presents an opportunity to deliver a medium size, residential development, taking advantage of the good level of local services and public transport. It is noted that the revised Settlement Hierarchy is proposing to include Bentley as a Tier 3 settlement in contrast to the adopted position of Level 4. The Council, therefore, consider Bentley a sustainable location for accommodating a moderate amount of growth.

2.16 In this context, the site land west of School Lane, Bentley, offers the potential for early delivery of a sustainable, residential development, as part of the Local Plan review.

3. Site-Specific Representations: Land West of School Lane, Bentley

3.1 This section introduces the site-specific promotion of land west of School Lane, Bentley (herein referred to as the promotion site). The site location plan and indicative masterplan, for up to 34 new homes, is included in Appendix A. The masterplan has been informed by comprehensive landscape and highways advice, as well as the results of the necessary technical studies, which demonstrate that there are no overriding constraints to the residential development of the site.

Appendix B



Figure 1: Site Location Plan

3.2 The following subsections summarise the promotion site and accompanying technical reports (Appendix B) to assist Officers of the Council in their assessment of the promotion site as a suitable location for accommodating housing, as part of the preparation of the Local Plan Review.

i. Site and Local Context

3.3 The site is to the northeast of Bentley, Farnham, outside of the settlement boundary, but within the designated area covered by the Bentley Neighbourhood Plan. The site lies within the 5-7km risk zone for recreational disturbance of the Thames Basin Heaths Special Protection Area (TBH SPA) and the Bentley Conservation Area lies to the south of the settlement.

3.4 The site, itself, is an area of open grassland with a footpath (017/30/2) running north to south, along the western boundary. On the other side of the footpath and mature tree and hedge boundary, lies a field, large residential properties, and thick tree belt, with a small cluster of trees under a Group Tree Protection Order. The site is bounded by residential properties and School Lane to the east, Hole Lane and scattered residential development to the north, and residential development and Eggars Field to the south. There are two listed buildings within the vicinity of the site, the Grade II listed Jenkyn Place to the northwest and the Grade II* listed St Mary's Church to the north.

3.5 Bentley is identified as a Level 4 Other Settlement in the settlement hierarchy of the adopted Local Plan (2014), which has a small range of local services and is appropriate for some further small-scale development. As set out above, the Council intends to raise the settlement to Tier 3 in recognition of the current sustainability credentials.

3.6 Bentley is reasonably well served by public transport with two bus stops to the south of the site on London Road. Route 206 runs approximately every two hours on Tuesdays and Fridays to Binstead, Alton and Upper Froyle. The Route 65 bus runs approximately every half an hour to Alton and Guildford. The Bentley railway station is approximately 1.5 miles to the south of the site and provides a direct link to London Waterloo and Alton.

3.7 The site is well related to the settlement boundary and forms a natural extension to Bentley.

Appendix B

ii. Technical Summaries

Landscape

- 3.8 SLR has prepared a Landscape and Visual Appraisal (LVA), which is based on the illustrative masterplan prepared by Re-Format. SLR has been integral to informing and shaping the layout, ensuring a landscape led approach.
- 3.9 The site is not within any national designations for valued landscapes, such as AONBs or National Parks. However, the South Downs National Park is located within 1.4km of the site. Footpath 30 extends along the western boundary of the site and St Swithun's Way Long Distance Route extends along the northern boundary. The assessment of potential effects on landscape character identified a major/moderate and negative level of effect on the gently sloping, semi-enclosed pastoral field. The level of landscape effect on all other landscape qualities are identified as moderate or below.
- 3.10 The potential effects on landscape character will be localised, with minor levels of effect on the overall character of the area. The nature of effect on existing vegetation (hedgerow, trees and woodland network) would be positive. In relation to visual effects, the level of visual enclosure provided by existing vegetation and the undulating landform results in no views available from five of the eleven representative viewpoints photographed, including those from the South Downs National Park.

Flood Risk and Drainage

Flood Risk

- 3.11 The FRA, prepared by RGP, considers the potential flood risk on the site from all sources.
- 3.12 The site is in Flood Zone 1 and the SuDS features proposed are permeable paving and an attenuation pond. All surface water and roof runoff will be discharged through these SuDS features, which have been sized to accommodate up to, and including, the 1:100 year + 40% for climate rainfall event, into the existing Thames Water surface water network at a reduced discharge rate of 3.7l/s. This minimises the risk of offsite flooding to the surrounding area.
- 3.13 The proposed foul discharge will connect into the Thames Water foul network, which runs along School Lane at manhole 7301 (34 dwellings at 1.7l/s). These discharge rates have been agreed with Thames Water. Based on the information collated as part of the FRA, the proposed development flood risk from all sources has been assessed as low. The area of the site to be developed is in Flood Zone 1 and the assessment of the potential future flooding of the site, illustrates that this will be maintained in the future.
- 3.14 The overall conclusion of the FRA is that there are no flood risk constraints on the site to prevent development.

Drainage

- 3.15 The proposed surface water drainage system will collect surface water runoff via a combination of permeable paving and gullies, to an underground drainage system, which will discharge to an attenuation pond located to the southeast of the site. The attenuation pond is sized to approximately 567m³ of attenuation volume, which will accommodate surface water runoff for storm events up to and including the 1:100 year + 40% for climate change rainfall event, based on a discharge rate of 3.7l/s. The pond will discharge water by means of a flow control chamber to a new Thames Water surface water sewer, requisitioned along School Lane.

Appendix B

- 3.16 The attenuation pond will be a 'wet pond', which means that there will be a pool of water at the bottom. This wet pond will provide added biodiversity and amenity enhancements, by providing a habitat area for both fauna and flora to thrive, whilst allowing the settlement of sediment and pollutants, in accordance with SuDS principles.
- 3.17 The proposed foul water drainage system will incorporate the existing Thames Water public foul drainage pipeline, which runs west to east through the centre of the development site. A new foul water discharge will be connected to the existing Thames Water public sewer network on School Lane, to accommodate the areas of the site that are unable to discharge to the existing foul sewer due to topographic restrictions. The proposed peak foul water discharge rate for the development is 1.7 l/s.

Ecology

- 3.18 ECOSA has carried out an Ecological Impact Assessment, which confirms that there are no statutory designated sites within a kilometre of the site, but the TBH SPA is approximately 5.8km to the south. The development proposal will, as a result, need to consider the potential effect on the integrity of ground nesting bird populations, for which the SPA is designed, and ensure that there are no overall adverse effects through the implementation of avoidance and mitigation measures where appropriate.
- 3.19 At a distance of 5.8km, it is considered that the 34 dwellings proposed will not result in any adverse impact on the SPA, particularly given the more convenient and accessible green spaces in close proximity to the site, for example, Bentley Playground to the south and the wooded area at Eggars Field. This is supported by the TBH SPA Delivery Framework (2009), which states that only larger developments of fifty or more units within five to seven kilometres of the SPA need to be considered as to whether they are likely to result in significant effects on the SPA, either in combination or isolation. Smaller developments, such as this, are not considered to present the risk of adverse effect.
- 3.20 The habitat value of the site is considered generally low, with the trees and scattered shrub providing potential habitat for a range of species, contributing to a wider network of semi-natural habitat linkages facilitating the movement of wildlife around the site and surrounding area. The proposed development includes site-wide planting, which benefits several species, as well as bird nesting and bat roosting features.
- 3.21 The overall conclusion of the report is that, subject to the implementation of the recommended measures for habitat retention, creation and enhancement, the development of the site will not result in a reduction in the ecological interest of the site or surrounding area, and as such, there is no overriding ecological constraint that would prevent the development of the site.

Arboriculture

- 3.22 The Arboricultural Method Statement (AMS), prepared by David Archer Associates, details the actions to be taken to prevent damage to the retained trees on the site and those adjacent to the site. The AMS confirms that the proposed drainage layout, including the proposed connections to the existing network, will have no impact on the retained trees.

Transport and Highways

- 3.23 The Transport Statement considers the highways and transport implications of the residential development of the site. The statement confirms that:

Appendix B

- The site is in an area that is accessible via a range of non-car modes of travel.
- An analysis of the personal injury accidents around the site did not identify any abnormal causation factors and as a result, the proposed development will not have an adverse effect on highway safety.
- Appropriate access to the site can be achieved from School Lane with adequate visibility.
- The proposed parking on the site is considered suitable and provided in accordance with the requirements.
- The trip generating impact of the proposed development is negligible and would not result in a severe impact on the operation or safety of the local highway network.

3.24 The overall conclusion of the report is that the residential development of the site will not result in an unacceptable impact on safety and there would be no residual or severe cumulative impact on the surrounding highway network.

Archaeology

3.25 The accompanying Archaeological Desk-Based Assessment assesses the available archaeological, topographic and historic land-use information on the site to establish the heritage significance and archaeological potential of the site.

3.26 With reference to archaeological assets, the assessment concludes that there are no statutory designations on or within close proximity to the site and as such, the proposed development will not result in an adverse impact on any designated archaeological assets. The site is partially within an Area of Archaeological Potential (to the north) and Historic Rural Settlement, which have been considered as part of the desk-based assessment.

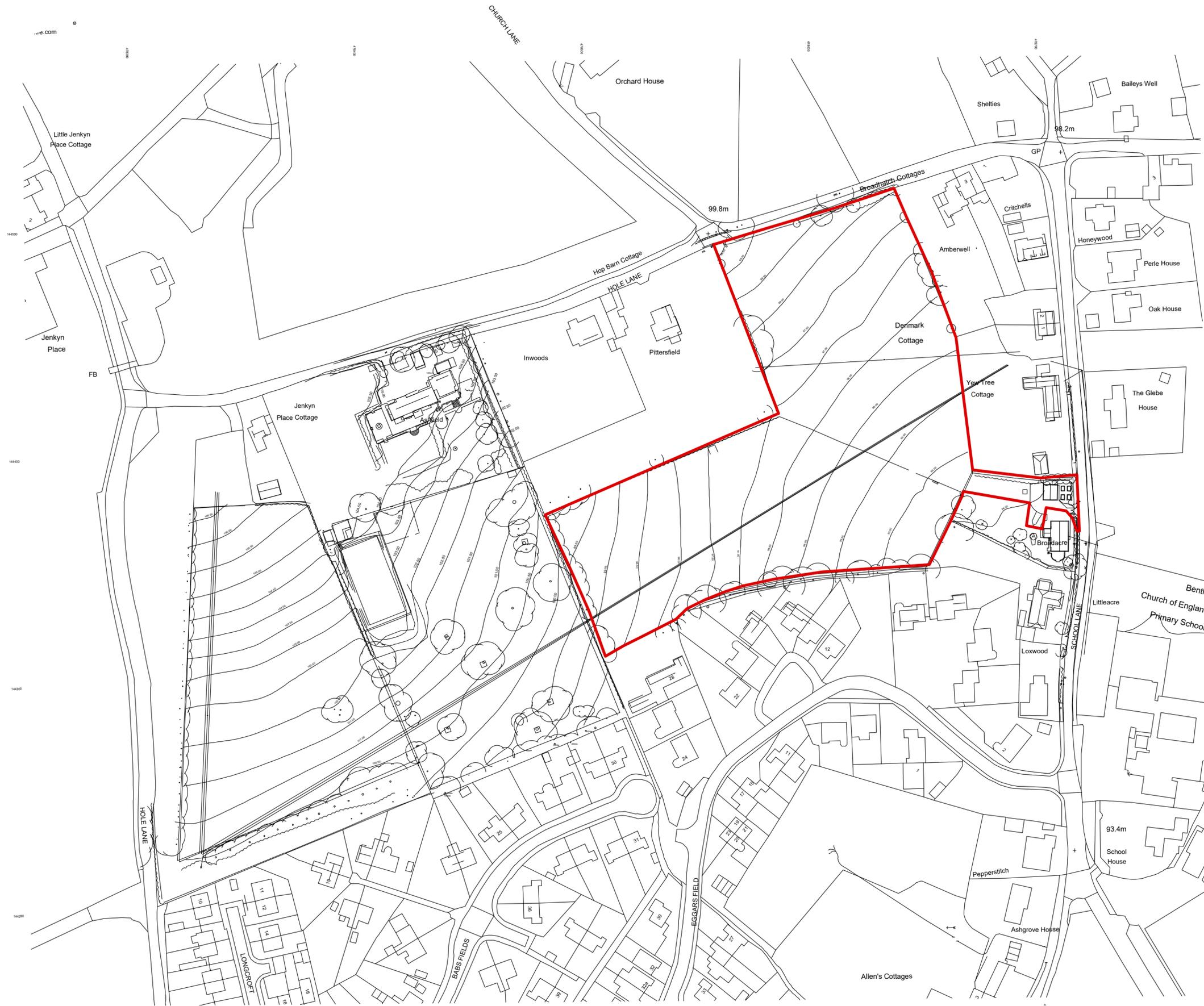
3.27 The report confirms low potential for accommodating Prehistoric and Roman finds, and moderate potential for Medieval and Post Medieval archaeology, with the significance of any finds being of low or local value. Given that there is some potential for archaeological finds to be present, the overall conclusion of the assessment is that a geophysical survey be conditioned to establish any archaeological presence and resultant mitigation works necessary.

iii. Summary

3.28 In summary there are no technical constraints to the development of the site. In addition to delivering necessary housing, the development of the promotion site would generate several economic benefits:

- Short-term economic benefits in terms of construction (jobs, increased spending at local services, etc.)
- Long-term economic benefits in terms of ongoing landscaping, management of SUDS, site management and maintenance jobs, as well as CIL contributions for infrastructure improvements, new homes bonuses and Council Tax revenue and increased spending at the local services and facilities in Bentley.

Appendix B



Serial number: 239353
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Revisions
P01 / 28.06.22 / Initial issue



Drawn by	Date	Project Title	Status	Stage
MS	16.03.22	Lane off School Lane, Bentley	Preliminary	Feasibility
Scale at A2 1:1250		Document Title	Drawing Number	Revision
		Location Plan	22049(A)00.01	P01

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rev.	date	changes description	Status	issued by
P02	21/12/2022	Planning issue	S4	AD
P01	18/10/2022		S0	KM



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project title
School Lane, Bentley

document title
Masterplan

date created	drawn by	checked by	approved by
Oct 2022	KM	MS	NA

scale at A1
1:500

project	originator	volume	level	type	role	number
P22049	RFT	00	00	DR	A	0101

status	suitability description	revision
S4	Suitable for Stage Approval	P02

Appendix B

Town and Country Planning Act 1990 (As Amended)

Planning Statement

Land West of School Lane, Bentley, Farnham

On behalf of:

Camping Property

October 2022 V 1.1 ISSUE



Contents

1. Introduction	1
2. Site Description and Planning History	2
<i>i. Site Description</i>	2
<i>ii. Planning History</i>	2
3. The Application Proposal	3
4. Planning Policy Framework	4
<i>i. National Planning Policy Framework</i>	4
<i>ii. The Development Plan</i>	4
<i>iii. Other Policy Considerations</i>	5
Emerging Local Plan	5
Supplementary Planning Documents	5
Consultation on the Draft Housing Outside Settlement Boundaries SPD	5
Self-Build Policy and Legislation	6
National Planning Practice Guidance	6
5. Planning Considerations	7
<i>i. Principle of Development</i>	7
The Site in the Context of the Adopted Local Plan	7
The Site in the Context of the Council's Five-Year Housing Land Supply Position	8
<i>ii. Meets a Community Need or Community Aspiration: Housing Tenure, Mix and Size</i>	9
Housing Mix	9
Self-Build Plots	9
Affordable Housing	10
<i>iii. Reinforces a Settlement's Role and Function</i>	10
<i>iv. Cannot Be Accommodated Within the Built-Up Area: Sustainable Location</i>	10
<i>v. Community Involvement</i>	11
<i>vi. Character, Layout and Design, Residential and Neighbouring Amenity</i>	11
<i>vii. Landscape</i>	13
<i>viii. Open Space</i>	15
<i>ix. Flood Risk and Drainage</i>	15
Flood Risk	16
Drainage	16
<i>x. Ecology</i>	17
<i>xi. Arboriculture</i>	17
<i>xii. Transport and Highways</i>	18
<i>xiii. Archaeology</i>	18
<i>xiv. Sustainability</i>	19

xv. Planning Conditions and Obligations	19
Planning Conditions	19
Planning Obligations	19
6. Conclusion	20

List of Tables

Table 1: Policies Relevant to the Determination of the Application.....	4
Table 2: EHDC Housing Need Calculation Summary	8
Table 3: April 2022 EHDC Housing Need Calculation Summary.....	8
Table 4: Indicative Open Market Housing Mix	9
Table 5: Affordable Housing Mix.....	10
Table 6: Compliance with Policy CP29 (Design) of the EHDLP	12
Table 7: Public Open Space Requirement.....	15

List of Figures

Figure 1: Illustrative Layout	3
-------------------------------------	---

Appendix B

1. Introduction

- 1.1 Neame Sutton has been instructed by Camping Property (the applicant) to prepare and submit an outline application for:

Outline: The erection of up to 34 residential dwellings, including fifteen affordable and nine self-build housing units, together with the associated vehicular and pedestrian access, landscaping, and public open space on land west of School Lane, Bentley, Farnham, with all matters reserved except for access (excluding internal estate roads).

- 1.2 The Planning Statement should be read together with the plans and illustrative material, as well as the technical reports prepared to support the application:

- **Design and Access Statement** **Re-Format**
- **Ecology** **ECOSA**
- **Landscape** **SLR Consulting**
- **Arboriculture** **David Archer Associates**
- **Highways** **RGP**
- **Flood Risk and Drainage** **RGP**
- **Archaeology** **Orion Heritage**

- 1.3 The following 1APP requirements are also addressed in the Planning Statement:

- Affordable Housing Statement
- Planning Obligations Statement
- Sustainability Statement
- Community Involvement

Appendix B

2. Site Description and Planning History

i. Site Description

- 2.1 The site is to the northeast of Bentley, Farnham, within the administrative authority of East Hampshire District Council. The site is outside of the settlement boundary of Bentley, in the countryside, but within the designated area covered by the Bentley Neighbourhood Plan. The site lies within the 5-7km risk zone for recreational disturbance of the Thames Basin Heaths Special Protection Area (TBH SPA). The Bentley Conservation Area lies to the south of the settlement, which accommodates several listed buildings.
- 2.2 The site, itself, is an area of open grassland with a footpath (017/30/2) running north to south, along the western boundary. On the other side of the footpath and mature tree and hedge boundary, lies a field, large residential properties, and thick tree belt, with a small cluster of trees under a Group Tree Protection Order. The site is bounded by residential properties and School Lane to the east, Hole Lane and scattered residential development to the north, and residential development and Eggars Field to the south. There are two listed buildings within the vicinity of the site, the Grade II listed Jenkyn Place to the northwest and the Grade II* listed St Mary's Church to the north.
- 2.3 Bentley is identified as a Level 4 Other Settlement in the settlement hierarchy of the adopted Local Plan (2014), which has a small range of local services and is appropriate for some further small-scale development.
- 2.4 Bentley is reasonably well served by public transport with two bus stops to the south of the site on London Road. Route 206 runs approximately every two hours on Tuesdays and Fridays to Binstead, Alton and Upper Froyle. The Route 65 bus runs approximately every half an hour to Alton and Guildford. The Bentley railway station is approximately 1.5 miles to the south of the site and provides a direct link to London Waterloo and Alton.
- 2.5 The site is well related to the settlement boundary and forms a natural extension to Bentley.

ii. Planning History

- 2.6 There is a short planning history on the wider site:
- Ref: 55711** Outline: Residential development comprising 15 dwellings, together with the associated open space, landscaping, parking and access. Refused at appeal, 4 August 2015.
- Ref: 55711/001** Outline: Residential development comprising 93 dwellings consisting of 12 x b-Bed flats, 26 x 2-Bed houses, 2 x 2-Bed flats, 39 x 3-Bed houses and 14 x 4-Bed houses, with access to be considered. Refused, 12 November 2020.
- Ref: 55711/002** Request for EIA Screening Opinion. Residential development at Hole Lane, Bentley. Environmental Impact Assessment not required, 9 September 2020.
- 2.7 More recently (May 2022), an outline application for nine, self-build dwellings, all matters reserved except for access, was submitted (ref: **59717**) and is currently awaiting determination.
- 2.8 The planning history is discussed in relation to the proposed development in Section 5.

Appendix B

3. The Application Proposal

3.1 The proposal is made in outline for the erection of up to 34 residential dwellings, including fifteen affordable houses and nine self-build plots, together with the associated vehicular and pedestrian access, landscaping, and public open space, with all matters reserved except for access.



Figure 1: Illustrative Layout

3.2 Please refer to the accompanying plans and illustrative material for details of the proposed development.

Appendix B

4. Planning Policy Framework

4.1 The policy framework applicable to the determination of the application includes the National Planning Policy Framework (2021) and the Development Plan, which consists of the adopted East Hampshire District Local Plan: Joint Core Strategy (2014) (EHDLP) and the Bentley Neighbourhood Plan (2016) (BNP). The relevant policies are set out below and discussed in detail in relation to the proposal in Section 5.

i. National Planning Policy Framework

4.2 The July 2021 NPPF replaces both the first NPPF, published in March 2012 and the second, published in July 2018, which was subsequently updated in February 2019, and sets out the Government's current planning policies for England.

4.3 At the heart of the NPPF is the presumption in favour of sustainable development, where Paragraph 11 advises that in decisions, a presumption in favour of sustainable development should apply. For decision-taking, this means that development proposals should be approved without delay, if they are in accordance with an up-to-date development plan.

4.4 The paragraphs relevant to the application include:

- Paragraphs 7 – 10 Achieving Sustainable Development
- Paragraphs 60, 62, 64 Delivering a Sufficient Supply of Homes
- Paragraphs 104 – 113 Promoting Sustainable Transport
- Paragraphs 119 – 125 Making Effective Use of Land
- Paragraphs 126 – 136 Achieving Well-Designed Places

4.5 The 2021 NPPF continues to reinforce the Government's emphasis on significantly boosting the supply of housing and is intended to prompt significant change in the delivery of housing, to rectify the housing crisis. The emphasis on the delivery of housing in sustainable locations remains.

ii. The Development Plan

4.6 The Local Plan consists of the East Hampshire District Local Plan: Joint Core Strategy (EHDLP), adopted in May 2014, and the Bentley Neighbourhood Plan (BNP), made in February 2016. These Plans establish the framework of detailed policies and proposals for the development and use of land, with which planning decisions are assessed. The policies relevant to the determination of the application are set out in the table below.

Table 1: Policies Relevant to the Determination of the Application

Planning Consideration	East Hants Local Plan	Bentley Neighbourhood Plan
Principle of development	CP1 - Presumption in favour of sustainable development CP2 - Spatial strategy CP10 - Spatial strategy for housing CP19 - Development in the countryside	1: Spatial Plan
Housing	CP11 - Housing tenure, type and mix CP13 - Affordable housing on residential development sites	-
Character and design, incl. residential and neighbouring amenity	CP18 - Provision of open space, sport and recreation and built facilities CP27 - Pollution CP29 - Design	2: Design and Development Principles

Appendix B

	CP30 – Historic Environment	
Landscape	CP20 - Landscape	-
Biodiversity	CP21 – Biodiversity	-
Arboriculture	CP28 - Green infrastructure	-
Transport and highways	CP31 - Transport	-
Flood risk and drainage	CP25 - Flood Risk	6: Sustainable Drainage
Archaeology	CP30 - Historic Environment	-
Sustainability	CP24 - Sustainable construction	-

iii. Other Policy Considerations

Emerging Local Plan

- 4.7 The Council is in the process of preparing a Local Plan Review, with the Regulation 18 Draft Local Plan having been consulted on between 5 February and 19 March 2019. In September 2021, the Council wrote to the Secretary of State for Levelling Up, Housing and Communities, highlighting the implications of applying the Standard Method to East Hampshire District, which has resulted in a delay to the progress of the new Local Plan.
- 4.8 The Local Development Scheme was updated in March 2022, which indicated that the Regulation 19 Version of the Draft Local Plan would be published towards the end of 2022, beginning of 2023, with examination mid-2023 and anticipated adoption in early 2024. However, in June 2022, the Council took the decision to suspend progression to the latter stages of the Plan-Making process (Regulation 19) and concentrate instead, on further early-stage consultation (Regulation 18) in November 2022.
- 4.9 Given the early stage and halted progression of the emerging Local Plan, little or no weight is attributed to the draft policies.

Supplementary Planning Documents

- 4.10 In addition to the policy position outlined above, the Council has produced several Supplementary Planning Documents (SPDs) and guidance documents to supplement the policy details. Those relevant to this application are:
- Climate Change and Sustainable Construction SPD (2022)
 - Vehicle Parking Standards SPD (2018)
 - Biodiversity and Planning Guidance (2021)
 - Biodiversity Net Gain (BNG) Position Statement (2022)
 - Position Statement and Mitigation Plan for Nutrient Neutral Development (2022)
 - Landscape Checklist for New Development in Hampshire and Isle of Wight (2007)
 - Guide to Developers' Contributions (2014)

Consultation on the Draft Housing Outside Settlement Boundaries SPD

- 4.11 The Council has recently consulted on a draft Housing Outside Settlement Boundaries SPD (9 August to 20 September 2022), which aims to support the supply of residential development, in accordance with Policy CP10 (Spatial Strategy) of the adopted EHDLP. The draft SPD expands on, and explains, the evidence required to support an application for residential development.
- 4.12 Although the SPD is still in draft format, it is considered to carry some weight in the determination of this application, where its relevance is discussed in detail in Section 5.

Appendix B

Self-Build Policy and Legislation

- 4.13 The Self-build and Custom Housebuilding Act 2015 was approved to place a duty on the local planning authority (LPA) to keep a register of individuals who wish to purchase serviced plots for self-build and custom housebuilding projects and to account for these registers in their planning decisions. This is in line with the Government's manifesto (2015) to double the number of custom and self-build homes by 2020, as part of their agenda to significantly boost the supply of housing.
- 4.14 The Housing and Planning Act 2016 inserted a legal duty on the LPA to provide suitable development permission in respect of serviced plots to meet the demand for self-build and custom housebuilding in the area arising in each base period. The Act confirms that the demand for self-build and custom housebuilding arising in an area is the demand as evidenced by the number of entries added to the register kept by the LPA.
- 4.15 The Act places a legal duty on the Council to grant planning permission or permission in principle within a base period of twelve months, from 31 October, which is when the Act came into force, and any subsequent additions to the register in the following base year. The Council's compliance in granting permissions to meet the demand on the register is, therefore, a material consideration in the determination of applications proposing self-build plots. The AMR (2020/2021) confirms that between 1 April 2020 and 31 March 2021, permission for nineteen self-build homes was granted (identified through CIL exemption).
- 4.16 This is supported by Paragraph 60 of the NPPF, which states that the Council should deliver a wide range of homes to meet the needs of different groups with specific housing requirements, including those that want to build their own home.
- 4.17 Although little weight can be given to the policies of the emerging Local Plan, draft Policy DM8 (Self and Custom Build Housing) supports custom and self-build housing, where it has no significant, adverse effect on the character of the area.
- 4.18 It is noted that the Council does not appear to have a clear local initiative that will enable the scale of delivery of self and custom build plots required. Therefore, whilst the contribution towards the overall demand for self-build housing this proposal makes is modest, it is a contribution nonetheless, and should be considered favourably when assessed against the significant need.

National Planning Practice Guidance

- 4.19 In addition to the NPPF, the Government has published a series of National Planning Practice Guidance (NPPG), which reflects the continuing emphasis on the planning system delivering growth as part of the sustained recovery of the UK economy. The approach by the applicant in relation to the assessment of housing need and supply is in accordance with that set out in current, established policy and guidance.

Appendix B

5. Planning Considerations

5.1 As set out in Section 2, there is a short but relevant planning history on the site. An outline application for the erection of 93 dwellings with access to be considered (5571 1/001) was refused in November 2020, for six reasons:

- The site is a greenfield site, outside of the settlement boundary.
- The proposal was not considered sustainable development given its scale in a village location.
- The proposed access would result in an unacceptable impact on the safety of the local highway network.
- The potential for disturbance to the TBH SPA.
- Substantial change to the appearance and intensity of the use of land by virtue of the extent and scale of development in the countryside.
- The potential impact on biodiversity.

5.2 These reasons for refusal have been addressed in this proposal, which is significantly reduced in scale and shaped by the relevant technical input. The following subsections examine the primary planning considerations relevant to the proposed development.

i. **Principle of Development**

5.3 There are two influencing factors on the principle of development:

- The site in the context of the adopted Local Plan
- The site in the context of the Council's five-year housing land supply position

The Site in the Context of the Adopted Local Plan

5.4 The Council will take a positive approach to assessing development proposals, which reflects the presumption in favour of sustainable development set out in the NPPF (Policy CP1 Presumption in Favour of Sustainable Development). New development will be allocated in the most sustainable and accessible locations in accordance with the Spatial Strategy (Policy CP2 Spatial Strategy) and development in the countryside will be resisted (Policy CP19 Development in the Countryside).

5.5 Policy CP10 (Spatial Strategy for Housing) directs development to the defined settlement policy boundaries of towns and villages, with a minimum of 150 new dwellings to be accommodated in villages. Housing development outside of the settlement policy boundaries will be permitted where it:

- Meets a community need or realises a community aspiration.
- Reinforces a settlement's role and function.
- Cannot be accommodated within the built-up area.
- Has been identified in an adopted Neighbourhood Plan or has clear community support, demonstrated through a process agreed by the LPA in consultation with the Parish Council.

5.6 In recognition that the Council may soon be reliant on housing sites outside of the settlement policy boundary to meet their housing needs, they have prepared a draft Housing Outside of Settlement Boundaries SPD, as outlined in Section 4, which supplements Policy CP10, setting out the criteria that needs to be demonstrated in applications on sites outside of the settlement boundary. These criteria are addressed throughout the following subsections.

Appendix B

- 5.7 Section 2 highlights that the site is outside, but immediately adjacent to the settlement boundary of Bentley, which is identified as an 'other settlement with a settlement policy boundary' (Level 4) in the Spatial Hierarchy. Development in these areas is limited to that necessary to meet specific local needs (EHDLP, p. 27, para.4.20). With reference to the Neighbourhood Plan, Policy 1 (Spatial Plan) permits development outside of the settlement boundary where it complies with the relevant policies.
- 5.8 It is with these points in mind that the principle of development on the site is acceptable, in that it is in accordance with the spatial strategy of the Development Plan, subject to addressing the relevant criteria, which is demonstrated in the subsections that follow.

The Site in the Context of the Council's Five-Year Housing Land Supply Position

- 5.9 In addition to the aforementioned policy position, Local Plans should be reviewed once every five years and updated as necessary (NPPF, 2021, para.33), to account for the changing circumstances affecting the area and relevant changes to national policy. The EHDLP was adopted in May 2014 and is now over 5 years old. Whilst the Council has commenced a review of the Plan, it remains in the very early stages of preparation, where little or no weight is given to the content.
- 5.10 The EHDLP makes provision for 10,060 new dwellings over the Plan Period (2011-2028), of these, 1,314 will be provided through small windfall sites, 150 to be accommodated in villages.
- 5.11 The Council's Five-Year Housing Land Supply Position Statement (2021/22 to 2025/26) concludes that there is a 5.74-year supply of housing. The Standard Method for calculating housing need has been applied on the basis that the Local Plan was adopted in 2014 and is now more than five years old. A discount is then applied to the housing requirement to account for the proportion of housing to be delivered in the, now separate, South Downs National Park Local Plan (2019). The calculation is summarised as follows:

Table 2: EHDC Housing Need Calculation Summary

Local Planning Authority	2017-2027
East Hampshire District Council	460
South Downs National Park Authority	138
Total	598 units

- 5.12 The Council's calculation was correct at the time of the Housing Land Supply Assessment in September 2021. However, the ONS updated the Affordability Ratio data in March 2022, and being a new calendar year, two of the key inputs to the calculation are affected. This means that from April 2022, the housing requirement has increased:

Table 3: April 2022 EHDC Housing Need Calculation Summary

Local Planning Authority	2017-2027
East Hampshire District Council	494
South Downs National Park Authority	138
Total	632 units

- 5.13 The starting point for the calculation of housing land supply has increased, where the minimum requirement is 494 dpa, plus a five per cent buffer, which equates to 519 dpa or 2,595 dwellings over a five-year period.
- 5.14 Having undertaken a headline review of primarily the Category B sites in the Council's sources of supply (large sites with outline permission; Local Plan allocations; Neighbourhood Plan allocations; Brownfield

Appendix B

Land Register; and windfalls), it is concluded that a minimum of 574 dwellings should be deducted from the housing land supply, as they fail to meet the definition of deliverability, set out in Annex 2 of the NPPF. On the basis of the headline analysis, it is concluded that the Council can currently only demonstrate a 4.24-year supply of housing land and as such, the tilted balance (Paragraph 11 d)) applies to the determination of the application.

5.15 The principle of development is acceptable, subject to addressing the relevant and material planning considerations, which are assessed in the following subsections.

ii. Meets a Community Need or Community Aspiration: Housing Tenure, Mix and Size

5.16 To address the housing requirements and create sustainable communities, new residential development is required to (Policy CP11 Housing Tenure, Type and Mix):

- Maximise provision of affordable housing.
- Provide a range of dwelling tenures, types and sizes.
- Provide housing that meets community requirements, including self-build.
- Meet Lifetime Homes Standard as appropriate.

5.17 To meet the affordable housing need, Policy CP13 (Affordable Housing on Residential Development Sites) requires all development of one unit or more to contribute towards the provision of affordable housing. On sites of four units or more, onsite affordable housing provision is required at forty per cent.

Housing Mix

5.18 The scheme is presented in outline. However, the following indicative open market housing mix is reflected in the illustrative layout and has been assessed in the technical reports accompanying the application.

Table 4: Indicative Open Market Housing Mix

Unit Size	No. of Units	% of Units	SHMA Requirement
1 Bedroom	0	0%	6%
2 Bedroom	5	26%	24%
3 Bedroom	8	42%	40%
4 Bedroom	6	32%	30%
	(19)		

Self-Build Plots

5.19 Of these units, nine self-build plots are proposed. Self-build projects are defined as those where an individual designs and constructs their own home. As part of the proposal, the applicant will provide nine serviced plots, where the layout, access, and infrastructure (as part of the later Reserved Matters application) would be provided prior to the plots being made available to qualifying self-builders.

5.20 The size and form of these units will be subject to individual requirements but are an important element in meeting both housing need and community aspirations. The 2016 Legislation placed a legal duty on the Council to ensure that sufficient permissions are granted to meet this need. The Council holds a register for self-build housing, which identifies one hundred interested parties, with 49 of these having selected Bentley. A total of 41 of these parties indicated that their preference is for a detached house. As set out above, between 1 April 2020 and 31 March 2021, just nineteen permissions have been granted for self-

Appendix B

build homes. Although the contribution to the overall demand for self-build plots is modest, the nine plots make a valuable contribution and are a significant benefit of the proposed development.

Affordable Housing

- 5.21 The scheme proposes fifteen affordable units, which equates to 45 per cent of onsite affordable housing. The proposed mix has been informed by and is compliant with the Council's SHMA requirement:

Table 5: Affordable Housing Mix

Unit Size	No. of Units	% of Units	SHMA Requirement
1 Bedroom	3	20%	21%
2 Bedroom	6	40%	39%
3 Bedroom	4	27%	29%
4 Bedroom	2	13%	11%
	(15)		

- 5.22 The proposed tenure, type and mix of housing is SHMA compliant and appropriate to the location. Affordable housing is provided in excess of the forty per cent requirement and a valuable contribution to the self-build and general housing need is made. The development is compliant with Policies CP11 and CP13 of the EHDLP, as well as the requirements of the NPPF.

iii. Reinforces a Settlement's Role and Function

- 5.23 In the application of this criterion, the proposal needs to make a positive contribution to the existing spatial pattern of development. The proposal should not be of a scale that fundamentally changes the role and function of the settlement and should be accessible, within reasonable walking or cycling distance to services and facilities, as well as consider the wider benefits of the scheme in terms of enabling existing facilities to continue and thrive.
- 5.24 With reference to the spatial pattern of development, the site forms a natural extension to the settlement of Bentley, bounded to the south and west by moderately dense residential development. The proposed development is low density, with a net density of 22 dpha and gross density of 17 dpha. Being a predominantly residential village, the proposed residential development does not alter the role or function of Bentley.
- 5.25 The accessibility of the site is discussed in detail in the accompanying Transport Statement. The local services and facilities are situated on London Road, to the south of the site, just a five-minute walk (0.3 miles). The increase in housing will increase the custom at these local facilities, supporting their long-term viability.

iv. Cannot Be Accommodated Within the Built-Up Area: Sustainable Location

- 5.26 The interpretation of this criterion according to the emerging SPD is the nearest settlement to which the proposal relates, in this case, Bentley. In its application, the criterion introduces a sequential approach to demonstrate the availability of sites within an existing boundary, followed by sites on the edge or adjacent to settlements before considering sites further away.
- 5.27 Given that the SPD is still in draft consultation stage, and the Council are aware that there is an impending lack of five-year housing land supply, it is not considered necessary to undertake a full sequential assessment of alternative sites. It is clear from the publication of the draft SPD and headline analysis

Appendix B

presented above, that the Council will soon be relying on sites outside of the settlement boundary to meet their housing need.

5.28 In this case, although the site is not within the settlement boundary, it is immediately adjacent to the settlement on the southern and western boundaries, forming a natural extension to Bentley. The proposed development is, as a result, considered acceptable in the context of Criterion 3 of the emerging SPD.

v. Community Involvement

5.29 Community consultation is encouraged by the emerging SPD and Policy CP10 (Spatial Strategy for Housing). The SPD states that consultation and engagement should be fit for purpose and proportionate to the scale and nature of the proposal. Although it does not prescribe the type of engagement, the SPD requires two stages of consultation:

- Stage 1 Early Consultation. The views of the community on the principle of development should be sought.
- Stage 2 Proposal. Views on the preferred proposal should be sought.

5.30 Given the small scale of the proposed development, the applicant considered it appropriate to undertake a leaflet drop, preparing an informative leaflet, which was distributed to all addresses (114 residencies) within half a mile radius of the site.

5.31 The leaflet outlined the proposed development and included details of how to leave feedback or make any comments. A two-week window was allowed for responses to be received and the consultation mailbox is still live and regularly monitored. Sixteen consultation responses were received, the comments summarised as follows:

- There is no need for housing
- Highway and traffic concerns
- Impact on the character of the area with reference to design and materials

5.32 These matters are addressed in the subsections that follow and are not considered to present a constraint to the development of the site.

5.33 Stage 2 of the consultation will be undertaken as part of the Reserved Matters application, prior to the details of the proposal being submitted for consideration. The proposed development is considered compliant with Policy CP10 of the EHDLP and the draft SPD.

vi. Character, Layout and Design, Residential and Neighbouring Amenity

5.34 Development must not result in pollution that prejudices the health and safety of communities and their environment (Policy CP27 Pollution). Proposals must not have an unacceptable effect on the amenity of the neighbours through loss of privacy or excessive overshadowing. Policy CP29 (Design) requires the standard of design to be of exemplary standard in terms of visual appearance, with all new development to respect the character, identity and context of the village, creating an environment where people want to live, work and visit. Policy CP29 sets out eleven criteria that new development is required to meet. The proposed development is assessed against these criteria in the table below.

Appendix B

Table 6: Compliance with Policy CP29 (Design) of the EHDLP

Policy CP29 Criteria	Proposed Development Compliance
Seek exemplary standards of design and architecture with a high-quality external appearance that respect the area's particular characteristics.	Although these details remain to be determined at Reserved Matters stage, the design intention for the homes is a rural vernacular style, with dark stained boarding and barn references, which populate parts of Bentley, particularly to the edge of the settlement.
Take account of the setting and context of the South Downs National Park where relevant, be in accordance with the National Park purposes and duty if in the National Park and take account of these purposes and duty where the National Park's setting is affected.	The site is not in the South Downs National Park.
Reflect national policies in respect of design, landscape, townscape, and historic heritage.	The proposal has been landscape led, with substantial input from the applicant's landscape consultant, which has shaped a sensitive, policy compliant scheme. Please refer to the accompanying LVA for full details with reference to landscape considerations.
Ensure that the layout and design of development contributes to local distinctiveness and sense of place and is appropriate and sympathetic to its setting in terms of its scale, height, massing and density, and its relationship to adjoining buildings, spaces around buildings and landscape features.	The details of the proposed development will form part of a later Reserved Matters application. However, the proposal is low density, two-storey development, designed to reflect the local context. Please refer to the Design and Access Statement for details.
Ensure that development makes a positive contribution to the overall appearance of the area using good quality materials of appropriate scale, profile, finish, colour, and proven weathering ability.	These details remain to be determined at Reserved Matters stage. Being a small housebuilder, the applicant is committed to delivering bespoke, high-quality developments that respond to the local context and priorities.
Make provision for waste and recycling bin storage and collection within the site.	Details to be provided at Reserved Matters stage but each unit will be provided with adequate bin storage and the internal road network set out to ensure access for refuse vehicles.
Be designed to the Lifetime Homes Standard as appropriate.	Each unit will be designed to meet Lifetime Homes Standard and the size of each unit compliant with the Nationally Described Space Standards (NDSS). These details will be determined at Reserved Matters stage.
Take account of local town and village design statements, neighbourhood plans that identify local character and distinctiveness and the	The detailed design remains to be determined at Reserved Matters stage. The applicant's architect will finalise the design details in accordance with

Appendix B

design elements of parish and town plans and conservation area appraisals.	the design elements set out in the Neighbourhood Plan.
Be accessible to all and designed to minimise opportunities for crime and antisocial behaviour without diminishing the high quality of the overall appearance.	Although it remains to be determined at Reserved Matters stage, the illustrative layout has been carefully considered to minimise the opportunities for crime and provides natural surveillance over the public open space areas.
Embrace new technologies as a considered part of the design and in a way which takes account of the broader impact on the locality.	The applicant is committed to sustainable development and, although presented in outline, the illustrative layout has been prepared to meet the requirements of sustainable design and technology, including sustainable heating and hot water systems and electric vehicle charging points, will be included for determination at Reserved Matters stage.
Provide car parking in a way that secures a high-quality environment and is conveniently located, within curtilage wherever possible, taking account of relatively high levels of car ownership where necessary.	Parking is provided in line with the East Hampshire parking standards. Each of the dwellings have their own parking spaces, which are incorporated into the design of the units. Although these are details to be determined at Reserved Matters stage, parking is addressed in the accompanying Transport Statement, prepared by RGP.

- 5.35 In addition, Policy CP30 (Historic Environment) requires developments to ensure that the proposal makes a positive contribution to the overall appearance of the local area, including the use of good quality materials at an appropriate scale, profile, finish, and colour.
- 5.36 The Neighbourhood Plan supports development where its scale, density, massing, height, design, layout and materials reflect the character and scale of the buildings and landscape of Bentley (Policy 2: Design and Development Principles). Proposals must safeguard the character, use and amenity of the existing footpaths, bridleways and cycle routes.
- 5.37 The proposed development is compliant with Policies CP27, CP29 and CP30 of the EHDLP, Policy 2 of the Neighbourhood Plan, as well as the requirements of the NPPF. Please refer to the accompanying Design and Access Statement, prepared by Re-Format, for details of the proposed design and materials.

vii. Landscape

- 5.38 Policy CP20 (Landscape) seeks to conserve and enhance the natural environment. Amongst other criteria, proposals should protect and enhance local distinctiveness, sense of place and tranquillity through the application of the principles set out in the Landscape Character Assessment, as well as enhance the settlement's wider landscape, land at the urban edge and green corridors extending into settlements. Proposals should also incorporate new planting to enhance the landscape setting, using local materials and native species to enhance biodiversity.

Appendix B

- 5.39 SLR, the applicant's landscape consultant, has prepared a Landscape and Visual Appraisal (LVA), which is based on the illustrative masterplan prepared by Re-Format. SLR has been integral to informing and shaping the proposed development, ensuring a landscape led approach to the design and layout.
- 5.40 The site is not within any national designations for valued landscapes, such as AONBs or National Parks. However, the South Downs National Park is located within 1.4km of the site. Footpath 30 extends along the western boundary of the site and St Swithun's Way Long Distance Route extends along the northern boundary. The assessment of potential effects on landscape character identified a major/moderate and negative level of effect on the gently sloping, semi-enclosed pastoral field. The level of landscape effect on all other landscape qualities are identified as moderate or below.
- 5.41 The potential effects on landscape character will be localised, with minor levels of effect on the overall character of the area. The nature of effect on existing vegetation (hedgerow, trees and woodland network) would be positive. In relation to visual effects, the level of visual enclosure provided by existing vegetation and the undulating landform results in no views available from five of the eleven representative viewpoints photographed, including those from the South Downs National Park.
- 5.42 The proposed development would result in a short-term, moderate/major, and negative, visual effect for walkers along St Swithun's Long Distance Route/Hole Lane, for residents in the closest properties along Hole Lane, School Lane and Eggars Field (all of which back on to the proposed development). In the long-term the level of visual effect would reduce to moderate as the proposed planting becomes established.
- 5.43 Importantly the layout of the site has been carefully designed to exclude built form from the northern section of the site, with a proposed area of open space, reinforcing boundary vegetation in line with recommendations from the Neighbourhood Character Assessment to retain "important vegetation/trees especially on the edge of the settlement and along PRowS" and to reduce the level of "Impact on sensitive view receptors on St Swithun's Way". Visual effects would be localised and concentrated within 50m of the site. In all locations the level of visual effect would reduce over time as proposed planting becomes established.
- 5.44 The site and a field to the west were subject to an outline application for 93 dwellings, reference 55711/001, which was refused on 12 November 2020. The Reasons for Refusal related to landscape were as follows:
- "The proposal, by virtue of the extent and scale of urban development encroaching onto open countryside, would represent a substantial change in the appearance and intensity in the use of the land. This would result in a development failing to respect the low key tranquil nature of the rural area and the landscape character objectives for the Northern Wey Valley. As a result, there would be a significantly adverse effect on the character and appearance of the site which would fail to conserve the rural character of the local area and the amenity of users of the public footpath across the site".*
- 5.45 The current proposal is reduced in scale, density and extent, which reduces the level of change in the appearance and reduces the intensity of use. Measures incorporated into the layout such as the area of open space along the northern boundary, the wide north-south axis through the site connecting to a further area of open space and the retention and reinforcement of existing boundary vegetation reduce the level of effect on the character and appearance of the site and help to preserve the character of

Appendix B

the area. The amenity of users of Footpath 30 area also protected. Importantly the scheme incorporates benefits such as high-quality areas of open space, increased native planting including trees and increased footpath connections.

- 5.46 The landscape officer, in his response (1 June 2022) to the recently submitted, self-build unit scheme (ref: 59717), agrees with this position, stating that a small development could be accommodated by virtue of its scale, layout and planting with little harm to visual or landscape character.
- 5.47 The proposal is compliant with Policy CP20 of the EHDLP and the requirements of the NPPF. Please refer to the accompanying LVA for full details.

viii. Open Space

- 5.48 Policy CP18 (Provision of Open Space, Sport and Recreation and Built Facilities) sets out a requirement for all new residential development to provide 3.45ha of public open space per one thousand population to serve the needs of the development. Guidance on calculating the requirement is detailed in the Guide to Developers' Contributions SPD (2014), where the provision for proposed development is calculated as:

Table 7: Public Open Space Requirement

Unit Size	No. of Units	Occupancy Multiplier	No. of People	0.00345ha/Person
1 Bed	3	1.4	4.2	
2 Bed	11	1.9	20.9	
3 Bed	12	2.5	30	
4 Bed	8	2.8	22.4	
		Total	77.5 (76)	0.267ha

- 5.49 The proposal makes provision for 0.45ha of onsite, public open space, which exceeds the minimum requirement by approximately 0.2ha. In addition to the onsite public open space provision, Bentley Playground is just 0.3 miles (five-minute walk) to the south of the site. Each of the houses has a private garden and the flats share a communal garden to the rear of the building.
- 5.50 As part of Policy CP21 (Biodiversity), proposals are required to provide open space that contributes to maintaining a network of wildlife sites and corridors to bolster habitats. The application is accompanied by a Biodiversity Net Gain (BNG) report, which demonstrates that through the retention of grassland and scrub and additional planting, the proposal contributes to maintaining the network of wildlife sites and enhancing habitats.
- 5.51 The proposed development is compliant with Policies CP18 and CP21 of the EHDLP, the associated SPD, and requirements of the NPPF. Please refer to the plans for details of the proposed open space provision.

ix. Flood Risk and Drainage

- 5.52 Policy CP25 (Flood Risk) of the EHDLP requires all development to ensure that there will be no net increase in surface water runoff, where priority should be given to incorporating SuDS to manage surface water drainage. The SuDS must be managed and maintained for the lifetime. Similarly, Policy 6 (Sustainable Drainage) of the BNP supports the use of sustainable drainage design features, amongst others, the use of permeable driveways and parking areas. These features should be maintained for the lifetime of the development. This policy also requires applicants to demonstrate adequate wastewater capacity to serve the development.

Appendix B

Flood Risk

- 5.53 The FRA, prepared by RGP, considers the potential flood risk on the site from all sources.
- 5.54 The site is in Flood Zone 1 and the SuDS features proposed are permeable paving and an attenuation pond. All surface water and roof runoff will be discharged through these SuDS features, which have been sized to accommodate up to, and including, the 1:100 year + 40% for climate rainfall event, into the existing Thames Water surface water network at a reduced discharge rate of 3.7l/s. This minimises the risk of offsite flooding to the surrounding area.
- 5.55 The proposed foul discharge will connect into the Thames Water foul network, which runs along School Lane at manhole 7301 (34 dwellings at 1.7l/s). These discharge rates have been agreed with Thames Water. Based on the information collated as part of the FRA, the proposed development flood risk from all sources has been assessed as low. The area of the site to be developed is in Flood Zone 1 and the assessment of the potential future flooding of the site, illustrates that this will be maintained in the future.
- 5.56 The overall conclusion of the FRA is that there are no flood risk constraints on the site to prevent development.

Drainage

- 5.57 The Drainage Strategy Report, prepared by RGP, highlights that the site is not currently served by any positive surface water drainage system and as such, there is no existing surface water connection point to discharge off site.
- 5.58 The proposed surface water drainage system will collect surface water runoff via a combination of permeable paving and gullies, to an underground drainage system, which will discharge to an attenuation pond located to the southeast of the site. The attenuation pond is sized to approximately 567m³ of attenuation volume, which will accommodate surface water runoff for storm events up to and including the 1:100 year + 40% for climate change rainfall event, based on a discharge rate of 3.7l/s. The pond will discharge water by means of a flow control chamber to a new Thames Water surface water sewer, requisitioned along School Lane.
- 5.59 The attenuation pond will be a 'wet pond', which means that there will be a pool of water at the bottom. This wet pond will provide added biodiversity and amenity enhancements, by providing a habitat area for both fauna and flora to thrive, whilst allowing the settlement of sediment and pollutants, in accordance with SuDS principles.
- 5.60 The proposed foul water drainage system will incorporate the existing Thames Water public foul drainage pipeline, which runs west to east through the centre of the development site. A new foul water discharge will be connected to the existing Thames Water public sewer network on School Lane, to accommodate the areas of the site that are unable to discharge to the existing foul sewer due to topographic restrictions. The proposed peak foul water discharge rate for the development is 1.7 l/s.
- 5.61 The applications to Thames Water are to be progressed upon receipt of planning consent and the detailed design of the surface and foul water drainage systems have been completed.
- 5.62 The proposal is compliant with Policies CP25 of the EHDLP and 6 of the BNP, as well as the requirements of the NPPF. Please refer to the accompanying Flood Risk Assessment and Drainage Strategy for full details.

Appendix B

x. Ecology

- 5.63 Policy CP21 (Biodiversity) of the EHDLP requires development proposals to maintain, enhance and protect the biodiversity of the surrounding environment, and amongst other criteria, ensure that wildlife enhancements are incorporated into the design to achieve a net gain in biodiversity and where possible, avoid or mitigate any adverse impacts.
- 5.64 The applicant's ecology consultant, ECOSA, has carried out an Ecological Impact Assessment, which confirms that there are no statutory designated sites within a kilometre of the site, but the TBH SPA is approximately 5.8km to the south. The development proposal will, as a result, need to consider the potential effect on the integrity of ground nesting bird populations, for which the SPA is designed, and ensure that there are no overall adverse effects through the implementation of avoidance and mitigation measures where appropriate.
- 5.65 At a distance of 5.8km, it is considered that the 34 dwellings proposed will not result in any adverse impact on the SPA, particularly given the more convenient and accessible green spaces in close proximity to the site, for example, Bentley Playground to the south and the wooded area at Eggars Field. This is supported by the TBH SPA Delivery Framework (2009), which states that only larger developments of fifty or more units within five to seven kilometres of the SPA need to be considered as to whether they are likely to result in significant effects on the SPA, either in combination or isolation. Smaller developments, such as this, are not considered to present the risk of adverse effect.
- 5.66 The habitat value of the site is considered generally low, with the trees and scattered shrub providing potential habitat for a range of species, contributing to a wider network of semi-natural habitat linkages facilitating the movement of wildlife around the site and surrounding area. The proposed development includes site-wide planting, which benefits several species, as well as bird nesting and bat roosting features.
- 5.67 The overall conclusion of the report is that, subject to the implementation of the recommended measures for habitat retention, creation and enhancement, the proposed development will not result in a reduction in the ecological interest of the site or surrounding area, and as such, there is no overriding ecological constraint that would prevent the development of the site. The consultation response dated 6 June 2022, to the recently submitted, self-build unit scheme (ref: 59717), confirms this position subject to the imposition of a pre-commencement condition for a Landscape and Ecological Management Plan (LEMP).
- 5.68 The proposed development is compliant with Policy CP21 of the EHDLP, as well as the requirements of the NPPF, and addresses the fourth and sixth reasons for refusal of the previously refused scheme on the wider site (55711/001). Please refer to the accompanying report for full details.

xi. Arboriculture

- 5.69 Development will be permitted where it maintains, manages, and enhances the network of new and existing green infrastructure (Policy CP28 Green Infrastructure).
- 5.70 The Arboricultural Method Statement (AMS), prepared by David Archer Associates, details the actions to be taken to prevent damage to the retained trees on the site and those adjacent to the site. The AMS confirms that the proposed drainage layout, including the proposed connections to the existing network, will have no impact on the retained trees.

Appendix B

5.71 Providing the measures outlined in the AMS are implemented, there are no arboricultural constraints to prevent the proposed development. The proposed scheme is compliant with Policy CP28 of the EHDLP, as well as the requirements of the NPPF. Please refer to the Arboricultural Method Statement for full details.

xii. Transport and Highways

5.72 Sustainable modes of transport and reduced dependence on the private car will be encouraged (Policy CP31 Transport). Development proposals are, amongst other criteria, required to:

- Provide safe and convenient cycle and pedestrian links that integrate with existing cycle and pedestrian networks.
- Ensure that the highway design meets the needs of vehicular traffic, as well as prioritising meeting the needs of cyclists and pedestrians.
- Provide adequate, convenient, and secure vehicle and parking in accordance with the adopted standards.
- Ensure that the type and volume of traffic would not harm the countryside or rural character of local roads.

5.73 The applicant's transport consultant, RGP, has prepared a Transport Statement to accompany the application. The Transport Statement considers the highways and transport implications of the proposed development. The statement confirms that:

- The site is in an area that is accessible via a range of non-car modes of travel.
- An analysis of the personal injury accidents around the site did not identify any abnormal causation factors and as a result, the proposed development will not have an adverse effect on highway safety.
- Appropriate access to the site can be achieved from School Lane with adequate visibility.
- The proposed parking on the site is considered suitable and provided in accordance with the requirements.
- The trip generating impact of the proposed development is negligible and would not result in a severe impact on the operation or safety of the local highway network.

5.74 The overall conclusion of the report is that the proposed development will not result in an unacceptable impact on safety and there would be no residual or severe cumulative impact on the surrounding highway network. The proposal is, as a result, compliant with Policy CP31 of the EHDLP and the requirements of the NPPF. Please refer to the accompanying Transport Statement for full details.

xiii. Archaeology

5.75 Development proposals must conserve and enhance the historic environment (Policy CP30 Historic Environment), reflecting national policies with reference to historic heritage. The accompanying Archaeological Desk-Based Assessment assesses the available archaeological, topographic and historic land-use information on the site to establish the heritage significance and archaeological potential of the site.

5.76 With reference to archaeological assets, the assessment concludes that there are no statutory designations on or within close proximity to the site and as such, the proposed development will not result in an adverse impact on any designated archaeological assets. The site is partially within an Area of

Appendix B

Archaeological Potential (to the north) and Historic Rural Settlement, which have been considered as part of the desk-based assessment.

- 5.77 The report confirms low potential for accommodating Prehistoric and Roman finds, and moderate potential for Medieval and Post Medieval archaeology, with the significance of any finds being of low or local value. Given that there is some potential for archaeological finds to be present, the overall conclusion of the assessment is that a geophysical survey be conditioned prior to the submission of a Reserved Matters application, to establish any archaeological presence and resultant mitigation works necessary.
- 5.78 The proposal is compliant with Policy CP30 of the EHDLP, as well as the requirements of the NPPF. Please refer to the accompanying report for full details.

xiv. Sustainability

- 5.79 Although this scheme is presented in outline, the applicant is committed to delivering a sustainable form of development. The illustrative layout has been prepared to meet the current Building Regulation requirements in relation to sustainable design and construction, as well the requirements of the Climate Change and Sustainable Construction SPD. The proposed development will comply with Policy CP24 (Sustainable Construction) of the EHDLP, the supporting SPD, as well as the requirements of the NPPF at the Reserved Matters stage.

xv. Planning Conditions and Obligations

Planning Conditions

- 5.80 The applicant is content to accept any appropriately worded planning conditions that the Council may attach to the grant of permission. Neame Sutton will liaise with officers to agree the conditions to be attached.

Planning Obligations

- 5.81 The applicant has reviewed the proposal in the context of the Council's Guide to Developers' Contributions (2014), policy guidance and the requirements of Regulations 122 and 123 of the Community Infrastructure Levy Regulations 2010 (As Amended) (CIL).
- 5.82 The proposal is CIL liable and as a result, most of the offsite infrastructure requirements generated by the development will be addressed through the CIL contribution at reserved matters stage. There are, however, some site-specific infrastructure requirements, which will be addressed through S106 Agreement. The draft Heads of Terms are anticipated to be:

Affordable Housing: Onsite provision of 45% affordable housing, with indicative tenure split.

Self-Build Plots: Onsite provision of nine self-build plots to be purchased and occupied by residents who satisfy the requirements of the Self-Build and Custom House Building Act (2015).

Highway Works: Provision of site access works on School Lane, as well as any contributions agreed with the County Highway Authority over the course of the determination of the application.

Public Open Space, Landscape and Ecology Management: The provision of a Management Plan to secure the maintenance of the site.

Drainage: Details of the management and maintenance of the onsite drainage infrastructure.

Appendix B

6. Conclusion

- 6.1 The application is made in outline for the erection of up to 34 residential dwellings, including fifteen affordable unit and nine, self-build plots, together with the associated vehicular and pedestrian access, landscaping and public open space, with all matters reserved except for access.
- 6.2 The proposal will deliver several, material planning benefits, including:
- The provision of 34 residential dwellings.
 - 45 per cent onsite affordable housing units, equating to fifteen dwellings.
 - Nine self-build plots.
 - An appropriate mix of dwelling types and sizes.
 - The provision of onsite public open space.
 - The provision of landscape enhancement, including additional tree planting.
 - Ecological enhancement beyond mitigation of the development.
 - The provision of a managed, positive, surface water drainage system.
 - The delivery of short-term economic benefits in terms of construction.
 - The delivery of long-term economic benefits in terms of CIL, new homes bonuses and Council Tax revenues, as well as increased custom and spending at the local services and facilities in Bentley.
- 6.3 The proposed development is of exceptionally high quality, providing a valuable contribution to the local housing need. The accompanying technical reports demonstrate that the proposal will not give rise to any significant or demonstrable harm, and it is with these points in mind, that the planning balance rests firmly in favour of granting consent.

Appendix B



School Lane

Bentley, Hampshire, GU10 5LT

FLOOD RISK ASSESSMENT

For Proposed Residential Development

On behalf of Camping Property

6663-RGP-ZZ-00-RP-C-0500

July 2022

Appendix B



DOCUMENT CONTROL

Project: School Lane
For Proposed Residential Development

Project Location: Bentley, Hampshire, GU10 5LT

Report Type: Flood Risk Assessment

Client: Camping Property

Reference: 6663-RGP-ZZ-00-RP-C-0500

Document Checking

	Name	Date	Signature
Author:			
Checked by:			
Approved by:			

Status

Issue	Date	Status	Amendment	Issued by
1	26.08.22	1 st DRAFT	First Issue	
2	30.08.22	FINAL	Issued for approval	
3	14.09.22	FINAL	Drainage Strategy Plan Updated	
4				
5				

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Appendix B



TABLE of CONTENTS

1	INTRODUCTION	1
2	PLANNING POLICY	2
	2.1 National Planning Policy Framework (NPPF)	2
	2.2 Local Policies.....	3
	2.3 Statutory Authority Consultation	3
3	PLANNING POLICY CONTEXT	4
	3.1 Flood Zones	4
	3.2 Flood Risk Vulnerability Classification	4
	3.3 Flood Risk Vulnerability and Flood Zone Compatibility	6
	3.4 Sequential Test & Exception Test.....	6
4	EXISTING SITE INFORMATION	7
	4.1 Site Location	7
	4.2 Existing Site Description.....	7
	4.3 Source Protection Zone	7
	4.4 Existing Geology and Hydrogeology	8
	4.5 Surrounding Hydrology	9
5	PROPOSED DEVELOPMENT INFORMATION	11
	5.1 Proposed Development Description	11
6	FLOOD RISK	12
	6.1 Flooding from Seas (Tidal)	12
	6.2 Flooding from Rivers (Fluvial).....	12
	6.3 Flooding from Surface Water (Pluvial).....	12
	6.4 Flooding from Groundwater	13
	6.5 Flooding from Public Sewers/Highway Drains.....	14
	6.6 Flooding from Artificial Sources	14
	6.7 Peak River Flow Flood Allowance for Climate Change	15
	6.8 High ++ Allowances for Climate Change	15
	6.9 Peak Rainfall Intensity Allowance for Climate Change	15
7	PROPOSED DRAINAGE STRATEGY AND SUDS.....	16
	7.1 Existing Surface Water Run-off.....	16
	7.2 Development Surface Water Run-off and Storage Estimate.....	16
	7.3 Sustainable Drainage Systems (SuDS).....	18
	7.4 Surface Water Discharge Quality.....	24
	7.5 Proposed Foul Drainage Strategy	26
	7.6 Maintenance and Management of the Drainage Systems and SuDS Features	26
8	SAFE ACCESS	28
9	CONCLUSION.....	29
	APPENDIX 1 Topographic Survey	
	APPENDIX 2 Proposed Site Layout	
	APPENDIX 3 Thames Water Sewer Records and Correspondence	
	APPENDIX 4 RGP Proposed Drainage Strategy	

Appendix B



APPENDIX 5 RGP Drainage Calculations

APPENDIX 6 Surface Water Mangement & Maintenance Schedule

Appendix B



List of Tables

Table 1 – Flood Zones.....	4
Table 2 - Flood Risk Vulnerability Classification	4
Table 3 - Flood Risk Vulnerability and Flood Zone Compatibility	6
Table 4 – Proposed Development Surface Coverage	11
Table 5 – Proposed Permeable and Impermeable Surface Areas	11
Table 6 – Existing Permeable and Impermeable Surface Areas	16
Table 7 - Existing Greenfield Runoff Rates Summary	16
Table 8 - Summary of Storage Requirements	18
Table 9 - SuDS Assessment	20
Table 10 - Pollution Hazard Indices for Different Land Use Classifications	24
Table 11 - Indicative SuDS Mitigation Indices for Discharges to Surface Waters	25

List of Figures

Figure 1 - Site Location Plan with indicative Redline Boundary.....	7
Figure 2 - Source Protection Zone Layout	8
Figure 3 - Underlying Bedrock Formation.....	8
Figure 4 – Underlying Superficial Deposits.....	9
Figure 5 - Aquifer Designation Map	9
Figure 6 - EA River Map Extract	10
Figure 7 - EA Flood Map - Wider Area	12
Figure 8 - EA Long Term Flood Risk Map.....	13
Figure 9 - EA Flood Risk from Reservoirs Map	15

Appendix B

1 INTRODUCTION

- 1.1.1 RGP has been commissioned by Camping Property (the 'Client') to consider the flood risk associated with the proposed development at School Lane, Bentley, Hampshire, GU10 5LT (the 'site') from all potential sources of flooding, as defined by the National Planning Policy Framework (NPPF).
- 1.1.2 In compiling this Flood Risk Assessment, reference has also been made to the Strategic Flood Risk Assessment (SFRA), produced by AECOM for East Hampshire District Council ("EHDC"), dated May 2022.
- 1.1.3 The aim of this FRA is to review the potential flooding impact on the proposed development site due to tidal, fluvial (Rivers), pluvial (Overland), sewer, reservoir, canal and other artificial flooding sources. The FRA will also review the potential impact of the development on the flooding in the surrounding area and the measures that could be incorporated as part of the design to mitigate the potential risk.
- 1.1.4 This FRA has been developed in accordance with the requirements of Chapter 14 of the NPPF, published July 2021, liaison with the Environment Agency (EA), the Lead Local Flood Authority (LLFA) and Thames Water.
- 1.1.5 Information used in preparing this Flood Risk Assessment was obtained from the following sources and Statutory Consultees:
- (i) Environment Agency Flood Map
 - (ii) Environment Agency Main River Map
 - (iii) Environment Agency Long Term Flooding Map
 - (iv) SFRA produced by AECOM for EHDC (2022)
 - (v) Thames Water Asset Maps
 - (vi) Thames Water Sewer Flood Data
 - (vii) Hampshire County Council ("HCC") Local Flood Risk Management Strategy (2020)
 - (viii) Hampshire County Council ("HCC") Local Flood and Water Management Strategy
 - (ix) Hampshire County Council ("HCC") Surface Water and Sustainable Drainage Guidance for Developers, Designers and Planners

Appendix B

2 PLANNING POLICY

The proposed development will be designed in accordance with the requirements as set out in the National Planning Policy, the HCC Local Flood and Water Management Strategy and the Strategic Flood Risk Assessment for EHDC.

2.1 National Planning Policy Framework (NPPF)

2.1.1 Section 14 of the NPPF (2021) outlines the requirements for determining if a Flood Risk Assessment is required to be undertaken for new developments. A site-specific FRA should be provided for all sites which are located in Flood Zone 2 and 3.

2.1.2 An FRA should be provided for sites located in Flood Zone 1 where:

- The development site area > 1ha.
- The site has been identified by the Environment Agency as having critical drainage problems.
- The site has been identified in a strategic flood risk assessment as being at increased flood risk in future.
- Land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use; or
- The site is a small-scale major development which where the number of residential units to be constructed is between 10 and 199 and:
 - ◆ Floor space to be built is between 1,000 m² and 9,999 m²: or
 - ◆ The site area is between 1ha and 2ha.

2.1.3 The development site is located within Flood Zone 1 in accordance with the EA flood maps. The site, however, may be at risk of surface water flooding and as such, an FRA is to be provided. The overall development area is **21,405 m² (2.14 ha)**.

2.1.4 The NPPF sets out the strategy throughout the UK for future development. The key policy provision states that:

- Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.
- Strategic policies should be informed by a strategic flood risk assessment and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards.
- All plans should apply a sequential, risk-based approach to the location of development – taking into account the current and future impacts of climate change so as to avoid, where possible, flood risk to people and property.

Appendix B

2.2 Local Policies

- 2.2.1 HCC has published a Local Flood and Water Management Strategy which contains a set of policies to enable robust flood mitigation and effective flood risk management within the county.
- 2.2.2 In addition to this HCC has published a Groundwater Management Plan (GWMP) and Draft Catchment Management Plans (CMPs) which build on the policies within the Local Flood and Water Management Strategy.
- 2.2.3 HCC has also published a document titled Surface Water and Sustainable Drainage Guidance for Developers, Designers and Planners which sets out what HCC as Lead Local Flood Authority (LLFA) require developers, designers and planners to provide to support a planning application.
- 2.2.4 EHDC have released a Strategic Flood Risk Assessment (2022) providing an overview of the risk of flooding from all sources in the EHDC planning authority area, accompanied by a series of technical appendices providing additional information.
- 2.2.5 This FRA has been produced in line with the above-mentioned documentation.

2.3 Statutory Authority Consultation

- 2.3.1 The site is located within an area served by Thames Water. Thames Water have been contacted in relation to this site. The foul & surface water run-off is proposed to be discharged through existing connections into the Thames Water system.
- 2.3.2 The foul water will require a S185 application in relation to any required diversions and the surface water will require a S98 application for a sewer requisition in order to make the proposed connection.
- 2.3.3 Copies of Thames Water's Asset Map information has been included within Appendix 3 of this report. As indicated on the mapping, an existing Ø150mm foul sewer and a Ø300mm surface water sewer are both located within School Lane to the east of the site.
- 2.3.4 Confirmation has been received from Thames Water that there is capacity in both the existing foul and existing surface water sewers for the proposed connections from this site. Please refer to the letter included within Appendix 3 of this report.

3 PLANNING POLICY CONTEXT

A site-specific FRA should be carried out to demonstrate how flood risk will be managed now and over the development's lifetime, taking into account climate change and with regards to the vulnerability of its users.

In order to adequately consider and demonstrate how the flood risk will be managed, we need to identify what the probability is of the site flooding, what the site is going to be used for, the associated flood risk vulnerability, and the compatibility between the flood risk vulnerability and the flood zones.

This section details how the planning policy is applied to this site-specific FRA. Items highlighted in 'Green' in the following tables detail the site specific

3.1 Flood Zones

3.1.1 The flood zones refer to the probability of river and sea flooding, ignoring the presence of defences.

Table 1 – Flood Zones

Flood Zone	Probability	Definition
Flood Zone 1	Low	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Flood Zone 2	Medium	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Flood Zone 3a	High	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Flood Zone 3b	Functional Flood Plain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

3.1.2 The particular flood zone(s) for the development are detailed on the Environment Agency's 'Flood Map for Planning', which is available online and is detailed further in Section 6 of this report.

3.2 Flood Risk Vulnerability Classification

3.2.1 The different types of flood risk vulnerability classifications are detailed in Table 2 below:

Table 2 - Flood Risk Vulnerability Classification

Classification	Description
Essential Infrastructure	<ul style="list-style-type: none"> Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood. Wind turbines.

Appendix B

Classification	Description
Highly Vulnerable	<ul style="list-style-type: none"> • Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use. • Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure').
More Vulnerable	<ul style="list-style-type: none"> • Hospitals • Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. • Buildings used for residential houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non-residential uses for health services, nurseries and educational establishments. • Landfill* and sites used for waste management facilities for hazardous waste. • Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.
Less Vulnerable	<ul style="list-style-type: none"> • Police, ambulance and fire stations which are not required to be operational during flooding. • Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; and assembly and leisure. • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill* and hazardous waste facilities). • Minerals working and processing (except for sand and gravel working). • Water treatment works which do not need to remain operational during times of flood. • Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.

Appendix B

Classification	Description
Water Compatible	<ul style="list-style-type: none"> Flood control infrastructure. Water transmission infrastructure and pumping stations. Sewage transmission infrastructure and pumping stations. Sand and gravel working. Docks, marinas and wharves. Navigation facilities. Ministry of Defence installations. Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. Water-based recreation (excluding sleeping accommodation). Lifeguard and coastguard stations. Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

3.3 Flood Risk Vulnerability and Flood Zone Compatibility

Table 3 - Flood Risk Vulnerability and Flood Zone Compatibility

Flood Zone	Flood Risk Vulnerability Classification				
	Essential Infra	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone 1	✓	✓	✓	✓	✓
Flood Zone 2	✗	✓	✓	✓	✓
Flood Zone 3a†	Exception Test	✗	Exception Test	✓	✓
Flood Zone 3b*	Exception Test	✗	✗	✗	✓*

✓ Development Appropriate

✗ Development Should not be Permitted

† Essential Infrastructure should be designed and constructed to remain operational and safe in times of flood

* In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

3.4 Sequential Test & Exception Test

3.4.1 The proposed development area of the site falls completely within Flood Zone 1, and in accordance with Table 3 above, the development can appropriately proceed without any potential risks to the surrounding areas.

3.4.2 An exception test is not required as the entirety of the site falls within Flood Zone 1.

Appendix B

4 EXISTING SITE INFORMATION

4.1 Site Location

- 4.1.1 The existing site area is predominantly covered by permeable grassland and fields (please refer to Figure 1 below). There is an existing dwelling located on the site, which is proposed to be retained as part of the new development, with the existing associated garage to be demolished. The site is bound to the north by Hole Lane and residential properties, to the east by School Lane, by residential properties to the south, and third-party land comprising grassland and fields to the west. The development site is located within East Hampshire District Council, in Bentley.



Figure 1 - Site Location Plan with indicative Redline Boundary

4.2 Existing Site Description

- 4.2.1 The existing site is a greenfield site, which comprises an overall area of approximately 21,405 m² (2.14 ha), which includes open green space. There is existing hedgerow, vegetation and trees along the entire site boundary.
- 4.2.2 The approximate OS Grid Location for the development site is E: 478441, N: 144434.
- 4.2.3 A topographical survey of the site has been provided to RGP. Refer to APPENDIX 1 .

4.3 Source Protection Zone

- 4.3.1 The extract of the latest ground water designation maps, obtained from the EA, shows the site northern corner of the site (boundary marked in red) is located within the Total Catchment (Zone 3) of a Source Protection Zone, as is illustrated in Figure 2, below (see the red dot). The Total Catchment Zone is defined as the total area needed to support the abstraction or discharge from the protected groundwater source.



Figure 2 - Source Protection Zone Layout

4.4 Existing Geology and Hydrogeology

4.4.1 Having reviewed the existing British Geological Society (BGS) online mapping, the existing site is shown to be located in an area underlain by Upper Greensand Formation (Calcareous Sandstone and Siltstone). Please refer to Figure 3, below, which details the existing bedrock formation and the site location (see red dot in Figure 3 for site location).

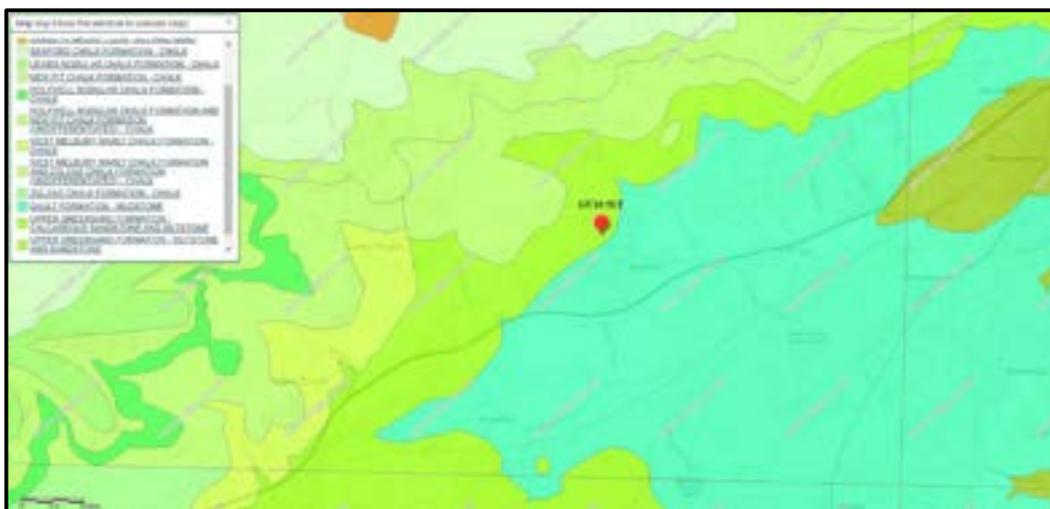


Figure 3 - Underlying Bedrock Formation

4.4.2 According to the BGS online mapping, there are superficial deposits of Clay-with-flints Formation - Clay, Silt, Sand and Gravel northwest of the development site, as shown in Figure 4 below.



Figure 4 – Underlying Superficial Deposits

- 4.4.3 The Defra “Magic Map” shows that the site is located within an area which is underlain by a Principal Aquifer. Principal Aquifers comprise layers of rock or drift deposits that have high intergranular and/or fracture permeability. This means that they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer. Please refer to Figure 5, below (red dot at site location).
- 4.4.4 It may be necessary to apply for permission/approval to discharge the surface water and roof run-off from the development to soakaways as the site is located in a source protection zone.

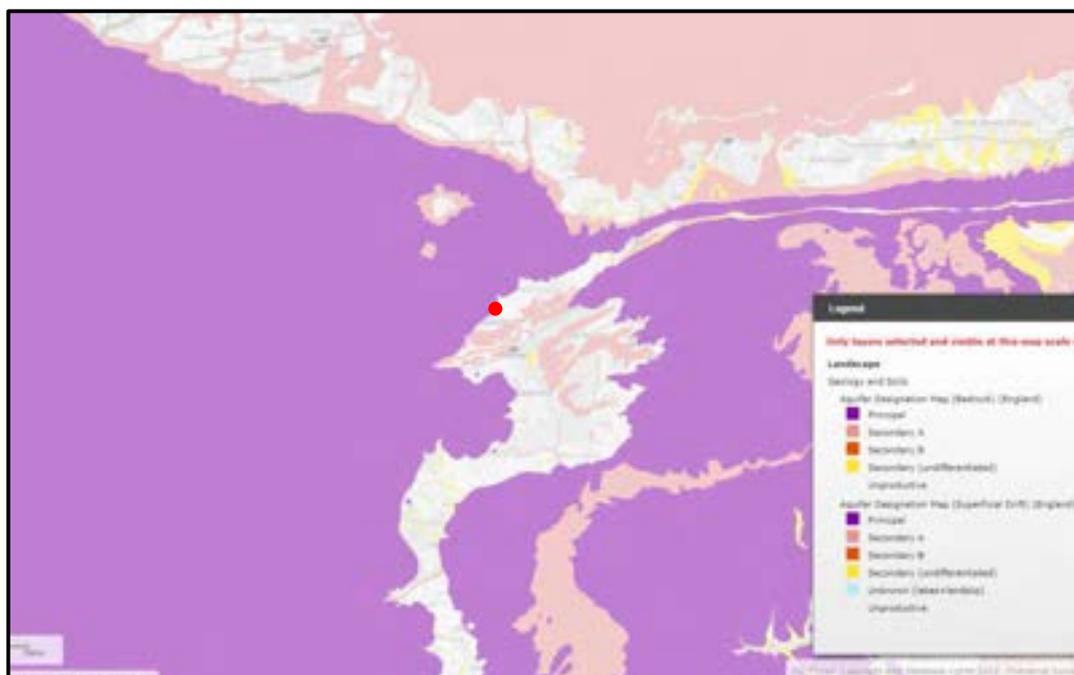


Figure 5 - Aquifer Designation Map

4.5 Surrounding Hydrology

- 4.5.1 There are no watercourses located in the vicinity to the proposed development site. Please refer to Figure 6, below, (red outline at proposed site) which is an extract from the EA online mapping tool.



Figure 6 - EA River Map Extract

5 PROPOSED DEVELOPMENT INFORMATION

5.1 Proposed Development Description

- 5.1.1 Please refer to APPENDIX 2 of this report for the proposed site layout.
- 5.1.2 The proposed development will include the construction of 34 residential homes, associated private drives and parking spaces, an access road, two areas of public open space and an attenuation pond.
- 5.1.3 The proposed development will be accessed from a new junction proposed to be provided onto School Lane from the eastern side of the site.
- 5.1.4 The proposed junction into the site will be tarmac and constructed to adoptable standards in preparation for a Section 38 adoption with Hampshire County Council.
- 5.1.5 Surface water run-off will be collected in a positive drainage system consisting of permeable paving, road gullies and an underground surface water sewer.
- 5.1.6 The private drainage network will discharge into the attenuation pond designed to accommodate up to and including the 100 year + 40% climate change storm event flood volumes, where it will be stored before ultimately discharging at a controlled discharge rate into the Thames Sewer network.
- 5.1.7 The existing Thames Water surface water sewer is located approximately 100m to the south of the site within School Lane, refer to the Thames Water asset map in APPENDIX 3. A Section 98 sewer requisition is proposed to be undertaken at detailed design stage to provide a Thames Water surface water sewer along School Lane into which the site can connect. The proposed connection point of the sewer requisition is within the junction of School Lane and Eggars Field. Refer to the Proposed Drainage Strategy drawing in APPENDIX 4, for the proposed sewer requisition layout.
- 5.1.8 The extent of the proposed surfacing to be installed as part of the new development is include in Table 4, below:

Table 4 – Proposed Development Surface Coverage

Item	Description	Area (m ²)
1.	Proposed roof area	2,971
2.	Carriageway (Adoptable)	233
3.	Carriageway (Private)	1,854
4.	Footpath (Adoptable)	95
5.	Footpath (Private)	359
6.	Private drives and car parking areas	2,132
Total		7,644

- 5.1.9 The proposed permeable and impermeable areas for the development site are summarised below in Table 5:

Table 5 – Proposed Permeable and Impermeable Surface Areas

Item	Description	Area (m ²)
1.	Development Permeable Area	13,761
2.	Development Impermeable Area	7,644
Total		21,405m ²

6 FLOOD RISK

6.1 Flooding from Seas (Tidal)

- 6.1.1 The site is located approximately 45km inland from the nearest sea at Chichester Harbour and as such, the site is not affected by tidal flooding.
- 6.1.2 The site is not located close to any rivers which are subject to tidal surges and as such, is not affected by these events.
- 6.1.3 Please see Figure 7, which details the location of the site in relation to the wider surrounding area.
- 6.1.4 The risk of flooding from seas on site is considered **negligible**.

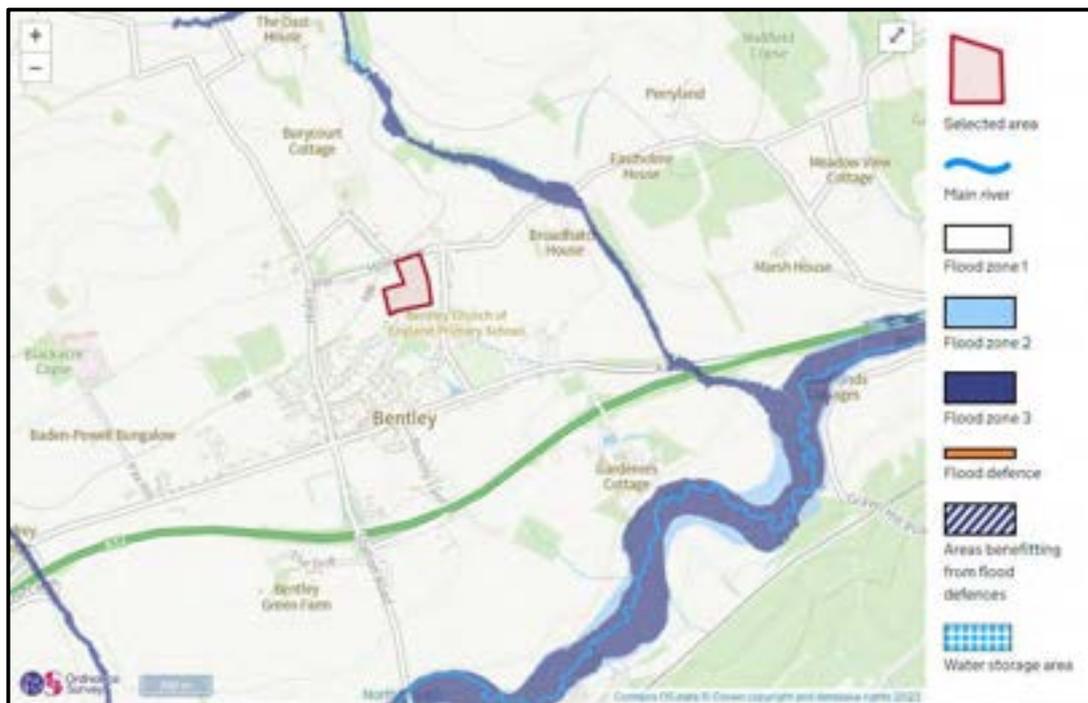


Figure 7 - EA Flood Map - Wider Area

6.2 Flooding from Rivers (Fluvial)

- 6.2.1 There are no main rivers or ordinary water courses in the vicinity of the works which pose a flood risk to the site.
- 6.2.2 The Environment Agency Flood Map for Planning shows the overall site to be located fully within Flood Zone 1. Please see Figure 7 above, which details the EA flood map zone at the location of the site.
- 6.2.3 The future potential flood risk from rivers and watercourses has been assessed as **very low**.

6.3 Flooding from Surface Water (Pluvial)

- 6.3.1 In the event of excessive rainfall, where the ground has become saturated and rainfall is not able to infiltrate into the ground, the overland flow would typically flow towards the nearest watercourse/ditch. This runoff can cause localised flooding before discharging to the watercourse/ditch.

Appendix B

- 6.3.2 The existing topography of the site indicates that overland flow will be from the north to south across the development site.
- 6.3.3 The EA Surface Water Flood Map confirms that the risk from surface water flooding is very low for the majority of the site with a risk of flooding at 0.1% each year. However, a section of land towards the centre of the site is subject to flood risk (low risk), with a chance of flooding of between 0.1% and 1% each year and a smaller area still, to the south of the site being subject to medium flood risk, with a chance of flooding between 1% and 3.3% each year. Please refer to Figure 8 below.

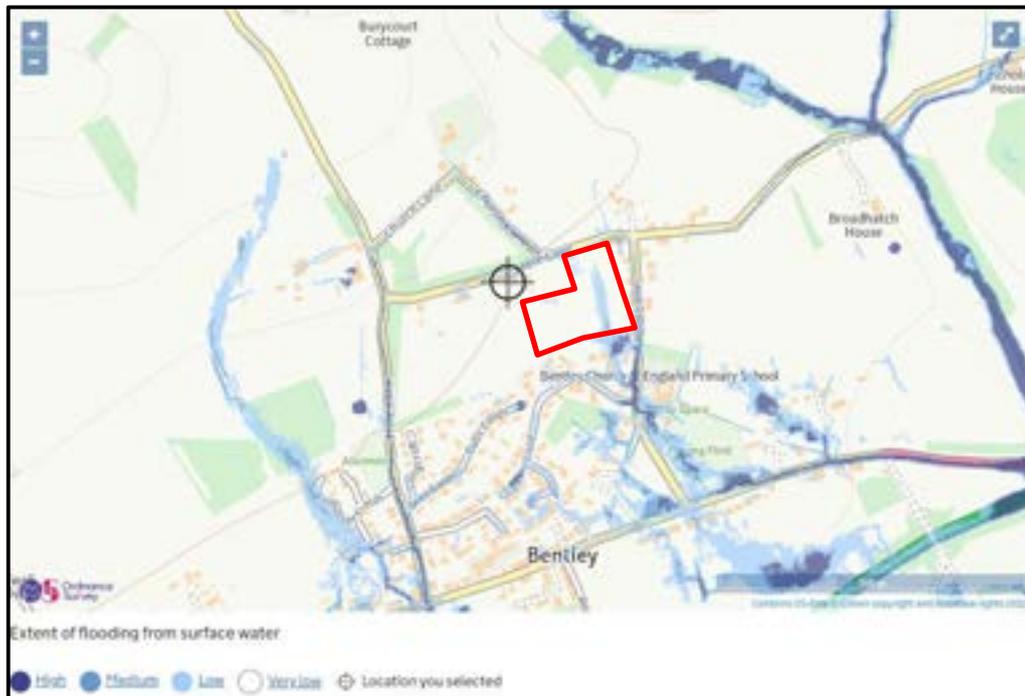


Figure 8 - EA Long Term Flood Risk Map

- 6.3.4 Overall, the risk of overland flooding on the development site is considered **low**.

6.4 Flooding from Groundwater

- 6.4.1 There are typically seven sources, or mechanisms, of groundwater flooding. These were described by Defra (Jacobs 2007) as:
- The rise of typically high groundwater levels to extreme levels due to prolonged extreme rainfall.
 - The rise of groundwater levels in aquifers in hydraulic continuity with high in-bank river levels or extreme tidal conditions.
 - The increase in groundwater levels and change of ground water flow paths due to artificial obstructions or pathways, like foundations, and the loss of natural storage and drainage paths.
 - Rising groundwater levels due to a reduction in ground water extraction in Urban areas.
 - Rising groundwater levels due to leaking sewers, drains and water mains.
 - Faulty borehole headworks or casings causing upward leakage of groundwater through confining layers driven by artesian heads.

- Subsidence of the ground surface below the current groundwater level.

- 6.4.2 Of the abovementioned potential causes of groundwater flooding, only the first two are directly affected as a result of environmental conditions. The remaining five potential causes of groundwater flooding are mainly the result of man-made activities, or the stopping of such activities.
- 6.4.3 There are no works currently being undertaken at the development site or planned to be undertaken at the development site that would have an impact on the five man-made causes of ground water flooding. As such, this FRA will review the impact on ground water flooding based on the environmental conditions at the site.
- 6.4.4 Groundwater flooding from extreme water level rise at the development site is unlikely.
- 6.4.5 The use of modern construction techniques for the design and installation of the foundations to the proposed new development will also minimise the risk associated with groundwater flooding within the development. These techniques include the design and installation of trench foundations or ground beams to support the new dwelling construction. The installation of raised beam and block floors to accommodate a void underneath the ground floor, which would reduce the risk of ground water flooding.
- 6.4.6 It is not proposed to make use of a raft foundation design for the proposed dwelling as these can be affected by rising and dropping ground water levels.
- 6.4.7 The risk of flooding from groundwater on the development site is considered **low**.

6.5 Flooding from Public Sewers/Highway Drains

- 6.5.1 Sewer flooding can occur when sewer systems become overloaded. Flooding of properties usually happens when either; flood water backs up in the pipes and enters directly into low lying properties or where the capacity of the system is exceeded and water discharges from the manholes and runs overland into properties.
- 6.5.2 It has traditionally been thought that in areas where the ground water level is shallow, the risk of groundwater entering the sewer network through pipe joints and cracks is high. As a result, the capacity of the pipe network is reduced. As has been discussed above in Section 6.4, the risk of ground water flooding to the development site area is low and as such, the risk of sewer flooding is also low.
- 6.5.3 Local sewer flooding records have been reviewed from Thames Water. They indicate that there is no historical flooding on the site due to surcharging of public sewers. Please refer to APPENDIX 3 of this report, which includes the Thames Water correspondence.
- 6.5.4 Modern construction techniques and Building Regulations stipulate that the foul water sewer system to be installed watertight to prevent the ingress of ground water to the foul water system.
- 6.5.5 The risk of internal flooding to the proposed new dwelling, from the ingress of ground water to the system, will be unlikely. Further to this, the risk of internal foul water flooding to the development is considered low.

6.6 Flooding from Artificial Sources

- 6.6.1 Based on the Environment Agency's 'Long Term Flood Risk' map, the site would not be affected by the failure of any reservoir or other man-made infrastructure. Please refer to Figure 9, below, which details that there is no risk of flooding from the failure of reservoirs in the surrounding area.



Figure 9 - EA Flood Risk from Reservoirs Map

6.6.2 The risk of flooding from artificial sources on site is considered **negligible**.

6.7 Peak River Flow Flood Allowance for Climate Change

6.7.1 The site is not located within the vicinity of an existing watercourse. No provision has been included for Peak River Flow Flood Allowance.

6.8 High ++ Allowances for Climate Change

6.8.1 The EA defines High ++ Allowances as to “only apply in assessments for developments that are very sensitive to flood risk, and with lifetimes beyond the end of the century. For example, infrastructure projects or developments that significantly change existing settlement patterns. This includes urban extensions and new settlements.” Although the life expectancy of the proposed development will extend into the next century, we do not believe that the development of 34 dwellings meets the requirements for a High ++ Allowance and as such have not included for this allowance.

6.9 Peak Rainfall Intensity Allowance for Climate Change

6.9.1 Having reviewed the EA Table 2 – “Peak Rainfall Intensity Allowance in Small and Urban Catchments”, we have assumed a climate change allowance of 40% for the proposed onsite surface water drainage design. Please refer to Section 7 for a detailed assessment of the proposed surface water drainage strategy for the development.

7 PROPOSED DRAINAGE STRATEGY AND SUDS

7.1 Existing Surface Water Run-off

7.1.1 The existing site covers an area of approximately 21,405m² (2.14ha). The site is considered greenfield due to being comprised mainly of grassland and open fields. There is one existing dwelling which is to be demolished and replaced as part of the proposed development.

7.1.2 The existing permeable and impermeable areas for the development site are summarised below in Table 6:

Table 6 – Existing Permeable and Impermeable Surface Areas

Item	Description	Area (m ²)
1.	Impermeable - existing buildings – roofs, driveways, patios	460
2.	Permeable – grassland, fields, lawns	21,145
Total		21,405

7.1.3 The greenfield runoff rate for the site has been calculated using the IH124 (Marshall & Bayliss, 1994) method (please refer to APPENDIX 5 **Error! Reference source not found.** of this report for the detailed calculations). The greenfield run-off rate for the 1 in 1 year event was calculated as **3.76 l/s**. A summary of the existing surface water discharge rates for various storm events is included below in Table 7 - Existing Greenfield Runoff Rates Summary

Table 7 - Existing Greenfield Runoff Rates Summary

Description	Area (ha)	Q _{bar} (l/s)	1 year (l/s)	5 year (l/s)	10 year (l/s)	30 year (l/s)	100 year (l/s)
GRR	2.14	4.42	3.76	5.66	7.16	10.61	14.10

7.1.4 The existing site surface water runoff rate has been calculated using the Wallingford Procedure (Design and Analysis of Urban Storm Durations), Volume 4, The Rational Modified Method and is included in APPENDIX 5 of this report.

7.1.5 It is proposed to discharge all surface water from the roof structures, car parking area footways and access road via permeable paving and gullies into an underground positive drainage system into an attenuation pond. From here the water will be stored and discharge at a controlled discharge rate into the existing Thames Water surface water sewer network.

7.2 Development Surface Water Run-off and Storage Estimate

7.2.1 The total proposed impermeable area of the proposed development site comprises approximately 38% of the site. Refer to Table 4 – Proposed Development Surface Coverage and Table 5 – Proposed Permeable and Impermeable Surface Areas above.

7.2.2 It is proposed to discharge all surface water from the proposed roof structures, car parking areas, footways and access road via a combination of permeable paving and gullies into an underground drainage system, into an attenuation pond. From here the water will be stored and discharge at a controlled discharge rate into the existing Thames Water surface water sewer network.

Appendix B

- 7.2.3 We have approached Thames Water and submitted a pre-development application to determine whether their existing surface water sewer, located on Eggars Field and School Lane, has sufficient capacity to accommodate the proposed surface water discharge for the proposed development and Thames Water have confirmed that the existing surface water sewer does have capacity based on the proposed discharge rate of 3.7 l/s (refer to APPENDIX 3).
- 7.2.4 As the existing Thames Water surface water sewer is some distance from the development site a Section 98 application will be required to be made to Thames Water at detailed design stage, to requisition a new surface water sewer pipeline to extend up School Lane from the junction of Eggars Field and School Lane to the proposed new access to the development on School Lane. Please refer to APPENDIX 4 for the proposed layout.
- 7.2.5 The proposed runoff rate and volume has been calculated using the Wallingford Procedure (Design and analysis of Urban Storm Durations), Volume 4, The Rational Modified method. Please refer to APPENDIX 5 for the detailed calculations.
- 7.2.6 Following a review by the Lead Local Flood Authority (LLFA), and as agreed during a previously submitted Flood Risk Assessment and Drainage Strategy, a proposed discharge rate of **3.7 l/s** has been used, with a flow control chamber to be used to control this.
- 7.2.7 It is proposed to provide permeable paving within the private driveways and parking areas to manage surface water runoff as close to the source as possible in these areas. Due to the unsuitability of the site for infiltration (refer to section 4.3 and 4.4 above) surface water will not infiltrate from the permeable paving subbase into the ground, but instead the subbase will collect the surface water runoff and convey it into the proposed surface water network described below.
- 7.2.8 The proposed roofs, footpaths (where they do not runoff into an area of permeable paving or soft landscaping) and access road will connect into a below ground piped drainage system, via road gullies.
- 7.2.9 Both the permeable paving and below ground piped drainage system will connect into an attenuation pond where surface water will be attenuated and discharged at the controlled rate of 3.7 l/s as discussed above through the use of the flow control chamber downstream of the attenuation pond.
- 7.2.10 Due to the topography of the site, which falls from northwest to southeast, and low risk of flooding from overland flow, the proposed surface water system will be designed to accommodate up to and including the **1:100 year + 40% for climate change rainfall event**. The drainage system will be designed to ensure there will be no flooding on site up to and including the 1:100 year + 40% for climate change rainfall event to reduce the risk of flooding onto adjacent properties during the extreme rainfall event.
- 7.2.11 An assessment of the proposed surface water drainage system has been undertaken and the peak flow rates and storage requirements have been calculated using the Wallingford Procedure (Design and analysis of Urban Storm Durations), Volume 4, The Modified Rational Method. Please refer to APPENDIX 5 of this report for the detailed calculations.
- 7.2.12 A summary of the storage volumes is included in Table below.

Table 8 - Summary of Storage Requirements

Storm	Rainfall Depth (mm)	Intensity (mm/hr)	Q _{max} (l/s)	Storage Volume (m ³)
M2-240	24	6.00	12.11	121.1
M30-360	48	8.02	16.18	269.6
M100-360	63	10.42	21.02	374.2
M100-600 + 40%	96	9.63	19.43	566.3

7.2.13 The total estimated storage volume of attenuation required is **567m³**.

7.2.14 Please refer to the Proposed Drainage Strategy, included in APPENDIX 4 of this report, for the location of the pond and permeable paving.

7.3 Sustainable Drainage Systems (SuDS)

7.3.1 The SuDS Manual (CIRIA C753) identifies that "Surface water is a valuable resource, and this should be reflected in the way it is managed and used in the built environment. It can add to and enhance biodiversity, beauty, tranquillity and the natural aesthetic of buildings, places and landscapes and it can help make them more resilient to the changing climate".

7.3.2 Also, "The philosophy of sustainable drainage systems is about maximising the benefits and minimising the negative impacts of surface water runoff from developed areas. The SuDS approach involves slowing down and reducing the quantity of surface water runoff from a developed area to manage downstream flood risk and reducing the risk of that runoff causing pollution. This is achieved by harvesting, infiltrating, slowing, storing, conveying and treating runoff on site and, where possible, on the surface rather than underground".

7.3.3 The implementation of sustainable water management through sustainable drainage systems and rainwater harvesting is becoming more common in an effort to use and manage water sustainably. The philosophy of SUDS is to mimic as closely as possible the natural drainage from a site before development and to treat runoff to remove pollutants.

7.3.4 SUDS provide a flexible approach to drainage, with a wide range of components from soakaways to large-scale basins or ponds. The individual techniques should be used in a management train that reinforces and, where possible, follows the natural pattern of drainage. The management train incorporates a hierarchy of techniques. These are:

- **Prevention** – the use of good site design and housekeeping measures on individual sites to prevent runoff and pollution (examples include minimising paved areas and the use of sweeping to remove surface dust from car parks),
- **Source control** – control of runoff at or very near its source (such as the use of rainwater harvesting, pervious pavements, green roofs or soakaways for individual houses).
- **Site control** – management of water from several sub-catchments (including routing water from roofs and car parks to one large soakaway or infiltration basin for the whole site).
- **Regional control** – management of runoff from several sites, typically in a detention pond or wetland.

Appendix B

- 7.3.5 Adopting a holistic approach towards surface water drainage provides the benefits of combined water quality and quantity control, as well as increased amenity value. This is accomplished by managing the increased flows and pollution from surface water runoff that can arise from development. Ideally, the system should utilise a management train and should achieve equal standing in all three of these areas. However, specific site considerations may mean that a balance of benefits is not always achieved.
- 7.3.6 The priority for the discharge of surface water run-off should be:
- Infiltration;
 - Discharge to surface waters;
 - Discharge to a surface water sewer, highway drain or another drainage system;
 - Discharge to a combined sewer.
- 7.3.7 Discharge of surface water run-off should not be discharged to a foul sewer unless agreed in writing by the statutory authority maintaining the sewer, prior to any construction works commencing.
- 7.3.8 In order to manage surface water sustainably, the use of SuDS is recommended. There are a number of different options available and these are detailed and assessed below in Table 9. The various SuDS systems have been assessed to determine their suitability for the proposed development site.

Appendix B

Table 9 - SuDS Assessment

SuDS Feature	Description	Pro's	Con's	Suitable for Use
Rainwater harvesting systems	Rainwater collected in an above or below ground tank for reuse on site.	Makes use of surface water run-off as part of the new developments water usage strategy. Provides some detention capacity within the drainage network.	Only provides detention capability within the drainage network until the tank is full. Unless the storage tank can be sized to accommodate all storm events (which is highly unlikely and uneconomical), RWH systems cannot be assumed to contribute to a reduction in peak flow rate on a consistent basis.	✘
Green roofs	A planted soil layer is created on the roof to create a living surface. Water is stored in the soil and absorbed by the vegetation.	Mimic predevelopment state of hydraulics and hydrology, good removal capability of atmospherically deposited urban pollutants, ecological, aesthetic and amenity benefits, no additional land take.	Increased Cost (compared to conventional roof), not appropriate for steep roofs, maintenance of roof vegetation, any subsequent damage to waterproof membrane likely to be more critical since water is encouraged to remain on the roof	✘
Infiltration systems (soakaways)	Collect and store run-off allowing for infiltration into the existing ground.	Minimal net land take, provides groundwater recharge, good volume reduction and peak flow attenuation, good community acceptability, easy to construct and operate, can be retrofitted.	Not suitable for poor draining soils, field investigations required to confirm infiltration rates, not suitable for locations where infiltration water may put structural foundations at risk, or where infiltrating water may adversely affect existing drainage patterns, not appropriate for draining polluted runoff, increased risk of groundwater pollution, some uncertainty over long-term performance and possible reduced performance during long wet periods, where the property owner is responsible for operation and maintenance, performance difficult to guarantee.	✘

Appendix B

SuDS Feature	Description	Pro's	Con's	Suitable for Use
Proprietary treatment systems	Provide treatment of the surface water run-off through the removal of contaminants.			x
Filter Strips	Run-off is allowed to flow over a grassed or otherwise densely vegetated area to promote sedimentation and filtration.	Well suited to implementation adjacent to large impervious areas, encourages evaporation and can promote infiltration, easy to construct and low construction cost, effective pre-treatment option, easily integrated into landscaping and can be designed to provide aesthetic benefits	Not suitable for steep sites, not suitable for draining hotspot runoff or for locations where risk of groundwater contamination, unless infiltration is prevented, no significant attenuation or reduction of extreme event flows	x
Filter Drains	Run-off is temporarily stored below the surface in a gravel filled trench which provides attenuation, conveyance and treatment.	Important hydraulic benefits are achieved, can be incorporated easily into site landscaping and fits well beside roads.	High clogging potential without effective pre-treatment – not for sites with fine particled soils (clay/silts) in upstream catchment, build-up of pollution/ blockages difficult to see, high historic failure rate due to poor maintenance, wrong siting or high debris input, limited to relatively small catchments, high cost of replacing filter material should blockage occur.	x
Swales	A vegetated channel that conveys surface water run-off. Can be 'wet' or 'dry', lined or unlined to allow infiltration.	Easy to incorporate into landscaping, good removal of urban pollutants, reduces runoff rates and volumes, low capital cost, maintenance can be incorporated into general landscape management, pollution and blockages are visible and easily dealt with.	Not suitable for steep areas or areas with roadside parking, limits opportunities to use trees for landscaping, risks of blockages in connecting pipe work	x
Bioretention Systems	Shallow land depression used to allow surface water run-off to pond temporarily, before filtering through vegetation and underlying soils prior to being collected or infiltrated into the existing ground.	Can be planned as landscaping features, very effective in removing urban pollutants, can reduce volume and rate of runoff, flexible layout to fit into landscape, well-suited for installation in highly impervious areas, provided the	Requires landscaping and management, susceptible to clogging if surrounding landscape is not managed, not suitable for areas with steep slope	x

Appendix B

SuDS Feature	Description	Pro's	Con's	Suitable for Use
		system is well-engineered and adequate space is made available.		
Trees	Tree can be used to improve the performance of a number of SuDS features as root growth and decomposition increase infiltration capacity. They can also be used as standalone features within tree pits, collecting and storing run-off and providing treatment.	Shallow bioretention systems which can reduce small runoff rates and flows, while also providing habitat and biodiversity, and an attractive landscape feature that are self-irrigating and fertilising	Does not work effectively for large catchments that discharge into the system at a single location without a flow control.	x
Pervious Pavements	Surface Water run-off is allowed to flow through the structural paving (block paving, block work or porous asphalt paving). Water can be stored in the sub-base of the construction make-up and often permitted to infiltrate into the underlying ground.	Reduced peak flows to watercourses reducing the risk of flooding downstream, reduced effects of pollution in runoff on the environment, can be used in high density developments with a range of surface finishes that accept surface waters over their area of use, reduced need for deep excavations for drainage, which can have significant cost benefits.	Cannot be used where large sediment loads may be washed/carried onto the surface, in the UK, current practice is to use on highways with low traffic volumes, low axle loads and speeds of less than 30 mph, risk of long-term clogging and weed growth if poorly maintained.	✓
Attenuation Storage (geocellular storage systems)	Storage is typically provided in large underground storage features that are used to temporarily store the surface water run-off before being infiltrated, discharged under controlled conditions or re-used on site. Typically constructed from geo-cellular storage systems, concrete tanks or oversized pipes. They can be lined to make them impermeable or enclosed in a geotextile which allows for infiltration into the surround soil.	Modular and flexible, dual usage (i.e. infiltration and/or storage), high void ratios, lightweight and easy to install and robust, capable of managing high flow events, can be installed beneath trafficked or non-trafficked areas, long-term physical and chemical stability, can be installed beneath public open spaces, e.g. play areas.	No water quality treatment or amenity provision, performance can be difficult to monitor, can be difficult to maintain.	x
Detention Basins	During a rainfall event, run-off accumulates in a landscape depression with a restricted outlet. This allows the run-off to fill the detention basin and provides attenuation. Basins are generally dry, except during and immediately after the storm event. Vegetated detention basins allow for treatment of the conveyed run-off across the length of the basin.	Can cater for a wide range of rainfall events, can be used where groundwater is vulnerable, if lined, simple to design and construct, potential for dual land use, easy to maintain, safe and visible capture of accidental spillages.	Little reduction in runoff volume, detention depths may be constrained by system inlet and outlet levels.	✓

Appendix B

SuDS Feature	Description	Pro's	Con's	Suitable for Use
Ponds and Wetlands	Ponds and wetlands typically have a 'wet' bottom which means the bottom of the feature holds water during the year. These features have a restricted outlet which allows water levels to rise within the pond or wetland during the storm event, before being discharged. They can support both emergent and submerged vegetation which enhance the treatment process and biodiversity.	Good removal capability of urban pollutants, if lined, can be used where groundwater is vulnerable, good community acceptability, high potential ecological, aesthetic and amenity benefits, may add value to local property.	Land take is high, requires baseflow, limited depth range for flow attenuation, may release nutrients during non-growing season, little reduction in run volume, not suitable for steep sites, colonisation by invasive species would increase maintenance, performance vulnerable to high sediment inflows.	✓

7.3.9 Based on the above assessment, the outline drainage strategy for the development could include some of the following SuDS features into the design (subject to detail design and agreement with the local authority, LLFA and the EA):

- Pervious Pavements
- Detention basins (suitable but not being proposed as part of this development)
- Ponds and wetlands

7.3.10 Other SuDS features detailed above in Table 9 were not suitable for inclusion into the drainage strategy due to site constraints, land limitations and the general size of the development.

7.3.11 Due to the benefits of using a pond over a detention basin it has been decided that the proposed attenuation will be a 'wet pond' which will promote the removal of pollutants and sediment and also provide ecological, aesthetic and amenity benefits.

7.4 Surface Water Discharge Quality

- 7.4.1 The quality of surface water collected and discharged to the surrounding environment, by direct discharge to watercourses or by infiltration into the ground water, should be managed such that the receiving bodies are protected from pollution. The implementation and installation of suitable SuDS features within the overall surface water drainage network can improve water quality through the removal of pollutants.
- 7.4.2 'The SuDS Manual' (CIRIA 753) has been developed which includes details of the pollution hazard indices for various land uses. The types of pollution hazards assessed include Total Suspended Solids (TSS), Metals and Hydrocarbons. The pollution indices range between 0 (no pollution) and 1 (high pollution) and are included in Table 26.2 of the SuDS Manual.
- 7.4.3 The various SuDS features available have been assessed for their suitability and effectiveness for the removal of pollutants from surface water discharge. These pollution mitigation indices are included in Table 26.3 of the SuDS Manual.
- 7.4.4 In order to deliver suitable treatment, the proposed SuDS features should provide a total pollution mitigation index equal to or that exceed the pollution hazard index for each contaminant type. (The pollution mitigation and pollution index should always be assessed for each contaminant type)
- 7.4.5 The proposed development site has been assessed and the relevant pollution indices present on the developed site have been highlighted below in 'Green' in Table 10, which is reproduced from Table 26.2 of the SuDS Manual.

Table 10 - Pollution Hazard Indices for Different Land Use Classifications

Land use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Residential Roofs	Very Low	0.2	0.2	0.05
Other Roofs (typically commercial/industrial)	Low	0.3	0.2-0.08 (where metal has the potential to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways ¹	Medium	0.7	0.6	0.7

Land use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways ¹	High	0.8 ²	0.8 ²	0.9 ²

Note ¹

Motorways and trunk roads should follow the guidance and risk assessment process set out in Highways Agency (2009).

Note ²

These should only be used if considered appropriate as part of a detailed risk assessment – required for all these land use types Table 4.3). When dealing with high hazard sites, the environmental regulator should first be consulted for pre-permitting advice.

This will help determine the most appropriate approach to the development of a design solution.

7.4.6 Due to the layout of the proposed development site and the availability of open space within the development (as discussed previously in this report), the inclusion of a number of different SuDS features to control both the discharge volume and water quality has not been possible. The proposed SuDS features to be included in the surface water drainage strategy have been highlighted below in 'Green' in Table 11. (This table is reproduced from Table 26.3 of the SuDS Manual.

Table 11 - Indicative SuDS Mitigation Indices for Discharges to Surface Waters

Type of SuDS Component	Mitigation Indices ¹		
	TSS	Metals	Hydrocarbons
Filter Strips	0.4	0.4	0.4
Filter Drain	0.4 ²	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6
Pond ⁴	0.7 ³	0.7	0.5
Wetland	0.8 ³	0.8	0.8
Proprietary Treatment Systems ^{5, 6}	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area.		

7.4.7 The majority of the proposed surface water runoff from the drives and car parking is to be captured in the permeable paving proposed for those areas. It is proposed that where possible, roof drainage would be directed to the permeable paving but not all roof drainage can be accommodated this way due to level differences and the location of the proposed rainwater downpipes.

7.4.8 Where roof and road drainage cannot be discharged via the permeable pavement structure, it will discharge via the proposed attenuation pond.

7.4.9 The proposed surface water drainage system is considered suitable and sufficient to allow for the discharge to the environment.

7.5 Proposed Foul Drainage Strategy

7.5.1 The proposed development site is located within the Thames Water (TW) public sewer area of operation. There is an existing Thames Water foul sewer pipeline (Ø150) located on the development site, which runs in an easterly direction, towards School Lane. In addition to this there is an existing Thames Water foul sewer which runs north to south along School Lane. Please refer to the Thames Water asset map, included in APPENDIX 3 of this report, for the layout and information pertaining to the existing foul sewer pipeline.

7.5.2 The existing Thames Water foul sewer is proposed to be diverted as shown on the Proposed Drainage Strategy, included in APPENDIX 4 of this report, to accommodate the new development layout. At the detail design stage, this proposed diversion will be discussed in detail with Thames Water, together with applying for a Section 185 diversion agreement.

7.5.3 The majority of the site will discharge via a new foul water connection to School Lane, into the existing Thames Water manhole 7301. Manhole 7301 is located where the proposed new access to School Lane is located, and the proposed new onsite foul drainage network would predominantly follow the alignment of the proposed new access road through the site. An application for a Section 106 direct connection will be discussed and submitted to Thames Water at the detail design stage of the project.

7.5.4 The proposed new development will include the construction of 34 dwellings. In accordance with the "Design and Construction Guidelines" (the DCG), the peak design flow rate for dwellings should be either:

- Calculated in accordance with BS EN 12056-2 System II; or
- 4000 l/day/dwellings (0.05 l/s/dwelling) – This is THE design peak flow rate and not a daily average water usage.

7.5.5 In accordance with the above, the foul water peak flow rate for the overall development was calculated to be **1.7 l/s** (4000 l/dwelling/day).

7.5.6 A pre-development application was submitted to Thames Water detailing the proposed development. Thames Water have confirmed that their existing infrastructure is suitable to accommodate the proposed new development and that there is capacity within the Thames Water foul sewer network located in School Lane. A copy of the correspondence and the asset map are included in APPENDIX 3 of this report.

7.5.7 A Section 106 application to Thames Water for the new direct foul sewer connection to the existing public sewer network should be submitted at the detailed design stage in order to accommodate the proposed new residential development. This application should be progressed once planning consent had been granted and the detailed design of the foul water drainage system to the development has been completed.

7.6 Maintenance and Management of the Drainage Systems and SuDS Features

7.6.1 All drainage within the site, including permeable paving, the attenuation pond, gullies and the underground surface water drainage network are proposed to remain private, under the management of a management company, with the exception of any gullies within the adoptable access road.

Appendix B

- 7.6.2 A Surface Water Management and Maintenance Strategy is included with this report in APPENDIX 8, which details the requirements for maintenance and also the responsibility for the management and maintenance for the drainage system.

Appendix B

8 SAFE ACCESS

- 8.1.1 The development site is not at risk of flooding from rivers, seas, surface water, groundwater or reservoirs. As such, the need to assess safe access and egress has not been undertaken.
- 8.1.2 This FRA demonstrates that the risk to human life associated with access and egress at the development site is **very low**.

Appendix B

9 CONCLUSION

- 9.1.1 This FRA has been undertaken in accordance with the requirements of the NPPF, Hampshire County Council Local Flood Risk Management Strategy, Hampshire County Council Local Flood and Water Management Strategy and Hampshire County Council Surface Water and Sustainable Drainage Guidance for Developers, Designers and Planners. The FRA has considered the potential risk of flooding for all sources.
- 9.1.2 The development site is located within Flood Zone 1.
- 9.1.3 SuDS features, in the form of a permeable paving and an attenuation pond are proposed for the development. It is proposed to discharge all surface and roof runoff via these SuDs features, which have been sized to accommodate up to and including the 1:100 year + 40% for climate rainfall event, into the existing Thames Water surface water network at a reduced discharge rate of 3.7l/s. This will reduce the risk off offsite flooding to the surrounding area.
- 9.1.4 The proposed foul discharge will connect into the Thames Water foul network which runs within School Lane at manhole 7301 (34 dwellings at 1.7l/s).
- 9.1.5 These proposed discharge rates have been agreed with Thames Water.
- 9.1.6 Based on the information collated as part of this FRA, the proposed development flood risk from all sources has been assessed as low. The area of the site being developed upon is located within Flood Zone 1 and the assessment of the potential future flooding of the site illustrates that this will be maintained in the future.
- 9.1.7 The development proposed for this site should not be precluded based on flood risk grounds.

APPENDIX 1 TOPOGRAPHIC SURVEY

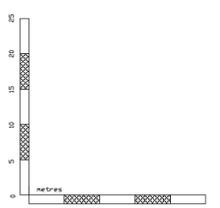
THE MEAD DURLEY BROOK ROAD DURLEY SOUTHAMPTON HAMPSHIRE SO32 2AR TEL : 023 8060 1876 MOBILE - 07973 348165 EMAIL - PAUL@PSTUBBINGTONSURVEYS.COM
CLIENT - CAMPING PROPERTY
CONTRACT - HOLE LANE BENTLEY
TITLE - TOPOGRAPHIC SURVEY
SCALE - 1:500 @A1
DRAWING NO. B279/01 OF 02 REV A
DATE - MARCH 2020
SURVEYOR - SD - RD - PS

KEY:

bt	British Telecom
cb	Central Box
cl	Cover Level
ctv	Cable Television
dk	Drop Kerb
el	Electric
ep	Electricity Pole
fh	Fire Hydrant
gv	Gully
gsv	Gas Stop Valve
ht	Height
ic	Inspection Cover
il	Invert Level
lp	Lamp Post
mr	Marker
o/h	Overhead
pb	Post Box
pxg	Prism Crossing
np	Name Plate
rs	Road Sign
sv	Stop Valve
tb	Telephone Box
tl	Traffic Light
tt	Top of Tree
th	Threshold
tw	Top of Wall
utl	Unable to Lift
vp	Vents pipe
wm	Water Meter
wsv	Water Stop Valve



NOTES:
LEVELS RELATE TO O.S. DATUM
TREE SPECIES SHOULD BE VERIFIED WHERE OF
CRITICAL IMPORTANCE
THE ARCHITECT SHOULD SATISFY HIMSELF THAT ALL TREES
LIKELY TO AFFECT HIS DESIGN HAVE BEEN SHOWN
ENTER CONNECTION OF MANHOLES SHOULD BE VERIFIED
WHERE OF CRITICAL IMPORTANCE USING CCTV
PIPE SIZES & INVERTS DETERMINED WITHOUT
ENTRY INTO MANHOLE.
ALL DIMENSIONS & LEVELS SHOWN IN METRES
ON SITE DIMENSION ACCURACY IS TAKEN RELATIVE TO
THE PRINTED SCALE AND SHOULD BE CHECKED ON SITE
WHERE OF CRITICAL IMPORTANCE



Appendix B

REV A - 20/3/20 - SURVEY UPDATED

P STUBBINGTON
LAND SURVEYS LTD

KEY:	
bt	British Telecom
cb	Control Box
cl	Cover Level
ctv	Cable Television
dk	Drop Kerb
el	Electric
ep	Electricity Pole
fh	Fire Hydrant
gv	Gully
gsv	Gas Stop Valve
ht	Height
ic	Inspection Cover
il	Invert Level
lp	Land Post
mk	Marker
o/h	Overhead
pb	Post Box
pk	Prism Crossing
np	Name Plate
rs	Road Sign
sv	Stop Valve
tb	Telephone Box
tl	Traffic Light
tt	Top of Tree
th	Threshold
tw	Top of Wall
utl	Unable to Lift
vp	Vent pipe
wm	Water Meter
wsv	Water Stop Valve



CLIENT:	CAMPING PROPERTY
CONTRACT:	HOLE LANE BENTLEY
TITLE:	TOPOGRAPHIC SURVEY
SCALE:	1:500 BA1
DRAWING NO:	8279/02 DF 02 REV A
DATE:	MARCH 2020
SURVEYOR:	SD - RD - PS

NOTES
LEVELS RELATE TO OS DATUM
TREE SPECIES SHOULD BE VERIFIED WHERE OF CRITICAL IMPORTANCE
THE ARCHITECT SHOULD SATISFY HIMSELF THAT ALL TREES LIKELY TO AFFECT HIS DESIGN HAVE BEEN SHOWN
INTER CONNECTION OF MANHOLES SHOULD BE VERIFIED WHERE OF CRITICAL IMPORTANCE USING CCTV
PIPE SIZES & INVERTS DETERMINED WITHOUT ENTRY INTO MANHOLE
ALL DIMENSIONS & LEVELS SHOWN IN METRES
ON SITE DIMENSION ACCURACY IS TAKEN RELATIVE TO THE PRINTED SCALE AND SHOULD BE CHECKED ON SITE WHERE OF CRITICAL IMPORTANCE



Appendix B



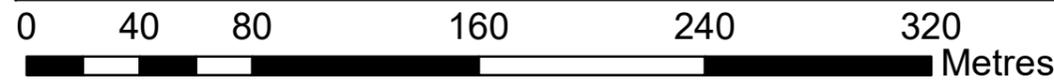
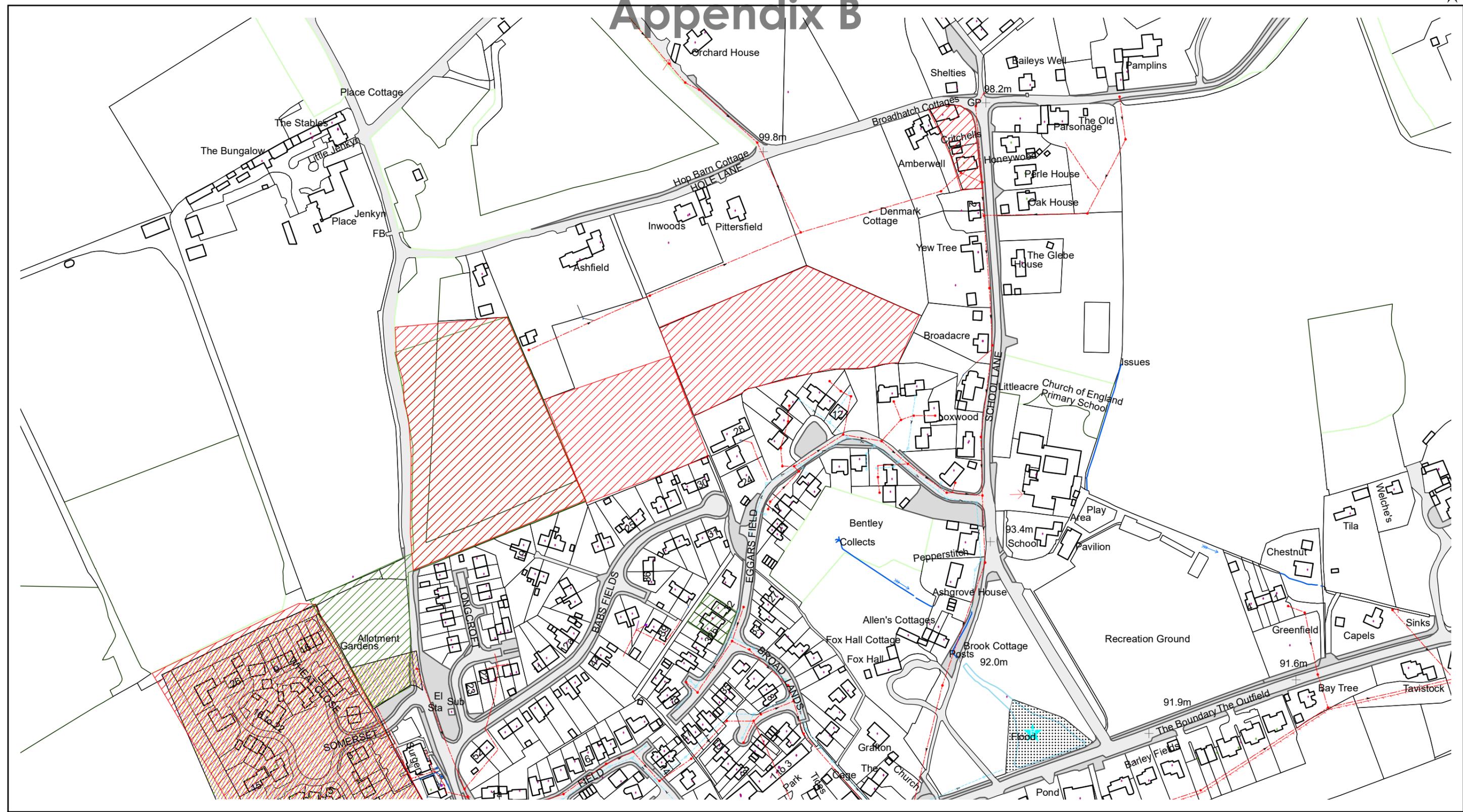
APPENDIX 2 PROPOSED SITE LAYOUT

Appendix B



APPENDIX 3 THAMES WATER SEWER RECORDS AND CORRESPONDENCE

Thames Water Appendix B



The position of any boundary or apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. No liability of any kind whatsoever is accepted by Thames Water for any error or omission.

Printed At (A3) :1:2500
Printed By :ZKAZI
Print Date :06/04/2020
Map Centered On :478535,144318
Grid Reference :SU7844

Appendix B



RGP Consulting Engineers Ltd.
30 Stamford Street,
London,
SE1 9LQ



17 August 2022

Pre-planning enquiry: Confirmation of sufficient capacity

Site: Land West of School Lane, Bentley, GU10 5LT

Dear [REDACTED],

Thank you for providing information on your development.

Drainage Strategy

Proposed site: Housing 38 units.

Proposed foul water discharge by gravity into manhole SU78447301.

Proposed surface water discharge at 3.7 l/s for all storm events up to and including 1:100yr+40%CC into manhole SU78447250.

We have completed the assessment of the foul water flows and surface water flows based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

Foul Water

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in our network to serve foul flows from your development.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.

Surface Water

In accordance with the Building Act 2000 Clause H3.3, positive connection of surface water to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. Before we can consider your surface water needs, you'll need written approval from the lead local flood authority that you have followed the sequential approach to the disposal of surface water and considered all practical means.

Appendix B



The disposal hierarchy being:

1. rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
2. rainwater infiltration to ground at or close to source
3. rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
4. rainwater discharge direct to a watercourse (unless not appropriate)
5. controlled rainwater discharge to a surface water sewer or drain
6. controlled rainwater discharge to a combined sewer

Where connection to the public sewerage network is still required to manage surface water flows, we will accept these flows at a discharge rate in line with CIRIA's best practice guide on SuDS or that stated within the sites planning approval.

If the above surface water hierarchy has been followed and if the flows are restricted as described in the drainage strategy, then Thames Water would not have any objections to the proposal.

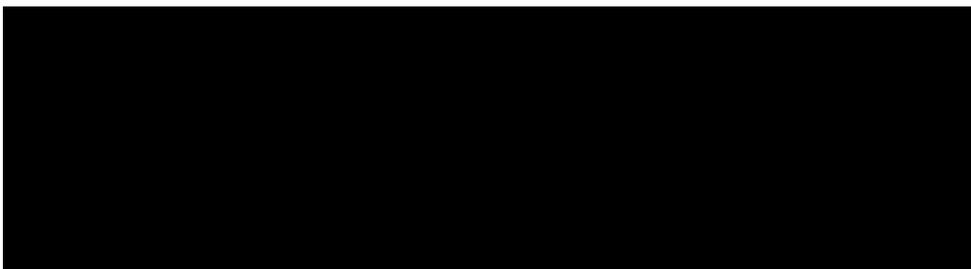
Please see the attached 'Planning your wastewater' leaflet for additional information.

What happens next?

Please make sure you submit your connection application, giving us at least 21 days' notice of the date you wish to make your new connection/s.

If you have any further questions, please contact me on 07747647155.

Kind Regards,



Appendix B



APPENDIX 4 RGP PROPOSED DRAINAGE STRATEGY



99.8m

Appendix B

Critchells

Amberwell

Hone

Hop Barn Cottage
HOLE LANE

Pittersfield

Yew Tree
Cottage

- NOTES:
- DO NOT SCALE OFF THE DRAWING.
 - ALL MEASUREMENTS ARE IN mm UNLESS OTHERWISE NOTED.
 - EXISTING SITE AREA = 21,405m² (2.14ha)
 - DRAWING BASED ON SITE LAYOUT PLAN BY RE-FORMAT ARCHITECTS, DRAWING REF: "LAYOUT ON SURVEY 1.500 AT A1.JPEG", RECEIVED 23.08.22.
 - ALL NEW ACCESS ARRANGEMENTS TO THE PUBLIC HIGHWAY TO BE DESIGNED IN ACCORDANCE WITH THE HAMPSHIRE COUNTY COUNCIL HIGHWAY DESIGN GUIDE. WORKS TO BE UNDERTAKEN UNDER A SUITABLE HIGHWAYS AGREEMENT WITH THE COUNCIL.

- LEGEND:
- ROOF AREA (2,971m²)
 - PRIVATE DRIVES AND PARKING AREAS (2,132m²)
 - CARRIAGEWAY (1,854m²)
 - ADOPTABLE CARRIAGEWAY (233m²)
 - FOOTPATHS (359m²)
 - ADOPTABLE FOOTPATHS (95m²)
 - SITE BOUNDARY

P1	ISSUED FOR PLANNING	GE	25.08.22
Revision	Description	By	Date

Godalming Office
Shackleford Suite, Mill Pool House
Mill Lane, Godalming
GU7 1EY

RGP

GODALMING & LONDON

Transport Planning and Infrastructure Design Consultants

Client
CAMPING PROPERTY

Project
**BENTLEY PROMOTIONS
HOLE LANE, BENTLEY, GU10 5LT**

Drawing Title
PROPOSED IMPERMEABLE AREAS

Issue Status
 INFORMATION
 PRELIMINARY
 TENDER
 CONSTRUCTION
 RECORD COPY

Scale: 1:500 @ A2 Date Issued: AUGUST 2022 Drawn: GE Checked: HJ Approved: CB

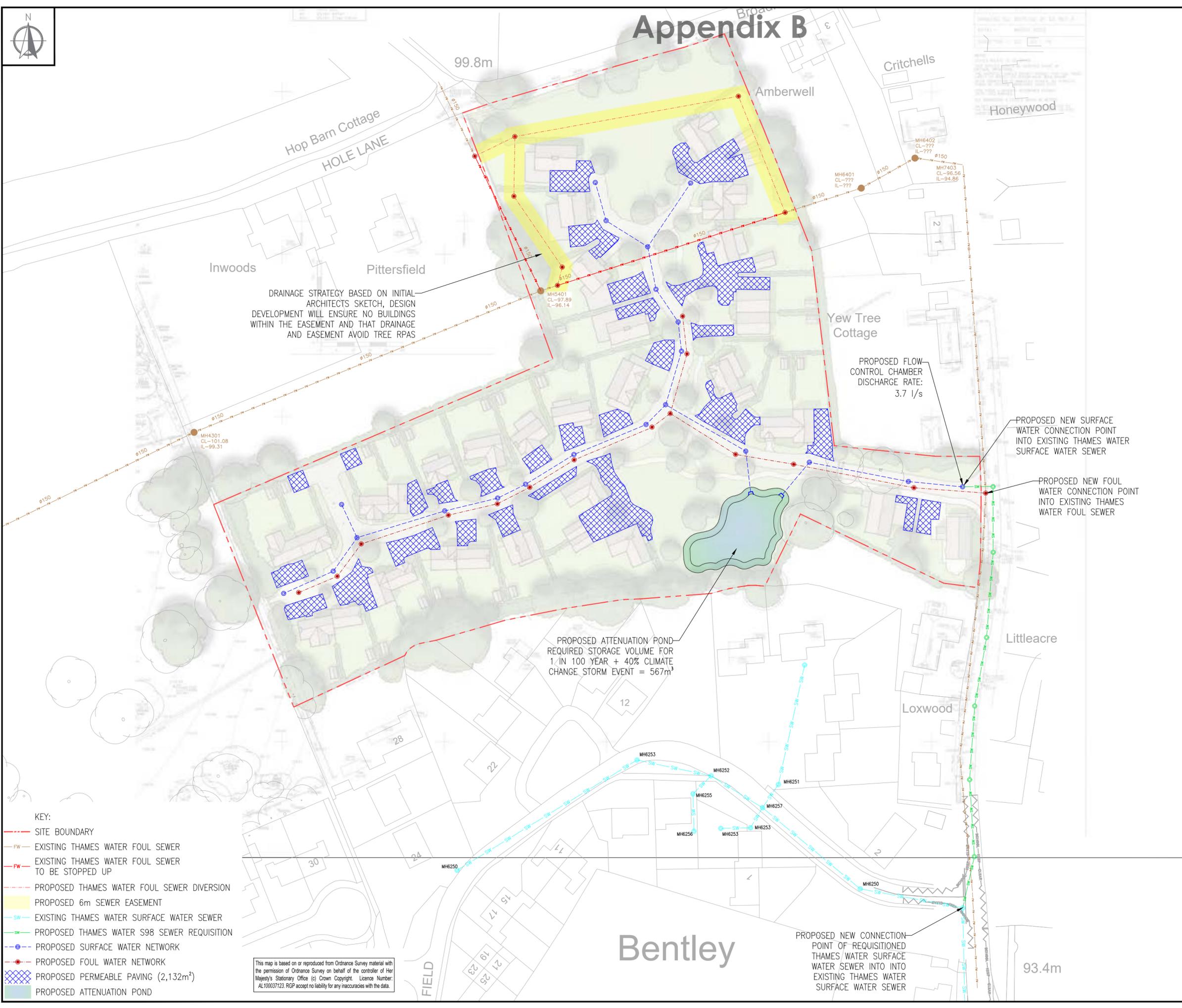
Drawing Number: 6663-RGP-ZZ-00-SK-C-0001 Revision: P1

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Loxwood



Appendix B



- KEY:
- - - SITE BOUNDARY
 - - - EXISTING THAMES WATER FOUL SEWER
 - - - EXISTING THAMES WATER FOUL SEWER TO BE STOPPED UP
 - - - PROPOSED THAMES WATER FOUL SEWER DIVERSION
 - PROPOSED 6m SEWER EASEMENT
 - - - EXISTING THAMES WATER SURFACE WATER SEWER
 - - - PROPOSED THAMES WATER S98 SEWER REQUISITION
 - - - PROPOSED SURFACE WATER NETWORK
 - - - PROPOSED FOUL WATER NETWORK
 - PROPOSED PERMEABLE PAVING (2,132m²)
 - PROPOSED ATTENUATION POND

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- NOTES:
1. DO NOT SCALE OFF THE DRAWING.
 2. ALL MEASUREMENTS ARE IN mm UNLESS OTHERWISE NOTED.
 4. DRAWING BASED ON SITE LAYOUT PLAN BY RE-FORMAT ARCHITECTS, DRAWING REF: "LAYOUT ON SURVEY 1.500 AT A1.JPEG", RECEIVED 23.08.22.
 5. ALL WORKS TO THE EXISTING THAMES WATER FOUL SEWER TO BE AGREED WITH THAMES WATER. APPROPRIATE S98, S106 AND S185 APPLICATIONS TO BE SUBMITTED AND AGREED PRIOR TO ANY WORKS BEING UNDERTAKEN.
 6. PROPOSED FOUL SEWER DIVERSION SUBJECT TO DETAIL DESIGN, EXISTING LEVELS SURVEY AND APPROPRIATE GRADIENT BEING ACHIEVED ALONG PROPOSED DIVERSION ROUTE.
 7. ALL PROPOSED FW AND SW LOCATED WITHIN THE PUBLIC HIGHWAY TO REMAIN PRIVATE AND THE RESPONSIBILITY OF A PRIVATE MANAGEMENT COMPANY.
 8. PROPOSED JUNCTION ONTO SCHOOL LANE TO BE OFFERED TO HAMPSHIRE COUNTY COUNCIL FOR ADOPTION UNDER SUITABLE S38 AGREEMENT.
 9. PROPOSED SURFACE WATER NETWORK TO DISCHARGE TO NEWLY REQUISITIONED THAMES WATER SURFACE WATER SEWER TO SCHOOL LANE. (SUBJECT TO S98 APPLICATION WITH THAMES WATER)
 10. SURFACE WATER DRAINAGE SYSTEM DESIGNED TO ACCOMMODATE 1:100 YEAR + 40% FOR CLIMATE CHANGE RAINFALL EVENT.
 11. SURFACE WATER DRAINAGE SYSTEM, DESIGNED TO ACCOMMODATE PROPOSED DISCHARGE RATE OF 3.7 l/s FOR DEVELOPMENT SITE. (AS AGREED WITH THAMES WATER)
 12. ATTENUATION POND DESIGNED TO ACCOMMODATE 567m³ OF SURFACE WATER STORAGE. PONDS TO BE LINED TO PREVENT INFILTRATION INTO THE SURFACE OF THE SURROUNDING GROUND.
 13. ATTENUATION POND SIZING AND FINAL LAYOUT WILL BE SUBJECT TO DETAILED MODELING OF THE DRAINAGE NETWORK AND CO-ORDINATION WITH THE ARCHITECT, ARBORICULTURIST, ECOLOGIST AND LANDSCAPE ARCHITECT AT THE DETAILED DESIGN STAGE OF THE PROJECT.
 14. PERMEABLE PAVING SUBBASE TO BE LINED TO PREVENT INFILTRATION INTO THE SURFACE OF THE SURROUNDING GROUND. PERMEABLE PAVING SUBBASE DEPTH REQUIREMENTS TO BE DESIGNED AT DETAILED DESIGN STAGE AND IS SUBJECT TO SITE CBRS AND WELL AS HYDRAULIC CALCULATIONS.
 15. PRIVATE DRAINAGE TO DWELLINGS NOT SHOWN FOR CLARITY.
 16. TO BE READ IN CONJUNCTION WITH THE DRAINAGE STRATEGY REPORT: 6663-RGP-ZZ-00-RP-C-0501

P2	DRAINAGE DIVERSION ROUTE AMENDED	HJ	14.09.22
P1	ISSUED FOR PLANNING	HJ	25.08.22
Revision	Description	By	Date

Godalming Office
Shackleford Suite, Mill Pool House
Mill Lane, Godalming
GU7 1EY

RGP

[T]: 01483 861 681
[F]: 01438 861 682
[e]: enquiries@rgp.co.uk
www.rgp.co.uk

TRANSPORT PLANNING AND INFRASTRUCTURE DESIGN CONSULTANTS

GODALMING & LONDON

Client
CAMPING PROPERTY

Project
**BENTLEY PROMOTIONS
HOLE LANE, BENTLEY, GU10 5LT**

Drawing Title
PROPOSED DRAINAGE STRATEGY

Issue Status

INFORMATION PRELIMINARY TENDER CONSTRUCTION RECORD COPY

Scale: 1:750 @ A2 Date Issued: AUGUST 2022 Drawn: HJ Checked: AO Approved: CB

Drawing Number: 6663-RGP-XX-00-SK-C-0500 Revision: P2

APPENDIX 5 RGP DRAINAGE CALCULATIONS

Project: School Lane
 Number: 6663
 Date: 24/08/2022
 Engineer: [REDACTED]

Appendix B



Revision: 1

IH124 Greenfield Runoff Rate Calculation

Information

AREA	50	ha
SAAR	779	mm
SPR	0.3	
Hydrological Area	6	

(www.uksuds.com)
 (www.uksuds.com)
 Fig. 24.1 - SuDS Manual

$$Q_{bar} = 0.00108 \times AREA^{0.89} \times SAAR^{1.17} \times SPR^{2.17}$$

Q_{bar} (50 ha) **103.27** l/s (for 50ha site)

Development Site Area 21405 m² (impermeable development site area)

Q_{bar} (site)	4.42 l/s (for development site)
------------------	--

	GC Value	GRR per ha (l/s/ha)	GRR (l/s)
Q_{1yr}	0.85	1.76	3.76
Q_{2yr}	0.88	1.82	3.89
Q_{5yr}	1.28	2.64	5.66
Q_{10yr}	1.62	3.35	7.16
Q_{30yr}	2.4	4.96	10.61
Q_{50yr}	2.62	5.41	11.58
Q_{100yr}	3.19	6.59	14.1

Notes:

1. Growth Curve values (GC) from Table 24.2, CIRIA 753 - SuDS Manual
2. Hydrological Area from Fig 24.1, CIRIA 753 - SuDS Manual
3. No provision has been included for the Greenfield Runoff Volume as the drainage system will be designed to accommodate a restricted discharge rate equal to the Q_{bar} rate for the development. (Approach 2 in Section 7.1.6 of this FRA)



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

EXISTING SITE RUNOFF CALCULATION

Existing Site Information

Total Development Site Area	21405	m ²
Permeable Site Area	13761	m ²
Roof Area	2971	m ²
Hardstanding Area	4673	m ²
Runoff Coefficient	95%	(fill in as decimal)
Climate Change Allowance	40%	

Rainfall Data:

The Existing Site Runoff has been calculated using the 'Design and Analysis of Urban Storm Drainage - Wallingford Procedure Vol 4 - Modified Rational Method'

Site Post Code	GU10 5LT
M5-60	20 mm
r	0.4

from
www.uksuds.com

Storm	Z1	Rainfall Depth (mm)
M5-5	0.37	7
M5-10	0.52	10
M5-15	0.63	13
M5-30	0.8	16
M5-60	1	20
M5-120	1.21	24
M5-240	1.45	29
M5-360	1.6	32
M5-600	1.79	36
M5-1440	2.24	45

Existing Surface Water Runoff

(From Table A1 - Volume 4 - Modified Rational Method)

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M2-5	0.79	6	70.15	141.51	42.45
M2-10	0.79	8	49.30	99.44	59.66
M2-15	0.80	10	40.12	80.93	72.83
M2-30	0.80	13	25.66	51.77	93.18
M2-60	0.81	16	16.20	32.68	117.64
M2-120	0.82	20	9.90	19.97	143.75
M2-240	0.83	24	6.00	12.11	174.37
M2-360	0.83	27	4.44	8.95	193.34
M2-600	0.84	30	2.99	6.04	217.34
M2-1440	0.85	38	1.58	3.18	274.90



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

EXISTING SITE RUNOFF CALCULATION

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)
M30-5	1.45	11	128.94	260.09	78.03
M30-10	1.49	15	92.98	187.55	112.53
M30-15	1.51	19	76.20	153.72	138.35
M30-30	1.53	24	48.96	98.76	177.77
M30-60	1.54	31	30.87	62.26	224.15
M30-120	1.54	37	18.58	37.47	269.81
M30-240	1.52	44	11.00	22.19	319.54
M30-360	1.50	48	8.02	16.18	349.50
M30-600	1.49	53	5.32	10.73	386.15
M30-1440	1.44	65	2.69	5.43	469.56

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)
M100-5	1.84	14	163.21	329.23	98.77
M100-10	1.91	20	119.18	240.41	144.25
M100-15	1.96	25	98.68	199.06	179.15
M100-30	2.00	32	63.94	128.97	232.15
M100-60	2.03	41	40.60	81.90	294.83
M100-120	2.01	49	24.37	49.16	353.93
M100-240	1.98	57	14.34	28.93	416.55
M100-360	1.95	63	10.42	21.02	454.07
M100-600	1.92	69	6.88	13.88	499.67
M100-1440	1.85	83	3.45	6.97	601.86

Storm	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)
M100-5 + 40%	19.04	228.50	460.92	138.28
M100-10 + 40%	27.81	166.86	336.58	201.95
M100-15 + 40%	34.54	138.16	278.68	250.82
M100-30 + 40%	44.76	89.51	180.56	325.00
M100-60 + 40%	56.84	56.84	114.66	412.76
M100-120 + 40%	68.23	34.12	68.82	495.50
M100-240 + 40%	80.31	20.08	40.50	583.17
M100-360 + 40%	87.54	14.59	29.43	635.69
M100-600 + 40%	96.33	9.63	19.43	699.53
M100-1440 + 40%	116.03	4.83	9.75	842.60



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

PROPOSED SITE RUNOFF CALCULATION

Proposed Site Information

Total Development Site Area	21405	m ²
Permeable Site Area	13761	m ²
Roof Area	2971	m ²
Hardstanding Area	4673	m ²
Runoff Coefficient	95%	(fill in as decimal)
Climate Change Allowance	40%	

The SW drainage system is to be designed for the 1:30 year storm event

Rainfall Data:

The Proposed Site Runoff has been calculated using the 'Design and Analysis of Urban Storm Drainage - Wallingford Procedure Vol 4 - Modified Rational Method'

Site Post Code	GU10 5LT
M5-60	20 mm
r	0.4

from
www.uksuds.com

Storm	Z1	Rainfall Depth (mm)
M5-5	0.37	7
M5-10	0.52	10
M5-15	0.63	13
M5-30	0.8	16
M5-60	1	20
M5-120	1.21	24
M5-240	1.45	29
M5-360	1.6	32
M5-600	1.79	36
M5-1440	2.24	45

Proposed Surface Water Runoff

(From Table A1 - Volume 4 - Modified Rational Method)

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M2-5	0.79	6	70.15	141.51	42.45
M2-10	0.79	8	49.30	99.44	59.66
M2-15	0.80	10	40.12	80.93	72.83
M2-30	0.80	13	25.66	51.77	93.18
M2-60	0.81	16	16.20	32.68	117.64
M2-120	0.82	20	9.90	19.97	143.75
M2-240	0.83	24	6.00	12.11	174.37
M2-360	0.83	27	4.44	8.95	193.34
M2-600	0.84	30	2.99	6.04	217.34
M2-1440	0.85	38	1.58	3.18	274.90



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

PROPOSED SITE RUNOFF CALCULATION

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M30-5	1.45	11	128.94	260.09	78.03
M30-10	1.49	15	92.98	187.55	112.53
M30-15	1.51	19	76.20	153.72	138.35
M30-30	1.53	24	48.96	98.76	177.77
M30-60	1.54	31	30.87	62.26	224.15
M30-120	1.54	37	18.58	37.47	269.81
M30-240	1.52	44	11.00	22.19	319.54
M30-360	1.50	48	8.02	16.18	349.50
M30-600	1.49	53	5.32	10.73	386.15
M30-1440	1.44	65	2.69	5.43	469.56

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M100-5	1.84	14	163.21	329.23	98.77
M100-10	1.91	20	119.18	240.41	144.25
M100-15	1.96	25	98.68	199.06	179.15
M100-30	2.00	32	63.94	128.97	232.15
M100-60	2.03	41	40.60	81.90	294.83
M100-120	2.01	49	24.37	49.16	353.93
M100-240	1.98	57	14.34	28.93	416.55
M100-360	1.95	63	10.42	21.02	454.07
M100-600	1.92	69	6.88	13.88	499.67
M100-1440	1.85	83	3.45	6.97	601.86

Storm	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M100-5 + 40%	19.04	228.50	460.92	138.28
M100-10 + 40%	27.81	166.86	336.58	201.95
M100-15 + 40%	34.54	138.16	278.68	250.82
M100-30 + 40%	44.76	89.51	180.56	325.00
M100-60 + 40%	56.84	56.84	114.66	412.76
M100-120 + 40%	68.23	34.12	68.82	495.50
M100-240 + 40%	80.31	20.08	40.50	583.17
M100-360 + 40%	87.54	14.59	29.43	635.69
M100-600 + 40%	96.33	9.63	19.43	699.53
M100-1440 + 40%	116.03	4.83	9.75	842.60



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

PROPOSED STORAGE CALCULATION - TOTAL CATCHMENT

Site Information

Total Development Site Area	21405	m ²
Permeable Site Area	13761	m ²
Roof Area	2971	m ²
Hardstanding Area	4673	m ²
Runoff Coefficient	95%	(fill in as decimal)
Climate Change Allowance	40%	

Discharge Rate
3.70 l/s

From "GRR" or
 "Existing Runoff" calc

The SW drainage system is to be designed for the 1:30 year storm event

Rainfall Data:

The Proposed Site Runoff has been calculated using the 'Design and Analysis of Urban Storm Drainage - Wallingford Procedure Vol 4 - Modified Rational Method'

Site Post Code	GU10 5LT
M5-60	20 mm
r	0.4

from
www.uksuds.com

Storm	Z1	Rainfall Depth (mm)
M5-5	0.37	7
M5-10	0.52	10
M5-15	0.63	13
M5-30	0.8	16
M5-60	1	20
M5-120	1.21	24
M5-240	1.45	29
M5-360	1.6	32
M5-600	1.79	36
M5-1440	2.24	45

Proposed Surface Water Runoff

(From Table A1 - Volume 4 - Modified Rational Method)

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)	Outflow (m ³)	Storage (m ³)
M2-5	0.79	6	70.15	141.51	42.45	1.11	41.34
M2-10	0.79	8	49.30	99.44	59.66	2.22	57.44
M2-15	0.80	10	40.12	80.93	72.83	3.33	69.50
M2-30	0.80	13	25.66	51.77	93.18	6.66	86.52
M2-60	0.81	16	16.20	32.68	117.64	13.32	104.32
M2-120	0.82	20	9.90	19.97	143.75	26.64	117.11
M2-240	0.83	24	6.00	12.11	174.37	53.28	121.09
M2-360	0.83	27	4.44	8.95	193.34	79.92	113.42
M2-600	0.84	30	2.99	6.04	217.34	133.2	84.14
M2-1440	0.85	38	1.58	3.18	274.90	319.68	0.00



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

PROPOSED STORAGE CALCULATION - TOTAL CATCHMENT

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)	Outflow (m³)	Storage (m³)
M30-5	1.45	11	128.94	260.09	78.03	1.11	76.92
M30-10	1.49	15	92.98	187.55	112.53	2.22	110.31
M30-15	1.51	19	76.20	153.72	138.35	3.33	135.02
M30-30	1.53	24	48.96	98.76	177.77	6.66	171.11
M30-60	1.54	31	30.87	62.26	224.15	13.32	210.83
M30-120	1.54	37	18.58	37.47	269.81	26.64	243.17
M30-240	1.52	44	11.00	22.19	319.54	53.28	266.26
M30-360	1.50	48	8.02	16.18	349.50	79.92	269.58
M30-600	1.49	53	5.32	10.73	386.15	133.2	252.95
M30-1440	1.44	65	2.69	5.43	469.56	319.68	149.88

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)	Outflow (m³)	Storage (m³)
M100-5	1.84	14	163.21	329.23	98.77	1.11	97.66
M100-10	1.91	20	119.18	240.41	144.25	2.22	142.03
M100-15	1.96	25	98.68	199.06	179.15	3.33	175.82
M100-30	2.00	32	63.94	128.97	232.15	6.66	225.49
M100-60	2.03	41	40.60	81.90	294.83	13.32	281.51
M100-120	2.01	49	24.37	49.16	353.93	26.64	327.29
M100-240	1.98	57	14.34	28.93	416.55	53.28	363.27
M100-360	1.95	63	10.42	21.02	454.07	79.92	374.15
M100-600	1.92	69	6.88	13.88	499.67	133.2	366.47
M100-1440	1.85	83	3.45	6.97	601.86	319.68	282.18

Storm	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)	Outflow (m³)	Storage (m³)
M100-5 + 40%	19	228.50	460.92	138.28	1.11	137.17
M100-10 + 40%	28	166.86	336.58	201.95	2.22	199.73
M100-15 + 40%	35	138.16	278.68	250.82	3.33	247.49
M100-30 + 40%	45	89.51	180.56	325.00	6.66	318.34
M100-60 + 40%	57	56.84	114.66	412.76	13.32	399.44
M100-120 + 40%	68	34.12	68.82	495.50	26.64	468.86
M100-240 + 40%	80	20.08	40.50	583.17	53.28	529.89
M100-360 + 40%	88	14.59	29.43	635.69	79.92	555.77
M100-600 + 40%	96	9.63	19.43	699.53	133.2	566.33
M100-1440 + 40%	116	4.83	9.75	842.60	319.68	522.92

Estimated Storage Requirement:

270 m³ (for 1:30 year storm event)
375 m³ (for 1:100 year storm event)
567 m³ (for 1:100 year + climate change storm event)



APPENDIX 6 SURFACE WATER MANGEMENT & MAINTENANCE SCHEDULE

**RESIDENTIAL DEVELOPMENT AT
SCHOOL LANE, BENTLEY, HAMPSHIRE,
GU10 5LT**

**Surface Water Maintenance &
Management Strategy**

for Residential Use

On behalf of Camping Property

6663-RGP-ZZ-00-RP-C-0502

August 2022

Appendix B



TABLE of CONTENTS

1	INTRODUCTION	1
2	INSPECTION REGIME.....	1
3	RESIDUAL RISKS	4
4	RESPONSIBILITY FOR INSPECTIONS AND MAINTENANCE	4

List of Tables

Table 1 – Surface Water Maintenance Schedule	2
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Appendix B

1 INTRODUCTION

- 1.1.1 Regular inspections and maintenance of the surface water drainage system is important to ensure the effective and efficient operation of the system and to reduce the likelihood of blockages and flooding on site.
- 1.1.2 The surface water drainage network, which includes geocellular crate systems, associated underground pipework, manholes, access chambers, linear drainage channels and gullies has been designed to operate in such a way that the system will empty between storm events. This includes all channels, pipelines and the geocellular crate systems.
- 1.1.3 The system has been designed to accommodate all storm water runoff for the design storm up to and including the 1:100 year + 40% for climate change rainfall event and should not need to be inspected or maintained for the first 12 months following construction, during the defects liability period for the construction works.
- 1.1.4 A post-construction CCTV survey of the installed system should be undertaken to confirm the system has been installed in accordance with the drawings and specification and that there are no damages or obstructions within the system.
- 1.1.5 The information from the CCTV survey should be included in the Health & Safety File or O&M manual for the site, which should be passed to the management company and/or individual owner(s) for their information. Once the defects liability period has lapsed, the surface water drainage system should be inspected at regular intervals and any blockages cleared or remediation works undertaken at the earliest opportunity to ensure the effective operation of the drainage system.

2 INSPECTION REGIME

- 2.1.1 The surface water drainage system should be inspected and cleaned by a suitable Specialist Contractor, in accordance with the guidance provided in BE EN 752 Part 7 1998 "Maintenance and Operations" and "Safe Working in Sewers and at Sewage Works", published by the National Joint Health and Safety Committee for the Water Services.
- 2.1.2 The system should be monitored monthly by lifting the covers to the manholes and chambers to monitor debris build-up. If required, these are to be cleaned at the earliest opportunity to prevent blockages.
- 2.1.3 Every six months, the drainage system should be inspected to identify areas that are not operating as required and any remedial works identified should be carried out at the earliest opportunity.
- 2.1.4 Refer to the Surface Water Management Schedule, detailed in Table 1, below, for the proposed maintenance schedule for the site.

Appendix B

Table 1 – Surface Water Maintenance Schedule

Feature	Schedule	Required Action	Frequency
Basins, Ponds and Wetlands	Occasional	Where silt accumulates on apron or area in front of inlet or outlet then remove and land apply within design profile of suds	Annually or every 3 years as required
		Where silt accumulates more than 150mm in base of wetland undertake a phased removal of silt subject to Client approval	
		Confirm whether liner is present to hold water or prevent pollution of groundwater and protect	
		Remove silt as instructed but not more than 30% of pond or wetland area at any one time and to an agreed depth but not subsoil layer	
		Retain as much representative existing vegetation as possible to ensure rapid recolonisation of open areas	
		Stack evaluated material adjacent to wetland to allow de-watering of silt	
Basins, Ponds and Wetlands	Regular	Mow grass access paths and verges surrounding basins, ponds and wetlands areas at 35mm-50mm minimum and 75mm maximum or as specified to provide a cared for appearance and allow pedestrian access	Monthly or as required
		Mow rough grass areas for occasional access or habitat reasons at 100mm and maximum 150mm with cuttings removed to wildlife piles	As required 4-6 times annually
		Grass areas not required for access may be managed for wildlife interest and to reduce costs 2 cuts in July and September or 1 cut annually in September or October as specified and cuttings removed to wildlife piles	Annually or as required
	Remedial	Although not usually required this may be needed due to damage to liners or control structures	As required
	Monitoring	Inspect/check all inlets and outlets to ensure that they are in good condition and operating as designed	Annually
	Headwalls	Regular	Inspect surface structure removing obstructions and silt as necessary. Check there is no physical damage
Strim vegetation 1m min. surround to structures to keep hard aprons free from silt and debris			Monthly
Undertake inspection after leaf fall in autumn			Annually
Remedial		Unpack stone in basket features and unblock and repair and repack stone as design detail as necessary	As required
		Repair physical damage if necessary	As required
Pervious Pavement	Regular	Stabilise and mow contributing and adjacent areas	As required
	Occasional	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements

Appendix B

Feature	Schedule	Required Action	Frequency	
		Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required	
	Remedial	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required	
		Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)	
		Initial inspection	Monthly for three months after installation	
	Monitoring	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 h after large storms in first six months	
		Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually	
		Monitor inspection chambers	Annually	
		Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then annually	
	Drainage (Pipe Network)	Regular	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
			Maintain vegetation to designed limits within the vicinity of below ground drainage pipes to avoid damage to system.	Monthly or as required
Inspect rainwater down pipes, channel drains and road gullies, removing obstructions and silt as necessary. Check there is no physical damage.			Monthly	
Remove silt and leaf build up from manholes, gutters etc.			Annually (or as required)	
Occasional		Remove sediment from pre-treatment inlet structures and inspection chambers.	Annually (or as required)	
		Remove inspection covers and inspect, ensuring that the water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt.	Annually	
		Removal of sediment, oil, grease and floatables from separator	Biannually (or as required)	
		Replacement of malfunctioning parts	As Required	
Remedial		Repair physical damage if necessary	As Required	
		Inspect inlets and pre-treatment systems for silt accumulation. Establish appropriate silt removal frequencies.	Biannually	
Monitoring		Undertake inspection after leaf fall in Autumn	Annually	
		Inspect all inlets, outlets and vents to ensure that they are in good condition and operating as designed.	Annually	
		Survey inside of pipe runs for sediment build up and remove if necessary.	Every 5 years or as required	
		Check manholes, gutters etc. for silt and leaf build up.	Annually	

Appendix B

- 2.1.5 A full CCTV survey of the surface water drainage system should also be carried out at 10-yearly intervals to assess the condition of the drainage system.
- 2.1.6 Reference should also be made to the manufacturer's detailed information and maintenance requirements for their recommended intervals and safe methods of cleaning for the following proprietary systems:
- Flow control chamber

3 RESIDUAL RISKS

- 3.1.1 In all instances, all underground and under-floor drains, access chambers and manholes represent working in confined spaces. Appropriate precautions should be taken before entering drains and manholes. Access should only be undertaken by appropriately trained personnel.
- 3.1.2 Reference should be made to the as-built drawings for the site, which detail the layout and additional information for the drainage system. A copy of the drawings should be maintained in the Health & Safety file for the site and/or within the O&M manual.

4 RESPONSIBILITY FOR INSPECTIONS AND MAINTENANCE

- 4.1.1 The responsibility for the inspection and maintenance of the surface water drainage system lies with the Management Company or owner(s) of the individual properties.
- 4.1.2 In the event no Management Company is appointed, the responsibility for inspections and maintenance of the surface water drainage system lies wholly with the individual property owner(s).
- 4.1.3 The recommendations included in this Maintenance and Management Strategy are typical and may need to be amended to suit the site-specific requirements of the development, individual users and owner(s) requirements throughout the life span of the development.

Appendix B



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Appendix B



School Lane
Bentley, Hampshire, GU10 5LT

DRAINAGE STRATEGY REPORT

For Proposed Residential Development
On behalf of Camping Property
6663-RGP-ZZ-00-RP-C-0501

August 2022

Appendix B



DOCUMENT CONTROL

Project: School Lane
For Proposed Residential Development

Project Location: Bentley, Hampshire, GU10 5LT

Report Type: Drainage Strategy Report

Client: Camping Property

Reference: 6663-RGP-ZZ-00-RP-C-0501

Document Checking

	Name	Date	Signature
Author:	Helen Jolly	24.08.2022	
Checked by:	Adam O'Hagan	25.08.2022	
Approved by:	Chris Blamey	25.08.2022	CB

Status

Issue	Date	Status	Amendment	Issued by
1	26.08.2022	1 st DRAFT	First Issue	Helen Jolly
2	30.08.2022	FINAL	Issued for approval	Helen Jolly
3	14.09.2022	FINAL	Drainage Strategy Plan Updated	Helen Jolly
4				
5				

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Appendix B



TABLE of CONTENTS

1	INTRODUCTION	4
2	EXISTING DEVELOPMENT DRAINAGE.....	5
3	PROPOSED DEVELOPMENT DRAINAGE	7
4	CONCLUSION.....	11
	APPENDIX 1 Proposed Site Layout	
	APPENDIX 2 Topographical Survey	
	APPENDIX 3 Thames Water Records and Correspondance	
	APPENDIX 4 RGP Drainage Plans	
	APPENDIX 5 RGP Drainage Calculations	
	APPENDIX 6 Previous Planning Correspondance	

Appendix B



List of Tables

Table 1 - Existing Site Surface Area Breakdown	5
Table 2 - Existing Thames Water Manhole Information.....	6
Table 3 - Proposed Site Impermeable Surface Area Breakdown	7
Table 4 - Existing Catchment Surface Water Runoff Rate Summary	7
Table 5 - Summary of Storage Requirements	8

Appendix B

1 INTRODUCTION

- 1.1 RGP has been commissioned by Camping Property (the 'Client') to prepare a drainage strategy report to accompany the planning application for the proposed residential development at School Lane, Bentley, Hampshire, GU10 5LT (the 'site').
- 1.2 The overall existing greenfield site covers an area of 21,265m² and is predominantly covered by permeable grassland and fields. There is an existing dwelling located on the site, which is proposed to be retained as part of the new development, with the existing associated garage to be demolished.
- 1.3 The proposed development includes the construction of 34 dwellings, a new access off School Lane (to the south-eastern corner of the development site), a main access road which will serve the development, open space, play areas and an attenuation pond.
- 1.4 The proposed access off School Lane is to be adopted under a S38 agreement. The remainder of the site is not proposed to be adopted.
- 1.5 This drainage strategy has been produced in line with local, regional and national guidelines, including the Hampshire County Council (HCC) document, Surface Water and Sustainable Drainage Guidance for Developers, Designers and Planners.
- 1.6 This drainage strategy accompanies the Flood Risk Assessment (FRA) carried out for the site, 6663-RGP-ZZ-00-RP-C-0500.

2 EXISTING DEVELOPMENT DRAINAGE

2.1 Existing Surface Water Drainage

2.1.1 The existing site is a greenfield site, which comprises an overall area of approximately 21,405 m² (2.14 ha) and is 98% permeable. Please refer to Table 1, below, which details the extent of the existing surface covering. Please also refer to the Topographical Survey included in APPENDIX 2 of this report, for additional information.

Table 1 - Existing Site Surface Area Breakdown

Area	Material	Surface Area (m ²)
Existing buildings	Roofs, driveway, patios	460
Green open space	Grassland, fields, lawn	21,945
Total		21,405

2.1.2 The existing site does not have an existing surface water drainage connection to the public sewer network or a watercourse.

2.1.3 The existing topography of the site indicates that overland flow from the green open space area will be from the north to south across the development site. Refer to the FRA for more information on overland flow and the risk of flooding.

2.1.4 There are no surface water manholes indicated around the existing building and due to the fact that there is no existing surface water sewer in the vicinity of the existing buildings it is assumed that the existing buildings either discharge via an onsite soakaway or through a combined connection into the existing foul sewer (see below). There is no record of a soakaway on site, therefore it is assumed that there is a combined connection to the existing foul sewer.

2.1.5 There is an existing Thames Water surface water sewer approximately 100m to the south of the development to which a connection could be made. A pre-development application was submitted to Thames Water detailing the proposed development. Thames Water have confirmed that their existing infrastructure is suitable to accommodate the proposed new development and that there is capacity within the Thames Water surface sewer network located in School Lane. A copy of the correspondence and the asset map are included in APPENDIX 3 of this report.

2.2 Existing Foul Water Drainage

2.2.1 The proposed development site is located within the Thames Water (TW) public sewer area of operation. There is an existing Thames Water foul sewer pipeline (Ø150) located on the development site, which runs in an easterly direction, towards School Lane. In addition to this there is an existing Thames Water foul sewer which runs north to south along School Lane. Existing manhole 7301 is positioned in the location of the proposed new access onto School Lane. Please refer to the Thames Water asset map, included in APPENDIX 3 of this report, for the layout and information pertaining to the existing foul sewer pipeline. This foul sewer pipeline is proposed to be maintained, with minor amendments to the existing route, to accommodate the proposed new development.

2.2.2 Following discussions with Thames Water, it was confirmed by the engineer that any works to divert the existing sewer would need to be progressed with an appropriate Section 185 application to Thames Water. This will be progressed at the detail design stage of the project.

Appendix B

- 2.2.3 The existing Thames Water foul sewer on the development is believed to serve the existing dwellings to the northern boundary of the site, together with the dwellings along Church Lane, to the north, and Saint Mary's Church, also to the north (incoming connection at MH 5401).
- 2.2.4 All existing foul sewer connections, apart from the two dwellings to be demolished on site, are proposed to be maintained as part of the development works.
- 2.2.5 There is one existing Thames Water manhole located within the site boundary, summarised below in Table 2 (information from existing Thames Water Asset Map).

Table 2 - Existing Thames Water Manhole Information

Manhole Ref	Cover Level (m)	Invert Level (m)	Connections
MH 5401	97.89	96.14	150mm Ø from unknown MH in Hole Lane to the north 150mm Ø from MH 4301 to the west 150mm Ø going to MH 6401 to the east

- 2.2.6 It is believed that the existing dwelling to be demolished on site has a positive foul sewer drainage connection to the Thames Water network, and this should be confirmed at the detail design stage of the project.
- 2.2.7 A pre-development application was submitted to Thames Water detailing the proposed development. Thames Water have confirmed that their existing infrastructure is suitable to accommodate the proposed new development and that there is capacity within the Thames Water foul sewer network located in School Lane. A copy of the correspondence and the asset map are included in APPENDIX 3 of this report.

Appendix B

3 PROPOSED DEVELOPMENT DRAINAGE

3.1 Proposed Surface Water Drainage

3.1.1 The proposed development will include a significant increase in impermeable area due to the change from an existing greenfield site to a residential development, including 34 new dwellings, access roads, footpaths, drives and roof area. A summary of the proposed new impermeable surface areas is included in Table 3 below.

Table 3 - Proposed Site Impermeable Surface Area Breakdown

Area	Surface Area (m ²)
Proposed roof area	2,971
Carriageway (Adoptable)	233
Carriageway (Private)	1,854
Footpath (Adoptable)	95
Footpath (Private)	359
Private drives and car parking areas	2,132
Total	7644

3.1.2 The proposed new development layout will decrease the overall impermeable area of the site by approximately 34% (from 460m² to 7,644m²). Refer to the proposed impermeable areas layout included in APPENDIX 4 of this report.

3.1.3 In order to calculate the greenfield runoff rate for the site, the existing mean annual maximum flow rate (Q_{bar}) has been calculated using the IH124 (Marshall & Bayliss, 1994) method (please refer to APPENDIX 5 of this report for the detailed calculations). In accordance with the IH124 method, the Q_{bar} for a 50ha site was calculated and then adjusted down on a pro rata basis to accommodate the actual impermeable development area. The Q_{bar} for a 50ha site at the development location was calculated to be **103.27 l/s**. The Q_{bar} for the actual area of the proposed development site was calculated as **4.42 l/s** and the greenfield run-off rate for the 1 in 1 year event was calculated as **3.76 l/s**. A summary of the existing surface water discharge rates for various storm events is included below in Table 4.

Table 4 - Existing Catchment Surface Water Runoff Rate Summary

Description	Area (ha)	Q_{bar} (l/s)	1 year (l/s)	5 year (l/s)	10 year (l/s)	30 year (l/s)	100 year (l/s)
GRR _{50ha}	50	9.52	-	-	-	-	-
GRR _{Proposed}	2.14	4.42	3.76	5.66	7.16	10.61	14.10

3.1.4 Following a review by the Lead Local Flood Authority (LLFA), and as agreed during a previously submitted Flood Risk Assessment and Drainage Strategy, a proposed discharge rate of **3.7 l/s** has been used, with a flow control chamber to be used to control this. Please refer to the correspondence found in APPENDIX 6 regarding comments from the previous planning application.

- 3.1.5 It is proposed to provide permeable paving within the private driveways and parking areas to manage surface water runoff as close to the source as possible in these areas. Due to the unsuitability of the site for infiltration (refer to section 3.1.16 below and the FRA) surface water will not infiltrate from the permeable paving subbase into the ground, but instead the subbase will collect the surface water runoff and convey it into the proposed surface water network described below. It is proposed that where possible, roof drainage would be directed to the permeable paving but not all roof drainage can be accommodated this way due to level differences and the location of the proposed rainwater downpipes.
- 3.1.6 The proposed roofs and footpaths (where they do not runoff or discharge into an area of permeable paving or soft landscaping) and access road will connect into a below ground piped drainage system, via road gullies.
- 3.1.7 Both the permeable paving and below ground piped drainage system will connect into an attenuation pond where surface water will be attenuated and discharged at the controlled rate of 3.7 l/s as discussed above through the use of the flow control chamber downstream of the attenuation pond.
- 3.1.8 Due to the topography of the site, which falls from northwest to southeast, and low risk of flooding from overland flow, the proposed surface water system will be designed to accommodate up to and including the **1:100 year + 40% for climate change rainfall event**. The drainage system will be designed to ensure there will be no flooding on site up to and including the 1:100 year + 40% for climate change rainfall event to reduce the risk of flooding onto adjacent properties during the extreme rainfall event.
- 3.1.9 An assessment of the proposed surface water drainage system has been undertaken and the peak flow rates and storage requirements have been calculated using the Wallingford Procedure (Design and analysis of Urban Storm Durations), Volume 4, The Modified Rational Method. Please refer to APPENDIX 5 of this report for the detailed calculations.
- 3.1.10 A summary of the storage volumes is included in Table below.

Table 5 - Summary of Storage Requirements

Storm	Rainfall Depth (mm)	Intensity (mm/hr)	Q _{max} (l/s)	Storage Volume (m ³)
M2-240	24	6.00	12.11	121.1
M30-360	48	8.02	16.18	269.6
M100-360	63	10.42	21.02	374.2
M100-600 + 40%	96	9.63	19.43	566.3

- 3.1.11 The total estimated storage volume of attenuation required is **567m³**.
- 3.1.12 As detailed previously in this report, it is proposed to include this attenuation storage within an attenuation pond on site. The pond is proposed to be a “wet pond” which will include both permanent and temporary storage of the surface water runoff. The outlet structure will create a permanent pool of water to the base of the ponds, which promote the removal of pollutants and sediment and also provide ecological, aesthetic and amenity benefits. The permanent water within the pond will have a volume, to be determined at detailed design stage, in addition to the volume described above, required for temporary storage.
- 3.1.13 Please refer to the Proposed Drainage Strategy, included in APPENDIX 4 of this report, for the location of the pond and permeable paving.

Appendix B

- 3.1.14 In accordance with the Hampshire County Council "Surface Water and Sustainable Drainage Guidance for Developers, Designers and Planners", Sustainable Drainage Systems (SuDS) are designed to mimic the natural drainage of surface water, typically managing rainfall close to where it falls. Surface water flows are slowed and then discharged at a controlled rate before entering a watercourse.
- 3.1.15 We have reviewed the disposal hierarchy for the discharge of surface water as set out in this document, which includes:
- (i) Into the ground (infiltration)
 - (ii) To a surface water body
 - (iii) To a surface water sewer, highway drain or another drainage system
 - (iv) To a combined sewer
- 3.1.16 (i) As discussed in the FRA, the site is partially within a source protection zone and above a principal aquifer. Due to this and following an objection from the LLFA on a previous FRA and drainage strategy (refer to APPENDIX 6), this site is not considered suitable for infiltration.
- 3.1.17 (ii) The closest watercourse to the site is circa 550m to the east, which would require any proposed surface water discharge pipeline to cross the public highway and a number of third-party land parcels. Therefore, discharge to a surface water body is not considered suitable for this site.
- 3.1.18 (iii) There is no existing surface water sewer connection at the development site. However, there is an existing Thames Water surface water sewer circa 100m to the south of the proposed development. We have approached Thames Water and submitted a pre-development application to determine whether their existing surface water sewer, located on Eggars Field and School Lane, has sufficient capacity to accommodate the proposed surface water discharge for the proposed development and Thames Water have confirmed that the existing surface water sewer does have capacity based on the proposed discharge rate of 3.7 l/s (refer to APPENDIX 3).
- 3.1.19 Therefore, discharge to a surface water sewer is considered to be the appropriate discharge method for this site.
- 3.1.20 As the existing Thames Water surface water sewer is some distance from the development site a Section 98 application will be required to be made to Thames Water at detailed design stage, to requisition a new surface water sewer pipeline to extend up School Lane from the junction of Eggars Field and School Lane to the proposed new access to the development on School Lane. Please refer to APPENDIX 4 for the proposed layout.

3.2 Proposed Foul Water Drainage

- 3.2.1 The proposed new development will include the construction of 34 dwellings. In accordance with the "Design and Construction Guidelines" (the DCG), the peak design flow rate for dwellings should be either:
- Calculated in accordance with BS EN 12056-2 System II; or
 - 4000 l/day/dwellings (0.05 l/s/dwelling) – This is THE design peak flow rate and not a daily average water usage.

Appendix B

- 3.2.2 In accordance with the above, the foul water peak flow rate for the overall development was calculated to be **1.7 l/s** (4000 l/dwelling/day).
- 3.2.3 The existing Thames Water foul sewer is proposed to be diverted as shown on the Proposed Drainage Strategy, included in APPENDIX 4 of this report, to accommodate the new development layout. At the detail design stage, this proposed diversion will be discussed in detail with Thames Water, together with applying for a Section 185 diversion agreement.
- 3.2.4 The majority of the site will discharge via a new foul water connection to School Lane, into the existing Thames Water manhole 7301. Manhole 7301 is located where the proposed new access to School Lane is located, and the proposed new onsite foul drainage network would predominantly follow the alignment of the proposed new access road through the site. An application for a Section 106 direct connection will be discussed and submitted to Thames Water at the detail design stage of the project.
- 3.2.5 The existing dwelling to be maintained to the northwest corner of the development will have its existing foul sewer connection amended to tie into the new foul water network on site.
- 3.2.6 The existing foul water pipeline, which serves Church Lane, will be maintained but will be part of the proposed diversion works. A new manhole is proposed to be installed on the existing pipeline to accommodate the diversion and the existing discharge will tie into the proposed new diverted foul sewer.
- 3.2.7 All proposed applications to Thames Water should be progressed once planning consent had been awarded and the detail design of the foul water drainage system to the new development has been completed.

Appendix B

4 CONCLUSION

- 4.1.1 The proposed new development site is currently not served by any positive surface water drainage system and as such, there is no existing surface water connection point to discharge off site.
- 4.1.2 The new surface water drainage system for the development will collect surface water runoff via a combination of permeable paving and gullies, to an underground drainage system which will discharge to an attenuation pond located to the southeast of the development site. The attenuation pond is sized to approximately **567m³** of attenuation volume which will accommodate surface water runoff for storm events up to and including the **1:100 year + 40% for climate change rainfall event** based on a discharge rate of **3.7l/s**. The pond will discharge water by means of a flow control chamber to a new Thames Water surface water sewer which is to be requisitioned along School Lane.
- 4.1.3 The attenuation pond is proposed to be a “wet pond”, which means there will be a pool of water to the bottom of the pond. This “wet pond” will provide added biodiversity and amenity enhancements by providing a habitat area for both fauna and flora to thrive, together with allowing for the settlement of sediment and pollutants, in accordance with SuDS principals.
- 4.1.4 The proposed new foul water drainage system will incorporate the existing Thames Water public foul drainage pipeline, which runs west to east through the centre of the development site. It is proposed to include a new foul water discharge to the existing Thames Water public sewer network located on School Lane to accommodate the areas of the site that are unable to discharge to the existing foul sewer due to topographic restriction. The proposed peak foul water discharge rate for the development is **1.7 l/s**.
- 4.1.5 All proposed applications to Thames Water are to be progressed once planning consent has been awarded and the detailed design of the surface and foul water drainage systems to the new development have been completed.

Appendix B

APPENDIX 1 PROPOSED SITE LAYOUT

Appendix B



Appendix B

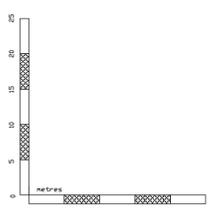
APPENDIX 2 TOPOGRAPHICAL SURVEY

THE MEAD DURLEY BROOK ROAD DURLEY SOUTHAMPTON HAMPSHIRE SO32 2AR TEL : 023 8060 1876 MOBILE - 07973 348165 EMAIL - PAUL@PSTUBBINGTONSURVEYS.COM
CLIENT - CAMPING PROPERTY
CONTRACT - HOLE LANE BENTLEY
TITLE - TOPOGRAPHIC SURVEY
SCALE - 1:500 @A1
DRAWING NO. B279/01 OF 02 REV A
DATE - MARCH 2020
SURVEYOR - SD - RD - PS

KEY:	British Telecom
bt	Central Box
cb	Cover Level
cl	Cable Television
ctv	Drop Kerb
dk	Electric
el	Electricity Pole
ep	Fire Hydrant
fh	Gully
gv	Gas Stop Valve
gsv	Height
ht	Inspection Cover
ic	Invert Level
il	Lamp Post
lp	Marker
mr	Overhead
oh	Post Box
pb	Prism Crossing
pc	Name Plate
np	Road Sign
rs	Stop Valve
sv	Telephone Box
tb	Traffic Light
tl	Top of Tree
tt	Threshold
th	Top of Wall
tw	Unable to Lift
utl	Vents pipe
vp	Water Meter
wm	Water Stop Valve
wsv	



NOTES:
LEVELS RELATE TO O.S. DATUM
TREE SPECIES SHOULD BE VERIFIED WHERE OF
CRITICAL IMPORTANCE
THE ARCHITECT SHOULD SATISFY HIMSELF THAT ALL TREES
LIKELY TO AFFECT HIS DESIGN HAVE BEEN SHOWN
ENTER CONNECTION OF MANHOLES SHOULD BE VERIFIED
WHERE OF CRITICAL IMPORTANCE USING CCTV
PIPE SIZES & INVERTS DETERMINED WITHOUT
ENTRY INTO MANHOLE.
ALL DIMENSIONS & LEVELS SHOWN IN METRES
ON SITE DIMENSION ACCURACY IS TAKEN RELATIVE TO
THE PRINTED SCALE AND SHOULD BE CHECKED ON SITE
WHERE OF CRITICAL IMPORTANCE



Appendix B

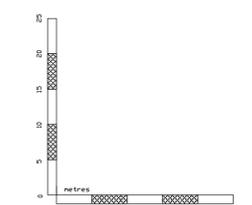
REV A - 20/3/20 - SURVEY UPDATED

P STUBBINGTON
LAND SURVEYS LTD

- | | |
|------|------------------|
| KEY: | |
| bt | British Telecom |
| cb | Control Box |
| cl | Cover Level |
| ctv | Cable Television |
| dk | Drop Kerb |
| el | Electric |
| ep | Electricity Pole |
| fh | Fire Hydrant |
| gv | Gully |
| gsv | Gas Stop Valve |
| ht | Height |
| ic | Inspection Cover |
| il | Invert Level |
| lp | Land Post |
| mk | Marker |
| o/h | Overhead |
| pb | Post Box |
| pk | Prism Crossing |
| np | Name Plate |
| rs | Road Sign |
| sv | Stop Valve |
| tb | Telephone Box |
| tl | Traffic Light |
| tt | Top of Tree |
| th | Threshold |
| tw | Top of Wall |
| utl | Unable to Lift |
| vp | Vent pipe |
| wm | Water Meter |
| wsv | Water Stop Valve |



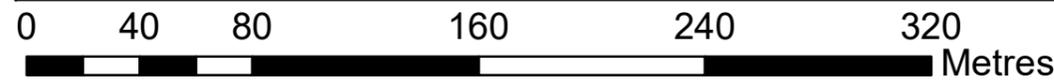
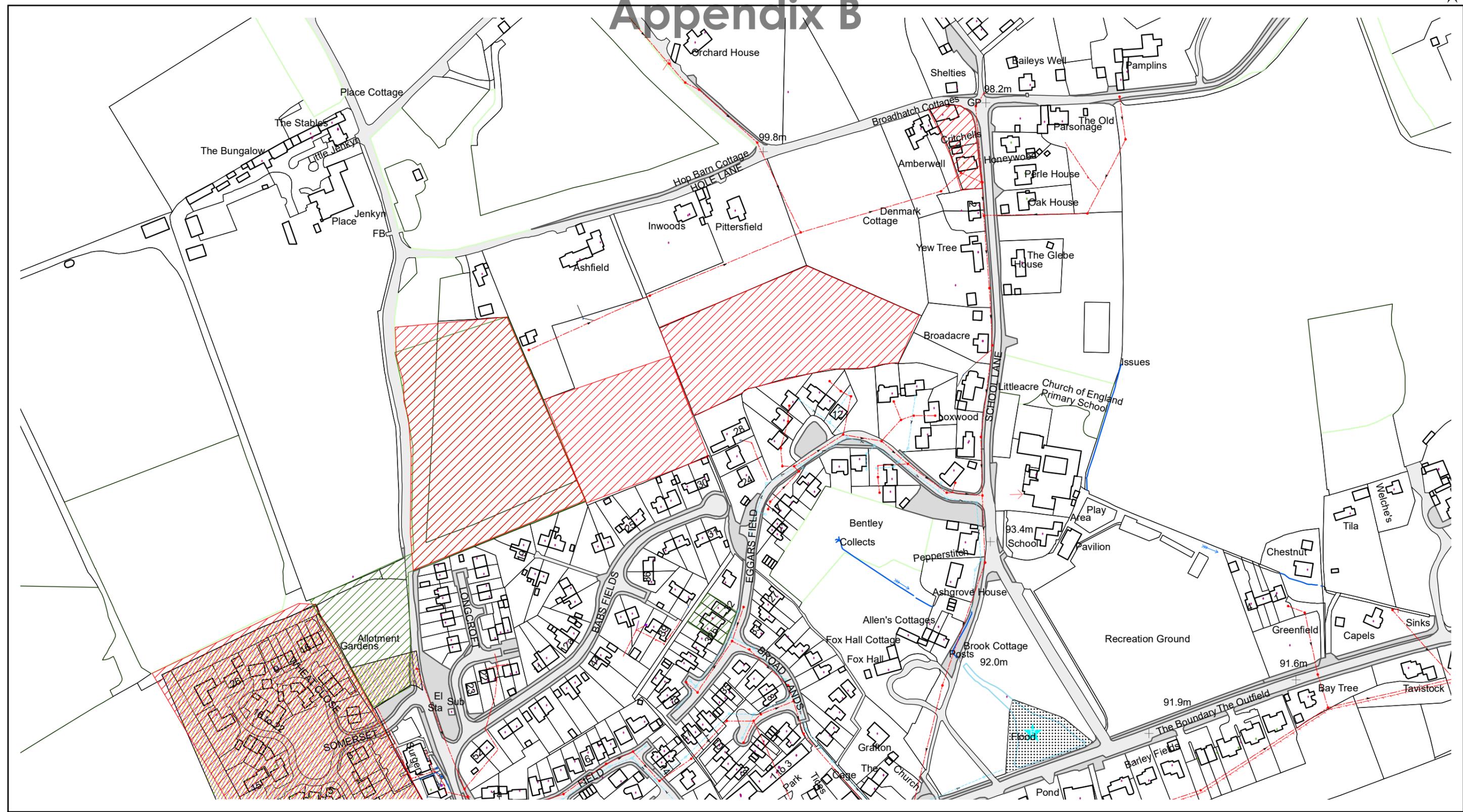
NOTES
LEVELS RELATE TO OS DATUM
TREE SPECIES SHOULD BE VERIFIED WHERE OF
CRITICAL IMPORTANCE
THE ARCHITECT SHOULD SATISFY HIMSELF THAT ALL TREES
LIKELY AFFECT HIS DESIGN HAVE BEEN SHOWN
INTER CONNECTION OF MANHOLES SHOULD BE VERIFIED
WHERE OF CRITICAL IMPORTANCE USING CCTV
PIPE SIZES & INVERTS DETERMINED WITHOUT
ENTRY INTO MANHOLE
ALL DIMENSIONS & LEVELS SHOWN IN METRES
ON SITE DIMENSION ACCURACY IS TAKEN RELATIVE TO
THE PRINTED SCALE AND SHOULD BE CHECKED ON SITE
WHERE OF CRITICAL IMPORTANCE



Appendix B

APPENDIX 3 THAMES WATER RECORDS AND CORRESPONDANCE

Thames Water Appendix B



The position of any boundary or apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. No liability of any kind whatsoever is accepted by Thames Water for any error or omission.

Printed At (A3) :1:2500
Printed By :ZKAZI
Print Date :06/04/2020
Map Centered On :478535,144318
Grid Reference :SU7844

Appendix B



RGP Consulting Engineers Ltd.
30 Stamford Street,
London,
SE1 9LQ



17 August 2022

Pre-planning enquiry: Confirmation of sufficient capacity

Site: Land West of School Lane, Bentley, GU10 5LT

Dear [REDACTED]

Thank you for providing information on your development.

Drainage Strategy

Proposed site: Housing 38 units.

Proposed foul water discharge by gravity into manhole SU78447301.

Proposed surface water discharge at 3.7 l/s for all storm events up to and including 1:100yr+40%CC into manhole SU78447250.

We have completed the assessment of the foul water flows and surface water flows based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

Foul Water

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in our network to serve foul flows from your development.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.

Surface Water

In accordance with the Building Act 2000 Clause H3.3, positive connection of surface water to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. Before we can consider your surface water needs, you'll need written approval from the lead local flood authority that you have followed the sequential approach to the disposal of surface water and considered all practical means.

Appendix B



The disposal hierarchy being:

1. rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
2. rainwater infiltration to ground at or close to source
3. rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
4. rainwater discharge direct to a watercourse (unless not appropriate)
5. controlled rainwater discharge to a surface water sewer or drain
6. controlled rainwater discharge to a combined sewer

Where connection to the public sewerage network is still required to manage surface water flows, we will accept these flows at a discharge rate in line with CIRIA's best practice guide on SuDS or that stated within the sites planning approval.

If the above surface water hierarchy has been followed and if the flows are restricted as described in the drainage strategy, then Thames Water would not have any objections to the proposal.

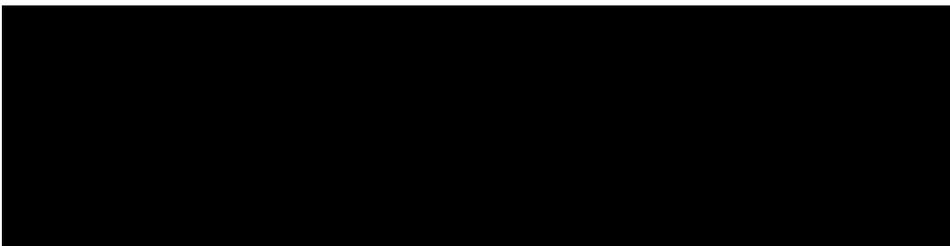
Please see the attached 'Planning your wastewater' leaflet for additional information.

What happens next?

Please make sure you submit your connection application, giving us at least 21 days' notice of the date you wish to make your new connection/s.

If you have any further questions, please contact me on 07747647155.

Kind Regards,



Appendix B

APPENDIX 4 RGP DRAINAGE PLANS



99.8m

Appendix B

Critchells

Amberwell

Hone

Hop Barn Cottage
HOLE LANE

Pittersfield

Yew Tree
Cottage

Pods

- NOTES:
- DO NOT SCALE OFF THE DRAWING.
 - ALL MEASUREMENTS ARE IN mm UNLESS OTHERWISE NOTED.
 - EXISTING SITE AREA = 21,405m² (2.14ha)
 - DRAWING BASED ON SITE LAYOUT PLAN BY RE-FORMAT ARCHITECTS, DRAWING REF: "LAYOUT ON SURVEY 1.500 AT A1.JPEG", RECEIVED 23.08.22.
 - ALL NEW ACCESS ARRANGEMENTS TO THE PUBLIC HIGHWAY TO BE DESIGNED IN ACCORDANCE WITH THE HAMPSHIRE COUNTY COUNCIL HIGHWAY DESIGN GUIDE. WORKS TO BE UNDERTAKEN UNDER A SUITABLE HIGHWAYS AGREEMENT WITH THE COUNCIL.

- LEGEND:
- ROOF AREA (2,971m²)
 - PRIVATE DRIVES AND PARKING AREAS (2,132m²)
 - CARRIAGEWAY (1,854m²)
 - ADOPTABLE CARRIAGEWAY (233m²)
 - FOOTPATHS (359m²)
 - ADOPTABLE FOOTPATHS (95m²)
 - SITE BOUNDARY

P1	ISSUED FOR PLANNING	GE	25.08.22
Revision	Description	By	Date

Godalming Office
Shackleford Suite, Mill Pool House
Mill Lane, Godalming
GU7 1EY

[T]: 01483 861 681
[F]: 01438 861 682
[e]: enquiries@rgp.co.uk
www.rgp.co.uk

RGP

Godalming & London

Transport Planning and Infrastructure Design Consultants

Client
CAMPING PROPERTY

Project
**BENTLEY PROMOTIONS
HOLE LANE, BENTLEY, GU10 5LT**

Drawing Title
PROPOSED IMPERMEABLE AREAS

Issue Status

INFORMATION PRELIMINARY TENDER CONSTRUCTION RECORD COPY

Scale	Date Issued	Drawn	Checked	Approved
1:500 @ A2	AUGUST 2022	GE	HJ	CB

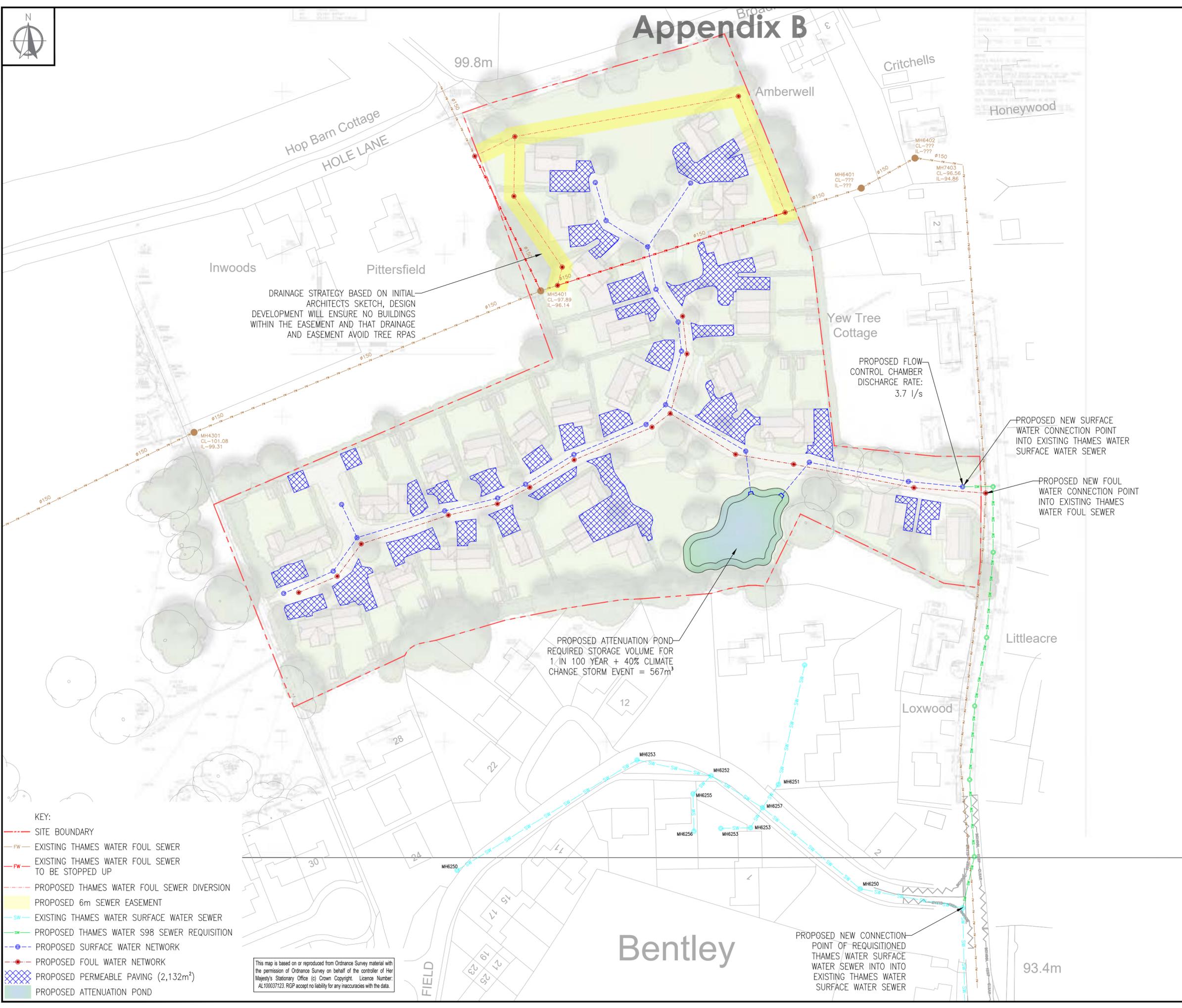
Drawing Number	Revision
6663-RGP-ZZ-00-SK-C-0001	P1

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Loxwood



Appendix B



DRAINAGE STRATEGY BASED ON INITIAL ARCHITECTS SKETCH, DESIGN DEVELOPMENT WILL ENSURE NO BUILDINGS WITHIN THE EASEMENT AND THAT DRAINAGE AND EASEMENT AVOID TREE RPAS

PROPOSED FLOW CONTROL CHAMBER DISCHARGE RATE: 3.7 l/s

PROPOSED NEW SURFACE WATER CONNECTION POINT INTO EXISTING THAMES WATER SURFACE WATER SEWER

PROPOSED NEW FOUL WATER CONNECTION POINT INTO EXISTING THAMES WATER FOUL SEWER

PROPOSED ATTENUATION POND REQUIRED STORAGE VOLUME FOR 1/IN 100 YEAR + 40% CLIMATE CHANGE STORM EVENT = 567m³

PROPOSED NEW CONNECTION POINT OF REQUISITIONED THAMES/WATER SURFACE WATER SEWER INTO INTO EXISTING THAMES WATER SURFACE WATER SEWER

- KEY:
- - - SITE BOUNDARY
 - - - EXISTING THAMES WATER FOUL SEWER
 - - - EXISTING THAMES WATER FOUL SEWER TO BE STOPPED UP
 - - - PROPOSED THAMES WATER FOUL SEWER DIVERSION
 - PROPOSED 6m SEWER EASEMENT
 - - - EXISTING THAMES WATER SURFACE WATER SEWER
 - - - PROPOSED THAMES WATER S98 SEWER REQUISITION
 - - - PROPOSED SURFACE WATER NETWORK
 - - - PROPOSED FOUL WATER NETWORK
 - PROPOSED PERMEABLE PAVING (2,132m²)
 - PROPOSED ATTENUATION POND

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- NOTES:
1. DO NOT SCALE OFF THE DRAWING.
 2. ALL MEASUREMENTS ARE IN mm UNLESS OTHERWISE NOTED.
 4. DRAWING BASED ON SITE LAYOUT PLAN BY RE-FORMAT ARCHITECTS, DRAWING REF: "LAYOUT ON SURVEY 1.500 AT A1.JPEG", RECEIVED 23.08.22.
 5. ALL WORKS TO THE EXISTING THAMES WATER FOUL SEWER TO BE AGREED WITH THAMES WATER. APPROPRIATE S98, S106 AND S185 APPLICATIONS TO BE SUBMITTED AND AGREED PRIOR TO ANY WORKS BEING UNDERTAKEN.
 6. PROPOSED FOUL SEWER DIVERSION SUBJECT TO DETAIL DESIGN, EXISTING LEVELS SURVEY AND APPROPRIATE GRADIENT BEING ACHIEVED ALONG PROPOSED DIVERSION ROUTE.
 7. ALL PROPOSED FW AND SW LOCATED WITHIN THE PUBLIC HIGHWAY TO REMAIN PRIVATE AND THE RESPONSIBILITY OF A PRIVATE MANAGEMENT COMPANY.
 8. PROPOSED JUNCTION ONTO SCHOOL LANE TO BE OFFERED TO HAMPSHIRE COUNTY COUNCIL FOR ADOPTION UNDER SUITABLE S38 AGREEMENT.
 9. PROPOSED SURFACE WATER NETWORK TO DISCHARGE TO NEWLY REQUISITIONED THAMES WATER SURFACE WATER SEWER TO SCHOOL LANE. (SUBJECT TO S98 APPLICATION WITH THAMES WATER)
 10. SURFACE WATER DRAINAGE SYSTEM DESIGNED TO ACCOMMODATE 1:100 YEAR + 40% FOR CLIMATE CHANGE RAINFALL EVENT.
 11. SURFACE WATER DRAINAGE SYSTEM, DESIGNED TO ACCOMMODATE PROPOSED DISCHARGE RATE OF 3.7 l/s FOR DEVELOPMENT SITE. (AS AGREED WITH THAMES WATER)
 12. ATTENUATION POND DESIGNED TO ACCOMMODATE 567m³ OF SURFACE WATER STORAGE. PONDS TO BE LINED TO PREVENT INFILTRATION INTO THE SURFACE OF THE SURROUNDING GROUND.
 13. ATTENUATION POND SIZING AND FINAL LAYOUT WILL BE SUBJECT TO DETAILED MODELING OF THE DRAINAGE NETWORK AND CO-ORDINATION WITH THE ARCHITECT, ARBORICULTURIST, ECOLOGIST AND LANDSCAPE ARCHITECT AT THE DETAILED DESIGN STAGE OF THE PROJECT.
 14. PERMEABLE PAVING SUBBASE TO BE LINED TO PREVENT INFILTRATION INTO THE SURFACE OF THE SURROUNDING GROUND. PERMEABLE PAVING SUBBASE DEPTH REQUIREMENTS TO BE DESIGNED AT DETAILED DESIGN STAGE AND IS SUBJECT TO SITE CBRS AND WELL AS HYDRAULIC CALCULATIONS.
 15. PRIVATE DRAINAGE TO DWELLINGS NOT SHOWN FOR CLARITY.
 16. TO BE READ IN CONJUNCTION WITH THE DRAINAGE STRATEGY REPORT: 6663-RGP-ZZ-00-RP-C-0501

P2	DRAINAGE DIVERSION ROUTE AMENDED	HJ	14.09.22
P1	ISSUED FOR PLANNING	HJ	25.08.22
Revision	Description	By	Date

Godalming Office
Shackleford Suite, Mill Pool House
Mill Lane, Godalming
GU7 1EY

RGP

[T]: 01483 861 681
[F]: 01438 861 682
[e]: enquiries@rgp.co.uk
www.rgp.co.uk

TRANSPORT PLANNING AND INFRASTRUCTURE DESIGN CONSULTANTS

GODALMING & LONDON

Client
CAMPING PROPERTY

Project
**BENTLEY PROMOTIONS
HOLE LANE, BENTLEY, GU10 5LT**

Drawing Title
PROPOSED DRAINAGE STRATEGY

Issue Status

INFORMATION PRELIMINARY TENDER CONSTRUCTION RECORD COPY

Scale	Date Issued	Drawn	Checked	Approved
1:750 @ A2	AUGUST 2022	HJ	AO	CB

Drawing Number	Revision
6663-RGP-XX-00-SK-C-0500	P2

Appendix B



APPENDIX 5 RGP DRAINAGE CALCULATIONS

Project: School Lane
 Number: 6663
 Date: 24/08/2022
 Engineer: Helen Jolly

Appendix B



Revision: 1

IH124 Greenfield Runoff Rate Calculation

Information

AREA	50	ha
SAAR	779	mm
SPR	0.3	
Hydrological Area	6	

(www.uksuds.com)
 (www.uksuds.com)
 Fig. 24.1 - SuDS Manual

$$Q_{bar} = 0.00108 \times AREA^{0.89} \times SAAR^{1.17} \times SPR^{2.17}$$

Q_{bar} (50 ha) **103.27** l/s (for 50ha site)

Development Site Area 21405 m² (impermeable development site area)

Q_{bar} (site)	4.42 l/s (for development site)
------------------	--

	GC Value	GRR per ha (l/s/ha)	GRR (l/s)
Q_{1yr}	0.85	1.76	3.76
Q_{2yr}	0.88	1.82	3.89
Q_{5yr}	1.28	2.64	5.66
Q_{10yr}	1.62	3.35	7.16
Q_{30yr}	2.4	4.96	10.61
Q_{50yr}	2.62	5.41	11.58
Q_{100yr}	3.19	6.59	14.1

Notes:

1. Growth Curve values (GC) from Table 24.2, CIRIA 753 - SuDS Manual
2. Hydrological Area from Fig 24.1, CIRIA 753 - SuDS Manual
3. No provision has been included for the Greenfield Runoff Volume as the drainage system will be designed to accommodate a restricted discharge rate equal to the Q_{bar} rate for the development. (Approach 2 in Section 7.1.6 of this FRA)



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

EXISTING SITE RUNOFF CALCULATION

Existing Site Information

Total Development Site Area	21405	m ²
Permeable Site Area	13761	m ²
Roof Area	2971	m ²
Hardstanding Area	4673	m ²
Runoff Coefficient	95%	(fill in as decimal)
Climate Change Allowance	40%	

Rainfall Data:

The Existing Site Runoff has been calculated using the 'Design and Analysis of Urban Storm Drainage - Wallingford Procedure Vol 4 - Modified Rational Method'

Site Post Code	GU10 5LT
M5-60	20 mm
r	0.4

from
www.uksuds.com

Storm	Z1	Rainfall Depth (mm)
M5-5	0.37	7
M5-10	0.52	10
M5-15	0.63	13
M5-30	0.8	16
M5-60	1	20
M5-120	1.21	24
M5-240	1.45	29
M5-360	1.6	32
M5-600	1.79	36
M5-1440	2.24	45

Existing Surface Water Runoff

(From Table A1 - Volume 4 - Modified Rational Method)

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M2-5	0.79	6	70.15	141.51	42.45
M2-10	0.79	8	49.30	99.44	59.66
M2-15	0.80	10	40.12	80.93	72.83
M2-30	0.80	13	25.66	51.77	93.18
M2-60	0.81	16	16.20	32.68	117.64
M2-120	0.82	20	9.90	19.97	143.75
M2-240	0.83	24	6.00	12.11	174.37
M2-360	0.83	27	4.44	8.95	193.34
M2-600	0.84	30	2.99	6.04	217.34
M2-1440	0.85	38	1.58	3.18	274.90



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

EXISTING SITE RUNOFF CALCULATION

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)
M30-5	1.45	11	128.94	260.09	78.03
M30-10	1.49	15	92.98	187.55	112.53
M30-15	1.51	19	76.20	153.72	138.35
M30-30	1.53	24	48.96	98.76	177.77
M30-60	1.54	31	30.87	62.26	224.15
M30-120	1.54	37	18.58	37.47	269.81
M30-240	1.52	44	11.00	22.19	319.54
M30-360	1.50	48	8.02	16.18	349.50
M30-600	1.49	53	5.32	10.73	386.15
M30-1440	1.44	65	2.69	5.43	469.56

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)
M100-5	1.84	14	163.21	329.23	98.77
M100-10	1.91	20	119.18	240.41	144.25
M100-15	1.96	25	98.68	199.06	179.15
M100-30	2.00	32	63.94	128.97	232.15
M100-60	2.03	41	40.60	81.90	294.83
M100-120	2.01	49	24.37	49.16	353.93
M100-240	1.98	57	14.34	28.93	416.55
M100-360	1.95	63	10.42	21.02	454.07
M100-600	1.92	69	6.88	13.88	499.67
M100-1440	1.85	83	3.45	6.97	601.86

Storm	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)
M100-5 + 40%	19.04	228.50	460.92	138.28
M100-10 + 40%	27.81	166.86	336.58	201.95
M100-15 + 40%	34.54	138.16	278.68	250.82
M100-30 + 40%	44.76	89.51	180.56	325.00
M100-60 + 40%	56.84	56.84	114.66	412.76
M100-120 + 40%	68.23	34.12	68.82	495.50
M100-240 + 40%	80.31	20.08	40.50	583.17
M100-360 + 40%	87.54	14.59	29.43	635.69
M100-600 + 40%	96.33	9.63	19.43	699.53
M100-1440 + 40%	116.03	4.83	9.75	842.60



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

PROPOSED SITE RUNOFF CALCULATION

Proposed Site Information

Total Development Site Area	21405	m ²
Permeable Site Area	13761	m ²
Roof Area	2971	m ²
Hardstanding Area	4673	m ²
Runoff Coefficient	95%	(fill in as decimal)
Climate Change Allowance	40%	

The SW drainage system is to be designed for the 1:30 year storm event

Rainfall Data:

The Proposed Site Runoff has been calculated using the 'Design and Analysis of Urban Storm Drainage - Wallingford Procedure Vol 4 - Modified Rational Method'

Site Post Code	GU10 5LT
M5-60	20 mm
r	0.4

from
www.uksuds.com

Storm	Z1	Rainfall Depth (mm)
M5-5	0.37	7
M5-10	0.52	10
M5-15	0.63	13
M5-30	0.8	16
M5-60	1	20
M5-120	1.21	24
M5-240	1.45	29
M5-360	1.6	32
M5-600	1.79	36
M5-1440	2.24	45

Proposed Surface Water Runoff

(From Table A1 - Volume 4 - Modified Rational Method)

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M2-5	0.79	6	70.15	141.51	42.45
M2-10	0.79	8	49.30	99.44	59.66
M2-15	0.80	10	40.12	80.93	72.83
M2-30	0.80	13	25.66	51.77	93.18
M2-60	0.81	16	16.20	32.68	117.64
M2-120	0.82	20	9.90	19.97	143.75
M2-240	0.83	24	6.00	12.11	174.37
M2-360	0.83	27	4.44	8.95	193.34
M2-600	0.84	30	2.99	6.04	217.34
M2-1440	0.85	38	1.58	3.18	274.90



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

PROPOSED SITE RUNOFF CALCULATION

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M30-5	1.45	11	128.94	260.09	78.03
M30-10	1.49	15	92.98	187.55	112.53
M30-15	1.51	19	76.20	153.72	138.35
M30-30	1.53	24	48.96	98.76	177.77
M30-60	1.54	31	30.87	62.26	224.15
M30-120	1.54	37	18.58	37.47	269.81
M30-240	1.52	44	11.00	22.19	319.54
M30-360	1.50	48	8.02	16.18	349.50
M30-600	1.49	53	5.32	10.73	386.15
M30-1440	1.44	65	2.69	5.43	469.56

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M100-5	1.84	14	163.21	329.23	98.77
M100-10	1.91	20	119.18	240.41	144.25
M100-15	1.96	25	98.68	199.06	179.15
M100-30	2.00	32	63.94	128.97	232.15
M100-60	2.03	41	40.60	81.90	294.83
M100-120	2.01	49	24.37	49.16	353.93
M100-240	1.98	57	14.34	28.93	416.55
M100-360	1.95	63	10.42	21.02	454.07
M100-600	1.92	69	6.88	13.88	499.67
M100-1440	1.85	83	3.45	6.97	601.86

Storm	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)
M100-5 + 40%	19.04	228.50	460.92	138.28
M100-10 + 40%	27.81	166.86	336.58	201.95
M100-15 + 40%	34.54	138.16	278.68	250.82
M100-30 + 40%	44.76	89.51	180.56	325.00
M100-60 + 40%	56.84	56.84	114.66	412.76
M100-120 + 40%	68.23	34.12	68.82	495.50
M100-240 + 40%	80.31	20.08	40.50	583.17
M100-360 + 40%	87.54	14.59	29.43	635.69
M100-600 + 40%	96.33	9.63	19.43	699.53
M100-1440 + 40%	116.03	4.83	9.75	842.60



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

PROPOSED STORAGE CALCULATION - TOTAL CATCHMENT

Site Information

Total Development Site Area	21405 m ²
Permeable Site Area	13761 m ²
Roof Area	2971 m ²
Hardstanding Area	4673 m ²
Runoff Coefficient	95% (fill in as decimal)
Climate Change Allowance	40%

Discharge Rate
3.70 l/s

From "GRR" or
 "Existing Runoff" calc

The SW drainage system is to be designed for the 1:30 year storm event

Rainfall Data:

The Proposed Site Runoff has been calculated using the 'Design and Analysis of Urban Storm Drainage - Wallingford Procedure Vol 4 - Modified Rational Method'

Site Post Code	GU10 5LT
M5-60	20 mm
r	0.4

from
www.uksuds.com

Storm	Z1	Rainfall Depth (mm)
M5-5	0.37	7
M5-10	0.52	10
M5-15	0.63	13
M5-30	0.8	16
M5-60	1	20
M5-120	1.21	24
M5-240	1.45	29
M5-360	1.6	32
M5-600	1.79	36
M5-1440	2.24	45

Proposed Surface Water Runoff

(From Table A1 - Volume 4 - Modified Rational Method)

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m ³)	Outflow (m ³)	Storage (m ³)
M2-5	0.79	6	70.15	141.51	42.45	1.11	41.34
M2-10	0.79	8	49.30	99.44	59.66	2.22	57.44
M2-15	0.80	10	40.12	80.93	72.83	3.33	69.50
M2-30	0.80	13	25.66	51.77	93.18	6.66	86.52
M2-60	0.81	16	16.20	32.68	117.64	13.32	104.32
M2-120	0.82	20	9.90	19.97	143.75	26.64	117.11
M2-240	0.83	24	6.00	12.11	174.37	53.28	121.09
M2-360	0.83	27	4.44	8.95	193.34	79.92	113.42
M2-600	0.84	30	2.99	6.04	217.34	133.2	84.14
M2-1440	0.85	38	1.58	3.18	274.90	319.68	0.00



Project: School Lane, Bentley
 Number: 6663
 Date: 24/08/2022
 Engineer: HMJ

Appendix B



Rev: 1

PROPOSED STORAGE CALCULATION - TOTAL CATCHMENT

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)	Outflow (m³)	Storage (m³)
M30-5	1.45	11	128.94	260.09	78.03	1.11	76.92
M30-10	1.49	15	92.98	187.55	112.53	2.22	110.31
M30-15	1.51	19	76.20	153.72	138.35	3.33	135.02
M30-30	1.53	24	48.96	98.76	177.77	6.66	171.11
M30-60	1.54	31	30.87	62.26	224.15	13.32	210.83
M30-120	1.54	37	18.58	37.47	269.81	26.64	243.17
M30-240	1.52	44	11.00	22.19	319.54	53.28	266.26
M30-360	1.50	48	8.02	16.18	349.50	79.92	269.58
M30-600	1.49	53	5.32	10.73	386.15	133.2	252.95
M30-1440	1.44	65	2.69	5.43	469.56	319.68	149.88

Storm	Z2	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)	Outflow (m³)	Storage (m³)
M100-5	1.84	14	163.21	329.23	98.77	1.11	97.66
M100-10	1.91	20	119.18	240.41	144.25	2.22	142.03
M100-15	1.96	25	98.68	199.06	179.15	3.33	175.82
M100-30	2.00	32	63.94	128.97	232.15	6.66	225.49
M100-60	2.03	41	40.60	81.90	294.83	13.32	281.51
M100-120	2.01	49	24.37	49.16	353.93	26.64	327.29
M100-240	1.98	57	14.34	28.93	416.55	53.28	363.27
M100-360	1.95	63	10.42	21.02	454.07	79.92	374.15
M100-600	1.92	69	6.88	13.88	499.67	133.2	366.47
M100-1440	1.85	83	3.45	6.97	601.86	319.68	282.18

Storm	Rainfall Depth (mm)	Intensity (mm/hr)	Qmax (l/s)	Volume (m³)	Outflow (m³)	Storage (m³)
M100-5 + 40%	19	228.50	460.92	138.28	1.11	137.17
M100-10 + 40%	28	166.86	336.58	201.95	2.22	199.73
M100-15 + 40%	35	138.16	278.68	250.82	3.33	247.49
M100-30 + 40%	45	89.51	180.56	325.00	6.66	318.34
M100-60 + 40%	57	56.84	114.66	412.76	13.32	399.44
M100-120 + 40%	68	34.12	68.82	495.50	26.64	468.86
M100-240 + 40%	80	20.08	40.50	583.17	53.28	529.89
M100-360 + 40%	88	14.59	29.43	635.69	79.92	555.77
M100-600 + 40%	96	9.63	19.43	699.53	133.2	566.33
M100-1440 + 40%	116	4.83	9.75	842.60	319.68	522.92

Estimated Storage Requirement:

270 m³ (for 1:30 year storm event)
375 m³ (for 1:100 year storm event)
567 m³ (for 1:100 year + climate change storm event)



Appendix B

APPENDIX 6 PREVIOUS PLANNING CORRESPONDANCE

From:
Sent:
To:
Cc:
Subject:

Re: 20-0007 - Bentley Promotions - Land At Hole Lane

Greg,

I noted an ea objection, can this be overcome?

Environment Agency - (Southern Region)

Comment Date: Fri 05 Jun 2020

We have reviewed the information as submitted and set out our position and comments below.

Environment Agency position

We object to the planning application as submitted, because the proposed development would pose an unacceptable risk of pollution of groundwater. We recommend that planning permission should be refused on this basis, in line with paragraph 170 of the National Planning Policy Framework (NPPF).

Reasons

Our approach to groundwater protection is set out in 'The Environment Agency's approach to groundwater protection'. In implementing the position statements set out in our approach, we will oppose development proposals that may pollute groundwater, especially where the risk of pollution is high and the groundwater asset is of high value.

Groundwater is particularly sensitive in this location because the proposed development site is located within Source Protection Zone 3 and Principal Aquifer. In this case position statement G13 applies.

We consider that the proposed development poses an unacceptable risk of causing a detrimental impact to groundwater quality because:

It involves the discharge of contaminants/hazardous substances from roads into the ground; and

it proposes infiltration to ground which would open up pathways for contaminants to pollute groundwater.

The site overlies the Gault Clay. In order to reach permeable strata any borehole soakaway would have to penetrate depths beyond currently predicted piezometric surfaces. This approach would lead to a direct discharge to groundwater. If hazardous substances are discharged this would be a breach of the Groundwater Regulations (1998) Section 4(i). Overcoming our objection

To overcome our objection, the Applicant should provide information that demonstrates there will be no direct discharges of hazardous substances to groundwater. This information must satisfactorily demonstrate to the Local Planning Authority that the risks to controlled waters have been fully understood and can be addressed through appropriate measures.

Deep borehole soakaways are generally not recommended for areas where groundwater is sensitive. Please re-consult us on any additional information submitted and we will respond within 21 days of receiving it

Advice to the Local Planning Authority

If you are minded to approve the application contrary to our objection, please contact us to explain why material considerations outweigh our objection. This will allow us to make further representations. Should our objection be removed, it is likely we will recommend the inclusion of condition(s) on any subsequent approval.

Appendix B

In accordance with the Planning Practice Guidance (Ref. ID: 20150415), please notify us by email within 2 weeks of a decision being made or application withdrawn. Please provide us with a URL of the decision notice, or an electronic copy of the decision notice or outcome.

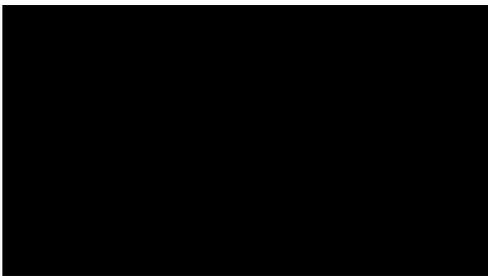


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On 5 May 2020 8:24 am, Gregory Schmidt <g.schmidt@rgp.co.uk> wrote:
Hello [REDACTED]

Please find attached the updated drainage strategy for the proposed new development.

Regards



Transport Planning and Infrastructure Design Consultants



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Appendix B



RGP – Transport Planning and Infrastructure Design Consultants

Surrey Office Shockeford Suite, Mill Pool House, Mill Lane, Godalming, Surrey GU7 1EY

London Office 1-2 Paris Gardens, London, SE1 8ND

enquiries@rgp.co.uk

T: 01483 861 681

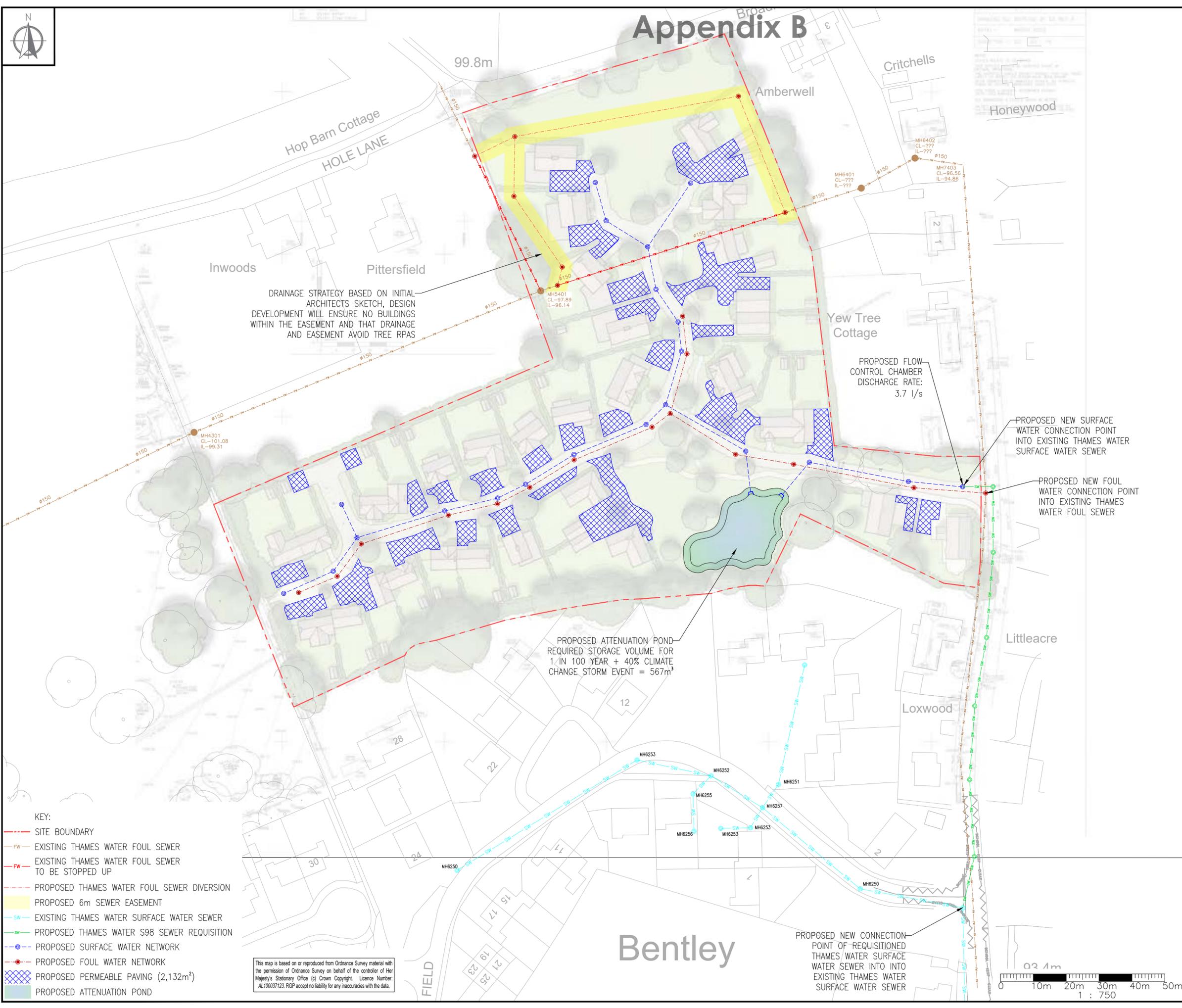
T: 020 7078 9662

www.rgp.co.uk





Appendix B



DRAINAGE STRATEGY BASED ON INITIAL ARCHITECTS SKETCH, DESIGN DEVELOPMENT WILL ENSURE NO BUILDINGS WITHIN THE EASEMENT AND THAT DRAINAGE AND EASEMENT AVOID TREE RPAS

PROPOSED FLOW CONTROL CHAMBER DISCHARGE RATE: 3.7 l/s

PROPOSED NEW SURFACE WATER CONNECTION POINT INTO EXISTING THAMES WATER SURFACE WATER SEWER

PROPOSED NEW FOUL WATER CONNECTION POINT INTO EXISTING THAMES WATER FOUL SEWER

PROPOSED ATTENUATION POND REQUIRED STORAGE VOLUME FOR 1/IN 100 YEAR + 40% CLIMATE CHANGE STORM EVENT = 567m³

PROPOSED NEW CONNECTION POINT OF REQUISITIONED THAMES/WATER SURFACE WATER SEWER INTO INTO EXISTING THAMES WATER SURFACE WATER SEWER

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- NOTES:
- DO NOT SCALE OFF THE DRAWING.
 - ALL MEASUREMENTS ARE IN mm UNLESS OTHERWISE NOTED.
 - DRAWING BASED ON SITE LAYOUT PLAN BY RE-FORMAT ARCHITECTS, DRAWING REF: "LAYOUT ON SURVEY 1.500 AT A1.JPEG", RECEIVED 23.08.22.
 - ALL WORKS TO THE EXISTING THAMES WATER FOUL SEWER TO BE AGREED WITH THAMES WATER. APPROPRIATE S98, S106 AND S185 APPLICATIONS TO BE SUBMITTED AND AGREED PRIOR TO ANY WORKS BEING UNDERTAKEN.
 - PROPOSED FOUL SEWER DIVERSION SUBJECT TO DETAIL DESIGN, EXISTING LEVELS SURVEY AND APPROPRIATE GRADIENT BEING ACHIEVED ALONG PROPOSED DIVERSION ROUTE.
 - ALL PROPOSED FW AND SW LOCATED WITHIN THE PUBLIC HIGHWAY TO REMAIN PRIVATE AND THE RESPONSIBILITY OF A PRIVATE MANAGEMENT COMPANY.
 - PROPOSED JUNCTION ONTO SCHOOL LANE TO BE OFFERED TO HAMPSHIRE COUNTY COUNCIL FOR ADOPTION UNDER SUITABLE S38 AGREEMENT.
 - PROPOSED SURFACE WATER NETWORK TO DISCHARGE TO NEWLY REQUISITIONED THAMES WATER SURFACE WATER SEWER TO SCHOOL LANE. (SUBJECT TO S98 APPLICATION WITH THAMES WATER)
 - SURFACE WATER DRAINAGE SYSTEM DESIGNED TO ACCOMMODATE 1:100 YEAR + 40% FOR CLIMATE CHANGE RAINFALL EVENT.
 - SURFACE WATER DRAINAGE SYSTEM, DESIGNED TO ACCOMMODATE PROPOSED DISCHARGE RATE OF 3.7 l/s FOR DEVELOPMENT SITE. (AS AGREED WITH THAMES WATER)
 - ATTENUATION POND DESIGNED TO ACCOMMODATE 567m³ OF SURFACE WATER STORAGE. PONDS TO BE LINED TO PREVENT INFILTRATION INTO THE SURFACE OF THE SURROUNDING GROUND.
 - ATTENUATION POND SIZING AND FINAL LAYOUT WILL BE SUBJECT TO DETAILED MODELING OF THE DRAINAGE NETWORK AND CO-ORDINATION WITH THE ARCHITECT, ARBORICULTURIST, ECOLOGIST AND LANDSCAPE ARCHITECT AT THE DETAILED DESIGN STAGE OF THE PROJECT.
 - PERMEABLE PAVING SUBBASE TO BE LINED TO PREVENT INFILTRATION INTO THE SURFACE OF THE SURROUNDING GROUND. PERMEABLE PAVING SUBBASE DEPTH REQUIREMENTS TO BE DESIGNED AT DETAILED DESIGN STAGE AND IS SUBJECT TO SITE CBRS AND WELL AS HYDRAULIC CALCULATIONS.
 - PRIVATE DRAINAGE TO DWELLINGS NOT SHOWN FOR CLARITY.
 - TO BE READ IN CONJUNCTION WITH THE DRAINAGE STRATEGY REPORT: 6663-RGP-ZZ-00-RP-C-0501

Revision	Description	By	Date
P2	DRAINAGE DIVERSION ROUTE AMENDED	HJ	14.09.22
P1	ISSUED FOR PLANNING	HJ	25.08.22

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Drawing Title
PROPOSED DRAINAGE STRATEGY

Issue Status

INFORMATION PRELIMINARY TENDER CONSTRUCTION RECORD COPY

Scale: 1:750 @ A2 Date Issued: AUGUST 2022 Drawn: HJ Checked: AO Approved: CB

Drawing Number: 6663-RGP-XX-00-SK-C-0500 Revision: P2

**LAND WEST OF SCHOOL LANE,
BENTLEY, HAMPSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

Final Document (Revision 1)

October 2022

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

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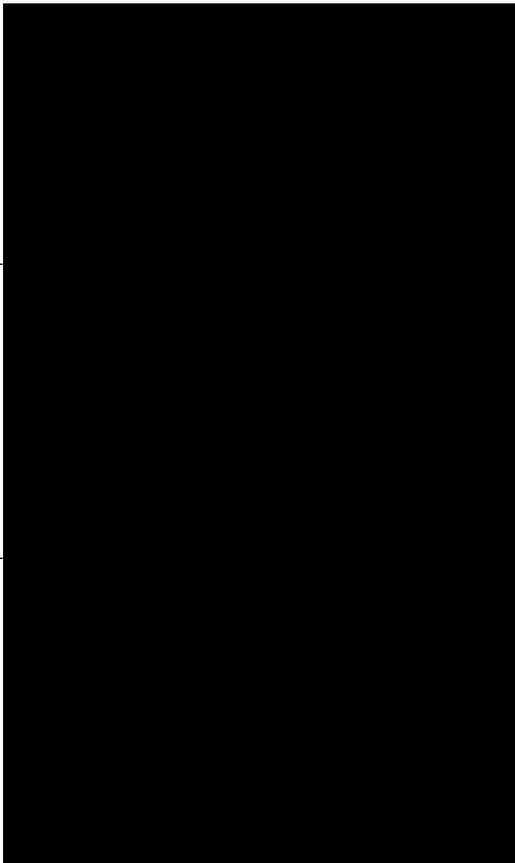
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ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The Ecological Impact Assessment and report has been prepared in line with the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018) and survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

Description:	Ecological Impact Assessment
Produced For:	Camping Property
Issue:	Final
Report Reference:	22.0161.0001.F1
Date of Issue:	17 th October 2022
Date of Survey Works:	Various dates between 2020 and 2022
Author:	
Checked by:	
Reviewed by:	

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Appendix B

LAND WEST OF SCHOOL LANE, BENTLEY, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Table of Contents

1.0	INTRODUCTION	3
1.1	Background.....	3
1.2	The Site	4
1.3	Aims and Scope of Report.....	4
1.4	Site Proposals.....	5
2.0	PLANNING POLICY CONTEXT	6
2.1	Introduction.....	6
2.2	National Policy.....	6
2.3	Local Policy.....	7
3.0	METHODS.....	8
3.1	Introduction.....	8
3.2	Zone of Influence.....	8
3.3	Scoping.....	8
3.4	Desk Study	8
3.4.1	<i>Biological Records Centre</i>	8
3.4.2	<i>Multi-Agency Geographic Information for the Countryside</i>	9
3.4.3	<i>Other Sources of Information</i>	9
3.5	Field Survey.....	10
3.5.1	<i>Survey Methods</i>	10
3.5.2	<i>Survey Details</i>	10
3.5.3	<i>Field Survey Limitations</i>	10
3.6	Criteria used to Assess Ecological Value.....	11
4.0	BASELINE ECOLOGICAL CONDITIONS AND EVALUATION	12
4.1	Introduction.....	12
4.2	Statutory and Non-statutory Designated Sites	12
4.2.1	<i>Baseline Ecological Conditions</i>	12
4.2.2	<i>Evaluation</i>	13
4.3	Habitats.....	13
4.3.1	<i>Baseline Ecological Conditions</i>	13
4.3.2	<i>Evaluation</i>	23
4.4	Bats.....	23
4.4.1	<i>Baseline Ecological Conditions</i>	23
4.4.2	<i>Evaluation</i>	25
4.5	Otter.....	26
4.5.1	<i>Baseline Ecological Conditions</i>	26
4.6	Badger	27
4.6.1	<i>Baseline Ecological Conditions</i>	27
4.6.2	<i>Evaluation</i>	27
4.7	Hazel Dormouse.....	28
4.7.1	<i>Baseline Ecological Conditions</i>	28
4.7.2	<i>Evaluation</i>	28
4.8	Water Vole.....	28
4.8.1	<i>Baseline Ecological Conditions</i>	28
4.9	Birds.....	29
4.9.1	<i>Baseline Ecological Conditions</i>	29
4.9.2	<i>Evaluation</i>	30
4.10	Reptiles.....	30

Appendix B

4.10.1	<i>Baseline Ecological Conditions</i>	30
4.10.2	<i>Evaluation</i>	31
4.11	Great Crested Newt	31
4.11.1	<i>Baseline Ecological Conditions</i>	31
4.12	Invertebrates	32
4.12.1	<i>Baseline Ecological Conditions</i>	32
4.13	Other Relevant Species	33
4.13.1	<i>Baseline Ecological Conditions</i>	33
4.13.2	<i>Evaluation</i>	34
5.0	ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ ENHANCEMENT MEASURES	35
5.1	Introduction	35
5.2	Scheme Design	35
5.3	Designated Sites	35
5.3.1	<i>Potential Impacts and Effects</i>	35
5.3.2	<i>Mitigation Measures</i>	36
5.3.3	<i>Significance of Residual Effects</i>	36
5.3.4	<i>Compensation</i>	36
5.3.5	<i>Enhancement</i>	36
5.3.6	<i>Monitoring</i>	36
5.4	Habitats	36
5.4.1	<i>Potential Impacts and Effects</i>	36
5.4.2	<i>Mitigation Measures</i>	37
5.4.3	<i>Significance of Residual Effects</i>	37
5.4.4	<i>Compensation</i>	37
5.4.5	<i>Enhancement</i>	38
5.4.6	<i>Monitoring</i>	38
5.5	Bats	39
5.5.1	<i>Potential Impacts and Effects</i>	39
5.5.2	<i>Mitigation Measures</i>	39
5.5.3	<i>Significance of Residual Effects</i>	40
5.5.4	<i>Compensation</i>	40
5.5.5	<i>Enhancement</i>	40
5.5.6	<i>Monitoring</i>	40
5.6	Badger	40
5.6.1	<i>Potential Impacts and Effects</i>	40
5.6.2	<i>Mitigation Measures</i>	40
5.6.3	<i>Significance of Residual Effects</i>	41
5.6.4	<i>Compensation</i>	41
5.6.5	<i>Enhancement</i>	41
5.6.6	<i>Monitoring</i>	41
5.7	Hazel Dormouse	41
5.7.1	<i>Potential Impacts and Effects</i>	41
5.7.2	<i>Mitigation Measures</i>	41
5.7.3	<i>Significance of Residual Effects</i>	42
5.7.4	<i>Compensation</i>	42
5.7.5	<i>Enhancement</i>	42
5.7.6	<i>Monitoring</i>	42
5.8	Birds	42
5.8.1	<i>Potential Impacts and Effects</i>	42
5.8.2	<i>Mitigation Measures</i>	42
5.8.3	<i>Significance of Residual Effects</i>	43
5.8.4	<i>Compensation</i>	43
5.8.5	<i>Enhancement</i>	43
5.8.6	<i>Monitoring</i>	43
5.9	Reptiles	43
5.9.1	<i>Potential Impacts and Effects</i>	43
5.9.2	<i>Mitigation Measures</i>	43
5.9.3	<i>Significance of Residual Effects</i>	44

Appendix B

5.9.4	<i>Compensation</i>	44
5.9.5	<i>Enhancement</i>	44
5.9.6	<i>Monitoring</i>	44
5.10	Great Crested Newt.....	45
5.10.1	<i>Potential Impacts and Effects</i>	45
5.10.2	<i>Mitigation Measures</i>	45
5.10.3	<i>Significance of Residual Effects</i>	46
5.10.4	<i>Compensation</i>	46
5.10.5	<i>Enhancement</i>	46
5.10.6	<i>Monitoring</i>	46
5.11	Other Relevant Species.....	46
5.11.1	<i>Potential Impacts and Effects</i>	46
5.11.2	<i>Mitigation Measures</i>	47
5.11.3	<i>Significance of Residual Effects</i>	47
5.11.4	<i>Compensation</i>	47
5.11.5	<i>Enhancement</i>	47
5.11.6	<i>Monitoring</i>	47
5.12	Cumulative Effects.....	47
6.0	CONCLUSIONS	48
6.1	Conclusion.....	48
6.2	Updating Site Survey.....	48
7.0	REFERENCES	50
Map 1	Site Location Plan	
Map 2	Phase 1 Habitat Map	
Appendix 1	Proposed Site Layout	
Appendix 2	Sites Designated for Nature Conservation	
Appendix 3	Relevant Legislation	
Appendix 4	Protected and Notable Species Appraisal Methods	
Appendix 5	Appraisal Criteria for Bats	
Appendix 6	Statutory Designated Sites within the Zone of Influence	
Appendix 7	Bat Survey Report (August 2020; HDA Limited)	
Appendix 8	Reptile Survey Report (September 2020; HDA Limited)	

Appendix B

EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Camping Property to undertake an Ecological Impact Assessment to support a planning application for the development of the land west of School Lane, Bentley. The site is located in the village of Bentley, Hampshire and comprises grassland fields and boundary vegetation, with a residential property and associated land to the east. The proposals entail the erection of up to 34 residential units with associated access and landscaping

The main findings of the Ecological Impact Assessment are:

- Given that the site lies within the five to seven kilometre recreational buffer of the Thames Basin Heaths SPA, consultation should be sought to determine if further mitigation measures are required to offset the increased recreational pressure.
- A Biodiversity Net Gain Assessment is being prepared for the scheme to ensure it delivers a minimum of 10% net gain in biodiversity, and an Ecological Mitigation and Management Plan should be prepared to ensure the long-term protection and monitoring of the existing and newly created habitats is secured
- Bat surveys undertaken by HDA Limited in 2020 did not record roosting bats within the on-site low suitability garage building, however a common pipistrelle day roost was recorded approximately 65 metres northwest of the site.
- Reptile surveys undertaken by HDA Limited in 2020 recorded a low population of grass snake present within the site, with a peak count of two individuals.
- The site has been assessed as suitable for roosting, foraging and commuting bats, hazel dormouse foraging and commuting badger and European hedgehog, breeding birds, reptiles, great crested newt and common toad.
- Mitigation measures proposed include a sensitive lighting design, the implementation of protective barriers throughout the construction phase, sensitively timed works, and appropriately designed fencing to permit passage for European hedgehog.
- The site will be enhanced for bats and birds through the installation of additional bat roosting and bird nesting features, and the planting of native species will additionally benefit pollinating invertebrates and other protected species.
- Given the impacts identified, and the mitigation, compensation and enhancement measures proposed it is considered that the proposals accord with all relevant

Appendix B

local and national planning policy upon the completion of the Biodiversity Net Gain Assessment.

- If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

Appendix B

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed Camping Property to undertake an Ecological Impact Assessment to support a planning application for the development of the land west of School Lane, Bentley, Hampshire GU10 5LT (hereafter referred to as the site).

In March 2020, Hankinson Duckett Associates (HDA) Limited were commissioned to undertake an Ecological Appraisal of approximately 5.4 hectares of land to the south and east of Hole Lane, Bentley (HDA Limited, 2020) scheduled for the development of up to 93 residential dwellings. This ecological assessment identified the need for further protected species surveys in relation to roosting, foraging and commuting bats, and reptiles at the site. Further surveys were undertaken between March and July 2020 and a common pipistrelle day roost was confirmed as present within a residential property located to the north of the site (HDA Limited, 2020). Additionally the habitats were confirmed to support a peak count of two grass snake (HDA Limited, 2020).

A planning application was submitted to East Hampshire District Council on 12th May 2020 under application reference number 55711/001. The application was refused on 12th November 2020 on the grounds of failing to comply with a number of policies within the Bentley Neighbourhood Plan, East Hampshire Local Plan 2006, East Hampshire District Council Local Plan Joint Core Strategy and the National Planning Policy Framework. One of the objections was received from Natural England on 21st July 2020 in relation to the distance of the development from the Thames Basin Heaths SPA statutory designated site. No evidence of sufficient mitigation, such as a Habitats Regulations Assessment, was provided to support the planning application. No objections were received specifically for the ecological appraisal undertaken at the site, however the Hampshire County Council ecologist highlighted that a site-wide ecological mitigation, compensation and enhancement strategy would be required to support the application, and this needed to be consistent with the landscaping proposals.

Following this refusal, the scheme has been reduced in scope to 2.1 hectares for up to 34 residential dwellings with associated access and landscaping. The Ecological Impact Assessment has been produced in support of this smaller scheme and will address the results of the previous ecological assessments undertaken by HDA Limited, where appropriate.

Appendix B

1.2 The Site

The site is located in the village of Bentley, Hampshire, centred on National Grid Reference (NGR) SU 7862 4440 (**Map 1**). The Phase 1 habitat map (**Map 2**) depicts the boundary of the site.

The site is approximately 2.1 hectares in size and is comprises two grassland fields with vegetated boundaries. There is residential land associated with the Broadacre property located to the east of the site, with associated access and landscaping. Access is off School Lane to the east of the site.

The wider landscape comprises residential area associated with the Bentley village directly south of the site, whilst the surrounding landscape is dominated by a matrix of agricultural fields and woodland blocks. The A31 road runs approximately 600 metres south of the site, whilst the River Wey at its closest point has a tributary located approximately 525 metres to the east of the site.

1.3 Aims and Scope of Report

The information within this report is based on an updating field survey and desktop study undertaken by ECOSA between July and August 2022, and relevant species-specific surveys carried out by HDA Limited between March and September 2020. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;
- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;

¹ For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.

² In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

Appendix B

- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The proposals entail the erection of up to 34 residential dwellings (including fifteen affordable units), together with the associated vehicular and pedestrian access, landscaping, and public open space on land west of School Lane, Bentley, Farnham, with all matters reserved except for access.

The Ecological Impact Assessment is based on the proposals plan produced by Re-Format LLP 'Proposed Site Plan', dated October 2022 (Drawing No. 22049-RFT-00-00-DR-A-0100, Revision P01) (**Appendix 1**).

Outline planning permission is being sought during 2022 with construction proposed to commence following the approval of the reserved matters application.

Appendix B

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the East Hampshire District Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the most recent revised NPPF published in July 2021. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 182 goes on to state that "*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*".

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 174 states that the planning system should contribute to and enhance the natural environment by "*...minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...*".

A number of principles are set out in Paragraph 180, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats³, including ancient woodland⁴. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph

³ The NPPF defines irreplaceable habitats as "*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.*"

⁴ Natural England defines ancient woodland as "An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."

Appendix B

180 also states “*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*”. Paragraph 181 also sets out that potential SPAs, SACs and listed or proposed Ramsar sites or sites acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states “*the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat*”. Paragraph 99 states “*it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted*”.

2.3 Local Policy

Local planning policy within East Hampshire District is provided by the East Hampshire District Local Plan: Joint Core Strategy, adopted June 2014. Two policies refer specifically to ecology and biodiversity:

- **Policy CP21: Biodiversity**

This policy refers to protecting and enhancing designated sites, features of local value for wildlife such as hedgerows and legally protected species. It also refers to the need for suitable avoidance or mitigation measures, and the requirement for biodiversity net gain; and

- **Policy CP22: Internationally Designated Sites**

This policy refers to the protection of internationally designated sites and states that any development within 400 metres of the Wealden Heaths Phase II Special Protection Area will be required to undertake a Habitats Regulations Assessment.

The forthcoming Local Plan 2017-2036 draft, covering areas in East Hampshire outside of the South Downs National Park, contains a number of policies referring directly to ecology and biodiversity. Policies **S19** to **S22** and **DM25** and **DM26** of the forthcoming Local Plan refer specifically to ecology and biodiversity, and largely build on the content of policies CP21 and CP22 of the Joint Core Strategy.

Appendix B

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected⁵. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

3.4.1 Biological Records Centre

Hampshire Biodiversity Information Centre (HBIC) was consulted on 25th July 2022 for the following data:

- Records of non-statutory designated sites (Local Wildlife Sites (LWSs), Sites of Importance for Nature Conservation (SINCs)) within one kilometre of the site boundary. See **Appendix 2** for details; and
- Records of legally protected and notable species (flora and fauna) within one kilometre of the site boundary, including Species of Principal Importance (**Appendix 3**); and

⁵ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2018).

Appendix B

- Records of bats within two kilometres of the site boundary. Bat species are highly mobile and therefore the search radius is increased for this species group.

3.4.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2022) was reviewed on 16th August 2022 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See **Appendix 2** for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences have been granted were reviewed. This information allows a greater understanding of the potential for European Protected Species to be present in the local area.

3.4.3 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

The Ecological Appraisal report produced by HDA Limited in April 2020 (HDA Limited, 2020), in addition to the bat survey report (HDA Limited, 2020) (**Appendix 7**) and reptile survey report (HDA Limited, 2020) (**Appendix 8**) will be referenced where necessary.

Appendix B

3.5 Field Survey

3.5.1 Survey Methods

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features. Habitats described in Section 4.0, have been mapped (**Map 2**) and photographs provided, where relevant.

Phase 1 Habitat Survey

An assessment was made of all areas of vegetation within the site based on the standardised Phase 1 habitat survey methodology (JNCC, 2010) involved identification of broad vegetation types, which were then classified against Phase 1 habitat types, where appropriate. A list of characteristic plant species for each vegetation type was compiled and any invasive species⁶ encountered as an incidental result of the survey recorded.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

The field survey was carried out by Olivia Walton, Ecologist of ECOSA on 26th July 2022. The weather conditions were dry with 100% cloud cover, an ambient temperature of 17°C and a light breeze.

During the survey, the surveyor was equipped with 10x40 binoculars and a digital camera.

3.5.3 Field Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

⁶ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

Appendix B

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

It is not always possible to provide definitive assessments of a species' presence/likely absence at a site and so in the absence of direct evidence, assessments and recommendations are based on the presence of suitable habitat within/adjacent to a site and the results of species records within the desk study data.

Not all potential bat roosting features are accessible to the surveyor, e.g. gaps beneath roof materials or holes or cracks in trees, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities.

3.6 Criteria used to Assess Ecological Value

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2018) have also been used to inform the assessment.

Appendix B

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory and Non-statutory Designated Sites

4.2.1 *Baseline Ecological Conditions*

Details of designated sites are provided in the paragraphs below.

Statutory Designated Sites

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary.

New residential development within the five to seven kilometres of the Thames Basin Heaths SPA has been shown to result in increased recreational pressure on the designated site through increased disturbance of ground nesting birds including nightjar *Caprimulgus europaeus*, woodlark *Lullula arborea* and Dartford warbler *Sylvia undata* supported within these habitats (Natural England, 2020). Given that the site is located approximately 5.8 kilometres south of the nearest area of the SPA, the Zone of Influence has been extended to include this statutory designated site.

Further details of the statutory designations listed above are provided in **Appendix 6**.

Non-Statutory Designated Sites

There are two non-statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. These are:

- Bentley Pond (SINC) – located approximately 230 metres south of the site and designated for supporting great crested newt *Triturus cristatus*; and
- Irelands (SINC) – located approximately 635 metres east and designated for supporting ancient semi-natural woodland.

Further information on sites designated for nature conservation are provided in **Appendix 2**.

Appendix B

4.2.2 Evaluation

The Zone of Influence has been extended to include the Thames Basin Heaths SPA which is of international importance, whilst the two non-statutory designated site SINCs are of county importance.

4.3 Habitats

4.3.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC did not return the presence of any Habitats of Principal Importance on, or adjacent to, the site.

Consultation with HBIC did not return any records of notable plant species present within the site, however a single record of corn spurrey *Spergula arvensis* was recorded from 2002 alongside Hole Lane, approximately 220 metres west of the site.

Field Survey Results

Habitats within the site are shown on the Phase 1 Habitat Map (**Map 2**). Habitats are described in general terms using standard Phase 1 habitat survey terminology, with reference to dominant, characteristic and notable species in each vegetation type. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Scattered Scrub

Areas of dense scrub are associated with site boundaries, with the unmanaged vegetation reaching a maximum height of 0.5 metres (**Figure 1**). The scrub is dominated by bramble *Rubus fruticosus* species, with common nettle *Urtica dioica*, cow parsley *Anthriscus sylvestris*, hedge bindweed *Calystegia sepium*, dog rose *Rosa canina* and common sorrel *Rumex acetose* interspersed. An area of scrub associated with the brick wall within the north of the site is dominated by rosebay willowherb *Chamerion angustifolium* (**Figure 2**).

Appendix B



Figure 1: Dense scrub to the south



Figure 2: Scrub dominated by rosebay willowherb alongside brick wall within north of the site

Scattered Trees

Trees are present throughout the site of varying ages, predominantly interspersed within boundary hedgerows and within the residential garden of Broadacre to the east. Tree species recorded include pedunculate oak *Quercus robur*, Turkey oak *Quercus cerris*, field maple *Acer campestre*, hawthorn *Crataegus monogyna*, willow *Salix* species, ash *Fraxinus excelsior*, silver birch *Betula pendula* and Leyland cypress *Cupressus x leylandii* (**Figure 3**), with eucalyptus *Eucalyptus* species and weeping willow *Salix babylonica* within the residential garden (**Figure 4**).



Figure 3: Scattered trees within eastern boundary hedgerow



Figure 4: Trees within residential garden

Semi-improved Grassland

The site is dominated by two semi-improved grassland fields. The northernmost field contained horses at the time of the field survey resulting in a shorter sward length as a result of grazing (**Figure 5**). The southernmost field has not been subject to recent management and therefore contains grassland of a longer sward length (**Figure 6**). A wetter area was noted towards the east of the field with pendulous sedge *Carex pendula* present (**Figure 7**).

Appendix B

Grass species recorded within the sward include Yorkshire fog *Holcus lanatus*, perennial ryegrass *Lolium perenne*, timothy *Phleum pratense*, false oat-grass *Arrhenatherum elatius*, creeping bent *Agrostis stolonifera* and cock's foot *Dactylus glomerata*. Herbaceous species were more prevalent within the southernmost field due to being subject to lesser management, and species recorded included common sorrel, creeping buttercup *Ranunculus repens*, ragwort *Jacobaea vulgaris*, creeping cinquefoil *Potentilla reptans*, daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata* and common catsear *Hypochaeris radicata*.



Figure 5: The northern grassland field with horses present



Figure 6: Longer sward length within the southernmost grassland field



Figure 7: An area of pendulous sedge to the east of the grassland

Tall Ruderal

Tall ruderal vegetation is present across the site, concentrated to site boundaries and the western corner of the site (**Figure 8**). Species recorded within this habitat type include common sorrel, common nettle, bramble, hedge bindweed, cow parsley, cherry laurel *Prunus laurocerasus* and honeysuckle *Lonicera* species.

Appendix B



Figure 8: Tall ruderal within western corner

Amenity Grassland

Amenity grassland is associated with the Broadacre property to the east of the site. The grassland was recorded as being well managed through frequent mowing given the very short sward length (**Figure 9**). It is dominated by perennial ryegrass and Yorkshire fog, with herbaceous species including white clover *Trifolium repens*, selfheal *Prunella vulgaris* and creeping buttercup.



Figure 9: Amenity grassland within the Broadacre residential garden

Introduced Shrub

Introduced shrub is present within the Broadacre residential garden in the form of scattered ornamental planting (**Figure 10**). Species recorded include eucalyptus, weeping willow, Japanese maple *Acer palmatum*, scarlet bugler *Penstemon centranthifolius* and lavender *Lavandula* species.

Appendix B



Figure 10: Ornamental planting around the Broadacre property

Intact Species-poor Hedgerow

Eight hedgerows were recorded during the field survey throughout the site and associated with the site boundaries, and comprise the following:

- Hedgerow 1 (H1) – aligned north-south along the north-western site boundary dominated by hornbeam *Carpinus betulus* and subject to frequent management (**Figure 11**). It is approximately three metres high by one metre wide. Other species recorded within the hedgerow include hawthorn, holly *Ilex aquifolium* and ivy *Hedera helix*, with bramble and common nettle present in the ground flora.



Figure 11: Hedgerow H1 along north-western boundary

- Hedgerow 2 (H2) – located along the north-eastern boundaries and not subject to frequent management. It is approximately three to four metres tall and two metres in width. Species present include dog rose, willow species, dogwood, and scattered trees of Turkey oak and hawthorn (**Figure 3**). Areas of scrub are associated with the hedgerow base along the northern boundary dominated by bramble and common nettle (**Figure 12**).

Appendix B



Figure 12: Hedgerow H2 with scrub ground flora

- Hedgerow 3 (H3) – located within the east of the site and dominated by hornbeam. It was recorded to be managed within the semi-improved grassland field (**Figure 13**) however left unmanaged where it extended into the Broadacre residential garden (**Figure 14**). It is approximately two to three metres high and one metre wide, with dog rose additionally present.



Figure 13: Managed section of H3



Figure 14: Less well managed section of H3 within Broadacre residential garden

- Hedgerow 4 (H4) – located to the northwest of the site and dominated by well managed Leyland cypress. It is approximately five to six metres in height, and two metres wide (**Figure 15**).

Appendix B



Figure 15: H4 extending throughout the northwest of the site

- Hedgerow 5 (H5) – a small area of infrequently managed hedgerow located in between the Broadacre garden and the residential garden adjacent to the south (**Figure 16**). Species recorded include bramble, dog rose and beech *Fagus sylvatica*. It is approximately two metres tall by one metre wide.



Figure 16: H5 within the south of Broadacre

- Hedgerow 6 (H6) – a small section of Leyland cypress hedgerow along the northern boundary of Broadacre subject to infrequent management (**Figure 17**). It is approximately ten metres in height by three metres wide.

Appendix B



Figure 17: Hedgerow H6

- Hedgerow 7 (H7) – comprises a small section of the eastern boundary adjacent to School Lane, approximately two metres high by one metre wide (**Figure 18**). Species recorded include ivy, hawthorn, bramble, ash and cherry laurel.



Figure 18: H7 along eastern boundary

- Hedgerow 8 (H8) – comprises an ornamental cotoneaster *Cotoneaster* species hedgerow approximately 1.5 metres high by one metre wide, and located along the eastern boundary adjacent to School Lane (**Figure 19**). There is evidence of infrequent management.



Figure 19: H8 dominated by cotoneaster

Appendix B

Native Species-rich Hedge and Trees

The south-western site boundary comprises a native species-rich hedge and trees (TL1) approximately ten metres in height (**Figure 20**). Woody species comprising the trees within this boundary include pedunculate oak, holly, hawthorn, yew, field maple, ash and blackthorn *Prunus spinosa*, bramble dominates the understorey, and ivy and common nettle comprise the dense ground flora.



Figure 20: South-western boundary vegetation

Dry Ditch

A dry ditch runs parallel with the southern grassland field which was noted at the time of the field survey as lacking water and overgrown with dense vegetation coverage (**Figure 21**).



Figure 21: Vegetation coverage within dry ditch

Buildings

Two buildings are present within the residential area associated with the Broadacre property to the east of the site. The main Broadacre residential dwelling (**Figure 22**) is to be retained as part of the development and falls outside of the existing red line boundary, and therefore is not considered further within this report. Building 1 (B1) comprises a single storey brick construction garage (**Figure 23**) and a glass greenhouse with a pitched glass roof (B2) is located within the residential garden

Appendix B

(**Figure 24**) with both buildings discussed further within Paragraph 4.4.1. A dilapidated wooden structure is present within the southern semi-improved grassland field with missing elevations and in a poor state of repair (**Figure 25**) and therefore not considered suitable to be classified as a building further within this report.



Figure 22: Main residential dwelling at Broadacre outside of red line boundary



Figure 23: Garage building B1



Figure 24: Glass greenhouse B2



Figure 25: Dilapidated wooden structure

Other Habitats

Hardstanding is present surrounding the buildings within the residential Broadacre property, and associated with access to the site off School Lane (**Figure 26**).



Figure 26: Hardstanding access off School Lane

Appendix B

Fence lines are located throughout the site, demarking the boundaries of the grassland fields, and either made of barbed wire (**Figure 27**) or post and rail fencing. Additionally, a brick wall is located within the north of the site, separating it from the adjacent residential garden to the east (**Figure 28**).



Figure 27: Barbed wire fencing between the semi-improved grassland fields



Figure 28: Brick wall to the north

4.3.2 Evaluation

The existing habitats within the site contain common and widespread floral species, with none present highlighted within the HBIC consultation to be notable or rare. As a result, they are considered to be of site value only. Since the previous ecological assessment undertaken by HDA Limited (HDA Limited, 2020), the on-site habitats have remained unchanged except that the grassland field to the south has not been subject to recent management through livestock grazing and the sward has therefore developed in length.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned a number of records of bats within the desktop study radius including barbastelle *Barbastella barbastellus*, serotine *Eptesicus serotinus*, *Myotis*⁷ bat species, Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, noctule *Nyctalus noctula*, *Pipistrellus*⁸ bat species, common pipistrelle

⁷ There are seven species of *Myotis* bats in Britain. *Myotis* bats are very difficult to identify specifically, this can generally only be done by examination of physical features and Phylogenetic Analysis Identification of bat droppings. Many of these bats are common and will utilise buildings for roosting often occupying small and inaccessible voids. For the purpose of this report all species shall be referred to as *Myotis* bats unless a specific identification has been possible.

⁸ There are three species of pipistrelle bat, the common pipistrelle *Pipistrellus pipistrellus*, the soprano pipistrelle *Pipistrellus pygmaeus* and the Nathusius' pipistrelle *Pipistrellus nathusii*. The species can be separated by their echolocations, examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the three species shall be referred to in this report as pipistrelle bat. All three species will roost in similar locations within buildings. The soprano pipistrelle has a tendency to form larger roosts numbering 100's of bats and is associated with wetland habitat. Nathusius' pipistrelle bats frequently share maternity roosts with soprano pipistrelle bats.

Appendix B

Pipistrellus pipistrellus, soprano pipistrelle *Pipistrellus pygmaeus*, long-eared *Plecotus*⁹ bat species, and brown long-eared bat *Plecotus auritus*.

Consultation with the MAGIC database revealed the presence of five recently granted EPSM licences with respect to bats within the desktop search radius. The closest is 2019-39302-EPS-MIT, located approximately 1.25 kilometres south and granted in 2019 for the destruction of a resting place for common pipistrelle, soprano pipistrelle, brown long-eared bat and Natterer's bat. The other four licences concerned the destruction of resting places for the same species.

The ground level tree assessment undertaken by HDA in March 2020 did not identify any trees within the existing site boundary to contain potential bat roosting suitability, only trees from within the previously larger area scheduled for development within the refused application site boundary.

The garage building associated with the Broadacre property (B1) was subject to a single dusk emergence survey by HDA Limited in June 2020 as it was assessed to be of low suitability for potential roosting bats. During the survey no bats were recorded emerging or re-entering the building and it is therefore considered that roosting bats are absent from the on-site building.

A residential property outside of the existing red line boundary was subject to bat emergence / re-entry surveys by HDA Limited in 2020 (HDA Limited, 2020) following being assessed as high suitability for potential roosting bats. Bat surveys undertaken between May and June 2020 recorded a peak count of four common pipistrelle emerging from underneath lifted roof tiles on a southern elevation dormer window. This confirmed day roost lies approximately 65 metres northwest of the site.

The bat activity surveys comprising transects and automated detector surveys undertaken by HDA Limited (HDA Limited, 2020) recorded at least six species of bat using the on-site habitats including common pipistrelle, soprano pipistrelle, *Myotis* bat species⁷, brown long-eared bat, noctule and Leisler's bat *Nyctalus leisleri*. Main areas of activity were concentrated along the native hedge and trees (TL1) on the western boundary, and occasional foraging recorded along the southern site boundary and unmanaged hedgerow H2 boundary to the east.

⁹ There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

Appendix B

Field Survey Results

Building Assessment

The garage building (B1) associated with the Broadacre property comprises a single storey brick construction with a pitched tiled roof and wooden cladding on the northern and southern elevations (**Figure 23**). During the ECOSA field survey in July 2022 the building was noted to be in a similar condition in comparison to the original assessment undertaken by HDA Limited in 2020, with the addition of some cobwebs noted on the exterior of the property. No internal inspection was undertaken given that the building had remained unchanged since the emergence survey was undertaken in 2020 which did not record roosting bats as present within the building.

A glass pitched roof greenhouse (B2) is located just west of B1 within the residential garden of Broadacre (**Figure 24**). Given that the structure is made of glass it lacks suitable Potential Roosting Features such as crevices or missing tiles, and the transparency of the structure means it is constantly light and therefore unsuitable for roosting bats, and as a result considered to be of negligible suitability.

Tree Assessment

As per the HDA Limited ground level tree assessment in March 2020 (HDA Limited, 2020), no trees within the site boundary were noted to contain Potential Roosting Features (PRFs) such as split limbs, callous rolls or hazard beams. The ECOSA field survey did not identify any further PRFs within the on-site trees, and it is therefore considered that the site is of negligible suitability for tree roosting bats.

Foraging and Commuting Habitat

Suitable foraging habitat is present within the site with the open grassland fields likely supporting suitable prey species for bats, whilst the boundary vegetation is suitable for commuting individuals moving throughout the wider landscape. Given the presence of higher quality habitat within the wider surrounds, such as the agricultural fields and interspersed woodland blocks, the site is assessed to be of moderate suitability for foraging and commuting bats.

4.4.2 Evaluation

Foraging and Commuting Bats

Bat activity surveys recorded at least six species of bat foraging and commuting at the site. Activity levels were considered to be low given the habitats present within the site.

Common pipistrelle and soprano pipistrelle are common and widespread in Hampshire (The Mammal Society, 2015) whilst noctule, although not recorded as frequently as

Appendix B

common pipistrelle and soprano pipistrelle, are widespread across Hampshire (Hampshire Bat Group, n.d.).

The long-eared bat species recorded is considered highly likely to be the brown long-eared bat *Plecotus auritus* rather than the rarer grey long-eared bat which is mainly restricted to the southern coast and Isle of Wight (The Mammal Society, 2015). Brown long-eared bat is common and widespread across Hampshire (Hampshire Bat Group, n.d.).

The small number of Leisler's bat registrations recorded during the activity surveys are likely to represent individual bats utilising the site. The species is considered uncommon in Hampshire (The Mammal Society, 2015). Whilst these are rare species they were rarely recorded during the surveys which are likely to only occasionally pass through the site.

The bat assemblage at the site is considered to be lower than of similar habitats in the local area and has therefore been assessed to be of value at a local level.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced no records of otter *Lutra lutra* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

No aquatic habitat is present on, or adjacent to, the site. The closest suitable habitat for the species is the main watercourse of the River Wey, located at its closest point approximately 900 metres south of the site. A tributary of the river extends northwards at 525 metres to the east, however following an assessment of aerial photography this revealed the tributary is overgrown with vegetation and likely to contain a narrow channel. This would not provide otter with the aquatic connectivity they required for commuting throughout the landscape. If the species is present within the River Wey main watercourse, they would be unable to reach the site due to the A31 road acting as a physical barrier between them. The habitat on site is unsuitable for otter and therefore the species is not considered further in this report.

Appendix B

4.6 Badger

4.6.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned seven records of badger *Meles meles* within the desktop search radius between 2006 and 2020. The location of some of these records is attributed to the A31 road just south of Bentley which are likely related to road casualties, however the other records have only basic grid references likely due to the vulnerability and persecution of the species.

No evidence of resident badger was recorded during the Ecological Appraisal undertaken by HDA Limited in March 2020 (HDA Limited, 2020).

Field Survey Results

No signs of resident badger were recorded during the field survey, and this is consistent with the findings of the HDA Limited ecological appraisal. The grassland provides suitable foraging and commuting habitat for the species, and mammal pathways (**Figure 29**) and push throughs (**Figure 30**) were recorded within the site that may be attributed to badger individuals passing through.



Figure 29: Mammal pathways within the grassland to the southwest



Figure 30: Mammal push-through within the south of the site

4.6.2 Evaluation

Habitats within the site provide suitable foraging and commuting opportunities for badger individuals however the availability of suitable habitat for the species is limited within the context of the local area. Given the extent of suitable habitat for both resident and foraging and commuting habitat for badger within the local area the site is considered to be of value at the site level only.

Appendix B

4.7 Hazel Dormouse

4.7.1 **Baseline Ecological Conditions**

Desktop Study Results

Consultation with HBIC and the MAGIC database produced no records of hazel dormouse *Muscardinus avellenarius* or recently granted EPSM licences within the desktop study area, however, this does not confirm the absence of the species in the local area.

The HDA Limited Ecological Appraisal (HDA Limited, 2020) did not recommend further surveys in relation to hazel dormouse in 2020. The report however made reference to previous hazel dormouse surveys undertaken by Derek Finnie Associates in 2014 within habitat to the west of Hole Lane, during which no evidence of the species was recorded (Derek Finnie Associates, 2014).

Field Survey Results

The on-site hedgerows are intact and generally connected throughout the site, however are considered to be species poor and this does not provide hazel dormouse with suitably varied foraging opportunities. In terms of the wider landscape, the on-site hedgerows are connected to further suitable habitat to the north of the site including further boundary hedgerows and woodland blocks, and as a result it is possible that if hazel dormouse are present within the wider landscape that they may utilise the on-site habitats.

4.7.2 **Evaluation**

The on-site hedgerows provide suitable habitat for hazel dormouse and are connected to further suitable habitat for the species within the local area. Due to the connectivity of the site to suitable habitat in the surrounds the native hedgerows are considered to be of local value for the species, if present.

4.8 Water Vole

4.8.1 **Baseline Ecological Conditions**

Desktop Study Results

Consultation with HBIC produced no records of water vole *Arvicola amphibius* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

No aquatic habitat is present on, or adjacent to, the site. The closest suitable habitat for the species is the main watercourse of the River Wey, located at its closest point

Appendix B

approximately 900 metres south of the site. A tributary of the river extends northwards at 525 metres to the east, however this lacks any connectivity to habitats associated with the site and separated by agricultural fields which would be unsuitable for commuting water vole. The habitat on site is considered unsuitable for water vole and therefore the species is not considered further in this report.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned a total of 44 species records within the desktop search radius. A number of records were attributed to birds listed on Schedule 1¹⁰ of the Wildlife and Countryside Act 1981 including red kite *Milvus milvus*, redwing *Turdus iliacus*, fieldfare *Turdus pilaris* and barn owl *Tyto alba*.

Field Survey Results

During the field survey a number of birds were recorded throughout the site including red kite, woodpigeon *Columba palumbus*, carrion crow *Corvus corone*, magpie *Pica pica*, house sparrow *Passer domesticus*, starling *Sturnus vulgaris* and blue tit *Cyanistes caeruleus*. Of these, red kite is listed on Schedule 1, house sparrow and starling are on the British Trust for Ornithology (BTO) Birds of Conservation Concern Red List¹¹, and woodpigeon on the Amber List¹².

Evidence of nesting recorded during the field survey included a house sparrow entering into the soffit box of the main Broadacre residential property to the east of the site. The on-site boundary vegetation and surrounding scrub habitat provides suitable nesting opportunities for breeding birds. There is the potential for ground nesting birds such as skylark *Alauda arvensis* to breed within the site given the longer sward lengths within the southern grassland field and habitats associated with the boundaries.

¹⁰ Birds listed on Schedule 1 of the Wildlife and Countryside Act (1981 as amended) are afforded additional protection making it an offence to: Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or; Intentionally or recklessly disturb the dependent young of any such bird.

¹¹ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

¹² The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.

Appendix B

Open grassland areas have the potential to support overwintering birds however given the context of the surrounding landscape to the north, east and west with many open agricultural fields, it is considered more likely that individuals would utilise this habitat rather than the on-site grassland, and as a result wintering birds are not considered further within this report.

4.9.2 Evaluation

The site provides suitable nesting habitat for breeding birds through the boundary vegetation, scrub and long grassland areas, which additionally have the potential to support ground nesting birds. Given the surrounding landscape dominated by open agricultural fields and woodland blocks, the site is therefore considered to be of site value for breeding birds.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned four records for grass snake *Natrix helvetica* and a single record of smooth snake *Coronella austriaca* within the desktop search radius. The smooth snake record has been withheld due to the rarity of the species, and the grass snake records are located south of the village of Bentley. The lack of records for other common reptile species does not confirm their absence in the local area.

The reptile surveys undertaken by HDA in 2020 (HDA Limited, 2020) recorded a peak count of two adult grass snake from within the northern semi-improved grassland field within the site boundary, and given the refugia density used (Froglife, 2015) the site is considered to support a low population of grass snake. The two records were associated with scrub habitat, with one individual recorded within the scrub adjacent to Hedgerow 1, and the other from within the north-eastern corner by the base of Hedgerow 2.

Field Survey Results

The northern semi-improved grassland field is currently subject to management through grazing and the sward has become shorter in places. Given that the horses are not present within the southern semi-improved grassland field, the sward has developed in length and consequently the suitability for reptiles has increased, and as a result there is the potential for the site to support a greater number of reptile individuals than the two grass snake previously recorded. The scrub habitat and hedgerow bases throughout the site additionally provide further suitable reptile habitat. A log/brush pile measuring approximately 56m² is located within the Broadacre

Appendix B

residential garden just east of the grassland fields which provides suitable habitat for basking and sheltering individuals (**Figure 31**).



Figure 31: Log and brash pile within Broadacre

4.10.2 Evaluation

Grass snake are considered a ‘common’ reptile species in the UK and frequently recorded within southern England, including Hampshire (Amphibian and Reptile Conservation Trust, 2022). Given that records of the species were returned within the HBIC consultation, and the HDA Limited reptile surveys confirmed the presence of a low population of grass snake within the site, the site is considered to be of site value for reptiles.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned a total of 32 records of great crested newt *Triturus cristatus* within the desktop search radius. Fourteen of these records are associated with Bentley Village Pond located approximately 230 metres south, which were returned between 2003 and 2019. This waterbody is designated within the Bentley Pond SINC non-statutory designated site of nature conservation (see Paragraph 4.2.1) for the confirmed presence of the species. The remaining eighteen records were obtained in 2012 and are associated with Bury Court, Bentley, located approximately 590 metres north of the site.

Consultation with the MAGIC database did not return any recently granted EPSM licences with respect to great crested newt within the two kilometre desktop search radius.

An assessment of aerial photography and 1:25,000 OS mapping revealed the presence of three waterbodies and associated drainage ditches and the tributary of the River

Appendix B

Wey within 500 metre radius of the site. The closest waterbody is Bentley Village Pond located approximately 230 metres to the south.

The HDA Limited Ecological Appraisal (HDA Limited, 2020) utilised a maximum migratory range of 250 metres from breeding ponds within their ecological assessment in accordance with a study undertaken in 2004 (Cresswell and Whitworth, 2004), and therefore the only waterbody scoped into their assessment was Bentley Village Pond.

Field Survey Results

No waterbodies are located within, or adjacent to, the site, and the closest waterbody located approximately 230 metres south of the site is not hydrologically connected to the site, and therefore breeding great crested newt are absent from the site. The on-site hedgerow bases, scrub and longer grassland sward all provide suitable foraging and sheltering habitat for individuals within their terrestrial phase. The log/brush pile within the Broadacre residential garden is additionally suitable for hibernating individuals. Residential development and associated infrastructure between this waterbody and the site may act as a physical barrier to dispersion, and the high quality suitable terrestrial habitat in the immediate vicinity of Bentley Village Pond (HDA Limited, 2020) may be more favourable to be utilised by the species.

Evaluation

Great crested newt have been confirmed as present within Bentley Village Pond and offered designation within the non-statutory SINC designated site associated with this habitat. The site is unsuitable for supporting breeding great crested newt in their aquatic phase however provides suitable terrestrial habitat for the species in its terrestrial phase for foraging and sheltering. As a result, if present, the habitats within the site are of local value for great crested newt.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned a single record for stag beetle *Lucanus cervus* from within habitat south of the site, likely associated with woodland, however the exact location of the record has been withheld due to the national rarity of the species. The HBIC search additionally returned a number of butterfly (Lepidoptera) records however these are associated with Bentley Station Meadow, a SSSI located outside of the desktop search radius.

Appendix B

Field Survey Results

The habitats within the site contain common and widespread plant species and are therefore likely to support common and widespread invertebrate assemblages. The log/brush pile within the residential Broadacre garden is suitable for deadwood (saproxylic) species however given the unsuitability of the immediate surrounds for stag beetle such as the managed amenity grassland, this species is unlikely to be present within the site. Given that the on-site habitats are unlikely to support rare or notable invertebrates, the species group is not considered further within this report.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned records for other relevant species within the desktop search radius. This included a single record of European hedgehog *Erinaceus europaeus* from the residential development south of the site, two records of brown hare *Lepus europaeus* from the agricultural land north and west of the site, and a single record for common toad *Bufo bufo* from within Bentley Village Pond to the south of the site.

Field Survey Results

During the field survey, mammal pathways (**Figure 29**) and mammal push-throughs (**Figure 30**) were recorded within the west of the site which may be attributed to individuals passing through the site, with likely species including European hedgehog and European fox *Vulpes vulpes*. Areas of flattened grass were additionally noted from within the west of the site (**Figure 32**) which may be attributed to deer resting on occasion when passing through the site. The longer areas of grassland and hedgerow bases provide suitable foraging opportunities for species such as European hedgehog, in addition to the log/brush pile and scrub ideal for hibernating individuals.



Figure 32: Areas of flattened grass likely attributed to deer

Appendix B

No aquatic habitat is present within the site suitable for common toad however the hedgerow bases and areas of tussocky grassland, in addition to the log/brush pile within the Broadacre residential garden, may all provide suitable foraging and sheltering habitat for individuals.

Given the extent of open, agricultural fields to the north of the site, it is likely that brown hare would preferentially use this habitat over the habitat within the site given their preference for mosaic landscapes of farmland and woodland (The Wildlife Trusts, 2022). As a result, brown hare is not considered further within this report.

4.13.2 Evaluation

The site provides suitable foraging, commuting and hibernating habitat for species such as European hedgehog, and it is likely fox and deer pass through the site on occasion to reach further suitable habitat within the wider landscape, such as the open agricultural land and woodland blocks. Common toad may utilise the on-site habitats for foraging and sheltering following their breeding period within off-site aquatic habitat. Overall given the habitats present, the site is considered to be of site value for European hedgehog and common toad, however of negligible value for fox and deer species.

Appendix B

5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy¹³ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 174 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails the erection of up to 34 residential dwellings (including fifteen affordable units), together with the associated vehicular and pedestrian access, landscaping, and public open space on land west of School Lane, Bentley, Farnham, with all matters reserved except for access. Lighting is anticipated to form part of the proposals.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

There are no statutory or non-statutory designated sites on, or directly adjacent to, the site and therefore there are no anticipated risk of impacts on these sites through habitat loss or direct impacts during construction. No statutory designated sites of nature conservation are located within the one kilometre desktop search radius however the Zone of Influence has been extended to include the Thames Basin Heaths SPA. New residential development within the five to seven kilometres of the Thames Basin Heaths SPA has been shown to result in increased recreational pressure on the designated site through increased disturbance of ground nesting birds including nightjar, woodlark and Dartford warbler supported within these habitats (Natural England, 2020).

¹³ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

Appendix B

Recent guidance under Wokingham Borough Council (Wokingham Borough Council, 2022) - who are members of the Thames Basin Heaths Joint Strategic Partnership Board (Thames Basin Heaths Joint Strategic Partnership Board, 2009) - outlined that new residential development that will lead to an increase of 50+ dwellings within the five to seven kilometre zone will likely contribute to significant effects on the designated site. The current proposals entail the erection of up to 34 residential dwellings, which is below the 50+ dwellings proposed to impact upon the Thames Basin Heaths SPA through increased recreational pressures (Wokingham Borough Council, 2022). Therefore, further consultation with East Hampshire District Council should be sought to determine whether the current proposals will have an impact on designated sites.

5.3.2 Mitigation Measures

East Hampshire District Council are currently not signatory to the Thames Basin Heaths Joint Strategic Partnership Board (Thames Basin Heaths Joint Strategic Partnership Board, 2009) agreement and therefore it will need to be explored further as to whether Strategic Access Management and Monitoring (SAMM) financial contributions, or further mitigation measures, will be required for this scheme.

5.3.3 Significance of Residual Effects

At this time, no significant residual effects are anticipated.

5.3.4 Compensation

At this time, no compensation measures are recommended.

5.3.5 Enhancement

No enhancement is considered necessary in relation to designated sites.

5.3.6 Monitoring

No monitoring in relation to designated sites is required.

5.4 Habitats

5.4.1 Potential Impacts and Effects

Detailed proposals are yet to be finalised however the scheme is likely to incur the loss of semi-improved grassland, areas of scrub and tall ruderal habitat within the existing non-residential area of the site. Within the Broadacre property there will a loss of amenity grassland, introduced shrub, buildings B1 and B2, and hedgerows H7 and H8 to facilitate access off School Lane. This has the potential to reduce species diversity within the site and ultimately decrease biodiversity. This would not fulfil Policy CP21 of the East Hampshire District Local Plan.

Appendix B

There is the potential for retained boundary vegetation, including hedgerows and trees, and the semi-improved grassland to be retained and enhanced within the proposed Public Open Space (POS) to the north, to incur accidental damage during the construction phase through the associated plant machinery used.

Turkey oak is a non-native invasive species (Plantlife, 2022) and was recorded as present within the site. Given the prolific growth rate of the species, its presence has the potential to impact upon native woody species within the site and threaten their survival through intraspecific competition.

5.4.2 Mitigation Measures

The application is to be supported by a Biodiversity Net Gain assessment (ECOSA, in prep) which will detail the full assessment of habitat loss, retention, creation and enhancement once detailed proposals have been finalised. It should be noted that it is anticipated that a measurable net gain of 10% will become mandatory in 2023 under the new Environment Act 2021.

It is recommended that an Ecological Mitigation and Management Plan is additionally prepared as part of the planning application to ensure that habitat creation, retention and enhancement will be secured in the long-term.

Any trees and hedgerows, and the northern grassland, to be retained during construction should follow protective measures in line with BS 5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations* (British Standards Institution, 2012). This document outlines the use of tree protection barriers to be used for the duration of the construction phase. These barriers are proposed to shield the retained vegetation from damage during construction.

It may be necessary to implement the removal of the on-site Turkey oak to ensure that it does not dominate over the native species present within the site.

5.4.3 Significance of Residual Effects

Following the mitigation measures proposed, there will still be a net loss of on-site habitats at the site level for which compensation will be required. This is considered to be of site level significance.

5.4.4 Compensation

No detailed landscaping proposals are currently available however upon preparation of the scheme, an ecologist will be required to consult on the proposed planting plan to ensure it contains suitable native species to be of benefit for protected species utilising the site, and promote site-wide biodiversity. The landscaping plan will be produced in

Appendix B

accordance with the Biodiversity Net Gain assessment and likely to include enhancement of existing hedgerows through native infill planting

To compensate for the loss of semi-improved grassland within the site, any grassland to be incorporated into the landscaping design will be sown with a suitable seed mix which will increase species diversity within the habitat. A seed mix such as Emorsgate EM2 Standard General-Purpose Meadow Mixture, is recommended as it is suitable for a wide range of soil types, and contains a 1:4 ratio of wildflower and grass species. Grassland within the proposed public open space areas will be subject to management through annual mowing with the arisings removed. Mowing will occur once a year during the autumn once the majority of species have set seed. If the grassland starts to become tussocky then it may be possible to undertake a second early spring cut.

5.4.5 Enhancement

As a form of enhancement, any new landscaping should incorporate native species or species of benefit to pollinating invertebrates. Native woody species recommended include dogwood *Cornus sanguinea*, hazel *Corylus avellana*, hawthorn *Crataegus monogyna*, spindle *Euonymus europaeus*, silver birch *Betula pendula*, holly *Ilex aquifolium*, crab apple *Malus sylvestris* and cherry *Prunus avium*. Retained hedgerows will be bolster planted and gapped-up (where necessary) to enhance areas of retained habitat, and it is recommended this includes the southern site boundary to shield the new residential areas from the existing.

If further shrub planting is introduced at the site, species should be of benefit for pollinating invertebrates and will incorporate plant species listed within the Royal Horticultural Society 'Plants for Pollinators' list and include species such as lavender *Lavandula* species and honeysuckle *Lonicera* species (RHS, 2019).

The attenuation basin proposed for the south of the site will be left to colonise naturally upon construction. This will ensure that over time, wetland plant species within the site will become established within this area.

5.4.6 Monitoring

The Ecological Mitigation and Management Plan will outline the monitoring requirements in relation to habitats within the site. It will include a five year monitoring plan to be implemented by the ultimate landowners in conjunction with suitably qualified professionals and input from an ecologist.

Appendix B

5.5 Bats

5.5.1 *Potential Impacts and Effects*

The HDA Limited single dusk emergence survey of Building B1 in June 2020 did not record any bats roosting within the Broadacre garage building, however the demolition of the building has the potential to injure and/or kill roosting bats, and destroy their roosts, if present during the demolition works.

The introduction of new lighting at the site has the potential to result in an increase in disturbance to foraging and commuting bats at the site, and has the potential to result in disturbance to any roosting bats within off-site boundary trees.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.5.2 *Mitigation Measures*

In accordance with current good practice guidelines (Collins, 2016) and the recommendations outlined within the HDA Limited bat survey report (HDA Limited, 2020), a precautionary destructive search will be undertaken prior to the demolition of the Broadacre garage building by a bat licenced ecologist. This will involve the careful removal and inspection of roofing materials and cladding that could potentially conceal bats under the supervision of a licenced bat worker, using hand tools. If a bat is discovered, works will halt and a Natural England licence will need to be sought before further demolition works can continue.

Where new lighting is to be introduced, this will comprise directional lighting in order to minimise any spill on to both retained and newly created habitats, in particular boundary vegetation. Ideally the bulbs will be LED and at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife¹⁴. New lighting should be task related, and associated with entry/exit points of the new residential development, and directed away from the retained trees and hedgerows within the site. The lux level will be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels and mitigation options as described within the Bats and Artificial Lighting in the UK report will be followed (Institution of Lighting Professionals, Bat Conservation Trust, 2018).

¹⁴ *Wildlife and Artificial Lighting Seminar*, 21st – 22nd March 2014, Arup London, Bat Conservation Trust.

Appendix B

5.5.3 Significance of Residual Effects

If the mitigation measures outlined above are followed, it is anticipated that there will be no significant residual effects in relation to bats.

5.5.4 Compensation

Given that no significant residual effects are anticipated, no compensation measures are required in relation to bats.

5.5.5 Enhancement

To enhance the site for roosting bats, at least 20% of the newly constructed residential dwellings will have bat boxes integrated into the fabric of the building. Vivara Pro WoodStone Build In Bat Boxes are recommended. The integrated boxes will be positioned on a variety of elevations and ideally towards retained boundary vegetation for accessibility into the wider landscape. In addition, a further three bat boxes will be installed onto retained trees within the site to provide additional roosting opportunities for the species group.

5.5.6 Monitoring

No monitoring is required with respect to bats.

5.6 Badger

5.6.1 Potential Impacts and Effects

No resident badger were recorded from within the site, however the current proposals have the potential to reduce the amount of suitable habitat for foraging individuals, and impact upon commuting pathways for individuals passing through the landscape.

Badger are protected from killing and injury, and their setts protected from damage and interference, under the Protection of Badgers Act 1992. Refer to **Appendix 3** for details.

5.6.2 Mitigation Measures

Given that the status of badger can change over time, an updating badger survey will be undertaken no more than six months prior to the commencement of the development. Preferably this would be undertaken over the winter months when vegetation cover is lowest. If evidence of resident badger is recorded then a suitable mitigation strategy should be devised, potentially including a sett closure under a Natural England badger licence.

In order to prevent individuals from becoming trapped in excavations overnight, all open excavations will be covered when construction works have finished for the day, and a timber ramp inserted to allow any trapped individuals to escape on their own accord.

Appendix B

5.6.3 Significance of Residual Effects

If the mitigation measures outlined above are followed, it is anticipated that there will be no significant residual effects in relation to badger within the site.

5.6.4 Compensation

Given that no significant residual effects are anticipated, no compensation measures are required in relation to badger.

5.6.5 Enhancement

The incorporation of fruit bearing trees into new native planting proposed within the site (see Paragraph 5.4.5) will indirectly enhance the site for badger by providing additional foraging resources for individuals.

5.6.6 Monitoring

No monitoring is required with respect to badger.

5.7 Hazel Dormouse

5.7.1 Potential Impacts and Effects

Any vegetation removal works within the site, particularly of the scrub and hedgerow habitats, has the potential to injure and/or kill hazel dormouse, destroy their nests, and ultimately cause habitat fragmentation, if present during the clearance works.

Any increase in lighting at the site has the potential to result in increased disturbance to hazel dormouse within the boundary vegetation.

In England, hazel dormouse and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.7.2 Mitigation Measures

No hedgerow fragmentation is anticipated as part of the proposals, except for the removal of Hedgerows H7 and H8 along the eastern site boundary and therefore a full suite of dormouse surveys is not required. Hedgerows which are not subject to removal will be protected through the use of protective barriers, as detailed within Paragraph 5.4.2. Any hedgerow removal within the site will follow a precautionary approach with respect to dormouse given the potential for the species to utilise the on-site habitats. A dormouse licenced ecologist will provide the on-site contractors with a toolbox talk prior to works commencing, before supervision of the removal of woody vegetation using hand tools. In the unlikely event a dormouse is discovered during the works, all activity will cease and Natural England will be consulted.

Appendix B

A sensitive lighting strategy will need to be implemented as part of the scheme as detailed within Paragraph 5.5.2.

5.7.3 Significance of Residual Effects

Measures to avoid disturbance or harm to hazel dormouse during construction will mitigate for these potential effects. There will be a net loss of suitable habitat for hazel dormouse which is significant at the site level

5.7.4 Compensation

The planting of native woody species within the site (see Paragraph 5.4.5), and the bolster infill planting of existing boundary vegetation, will provide diverse commuting habitat and a variety of food species suitable for foraging hazel dormouse.

5.7.5 Enhancement

Enhancement of the existing hedgerows through native infill planting and the creation of further hedgerow networks within the site would increase site-wide connectivity for hazel dormouse.

5.7.6 Monitoring

No monitoring is required with respect to hazel dormouse.

5.8 Birds

5.8.1 Potential Impacts and Effects

Any vegetation removal works within the site has the potential to injure and/or kill breeding birds, their nests and chicks, if present during the clearance works.

Any increase in lighting at the site has the potential to result in increased disturbance to breeding birds nesting within the boundary vegetation.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

5.8.2 Mitigation Measures

Any vegetation removal will be undertaken within the breeding bird season, which extends from March to August (inclusive), to coincide with the reptile (Paragraph 5.9.2) and great crested newt (Paragraph 5.10.2) active seasons. A suitably qualified ecologist will inspect the habitat to be removed immediately prior to works commencing. If any evidence of nesting is discovered, a suitable buffer (minimum five metres) will be enforced and delays to the work schedule may incur until nesting has ended and chicks have fledged.

Appendix B

A sensitive lighting strategy will need to be implemented as part of the scheme as detailed within Paragraph 5.5.2.

5.8.3 Significance of Residual Effects

Measures to avoid disturbance or harm to nesting birds during construction will mitigate for these potential effects. There will be a net loss of suitable habitat for breeding birds which is significant at the site level

5.8.4 Compensation

The planting of native woody species within the site (see Paragraph 5.4.5), and the bolster infill planting of existing boundary vegetation, will provide diverse woody structures and additional suitable nesting habitat for the species group within the site.

5.8.5 Enhancement

As a form of enhancement, a minimum of 10% of the newly constructed residential dwellings will have WoodStone House Sparrow Terraces integrated into the fabric of buildings. Additionally, a minimum of 20% of the newly constructed buildings will include integral Ibstock Swift Bricks (or similar) given that swifts *Apus apus* are a nationally declining bird species. The boxes will be positioned towards further suitable habitat within the wider landscape, ideally on eastern, south-eastern or southern elevations of the properties, and provide additional nesting opportunities.

5.8.6 Monitoring

No monitoring in relation to breeding birds is required.

5.9 Reptiles

5.9.1 Potential Impacts and Effects

The reptile surveys undertaken by HDA Limited in 2020 recorded a low population of grass snake within the site (HDA Limited, 2020), with a peak count of two individuals recorded. The removal of the semi-improved grassland, scrub and tall ruderal habitat has the potential for direct impacts on reptiles, such as the killing and injury of individuals during site clearance, and long-term loss of suitable reptile habitat at the site.

Widespread reptile species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm. Refer to **Appendix 3** for details.

5.9.2 Mitigation Measures

Given the presence of a low population of grass snake within the site, it will be necessary to ensure that these animals are not harmed during the necessary ground

Appendix B

clearance works prior to development, and that animals are not present within the development area during construction works.

In order to prevent the killing and/or injury of reptile individuals present within the site, a precautionary destructive search should be undertaken prior to works beginning on site. This will involve a suitably qualified ecologist supervising two-stage vegetation removal, with an initial cut down to 150 millimetres before the top soil is stripped. The clearance works will be undertaken in a directional manner from east to west to encourage individuals to disperse into the retained boundary vegetation of their own accord. Any reptile individuals encountered during the destructive search works will be relocated to a suitable area of retained habitat such as within the south-western corner of the site within the boundary vegetation surrounding the proposed attenuation basin. The works will need to be undertaken during the reptile active season which extends from April to October, inclusive.

5.9.3 Significance of Residual Effects

Measures to avoid disturbance or harm to reptiles during construction will mitigate for these potential effects. There will be a net loss of suitable reptile habitat at the site level which will require compensation.

5.9.4 Compensation

The planting of native woody species within the site (see Paragraph 5.4.5), and the bolster infill planting of existing boundary vegetation, will provide additional understorey and ground flora layers for foraging and sheltering reptiles.

New grassland planting will provide site-wide suitable reptile habitat, and grassland planted adjacent to retained boundaries should be left to develop naturally and not subject to frequent management. This will allow a longer sward and tussocky areas to develop to benefit reptile individuals.

5.9.5 Enhancement

As a form of enhancement, a single reptile hibernacula will be created within the habitat associated with the proposed attenuation basin within the southwest of the site to provide additional basking and sheltering opportunities for the species group.

5.9.6 Monitoring

No monitoring with respect to reptiles is required.

Appendix B

5.10 Great Crested Newt

5.10.1 *Potential Impacts and Effects*

The removal of the semi-improved grassland, scrub and tall ruderal habitat has the potential for direct impacts on great crested newt within its terrestrial phase, such as the killing and injury of individuals during site clearance, and long-term loss of suitable habitat at the site.

In England, great crested newt and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.10.2 *Mitigation Measures*

In accordance with the recommendations outlined within the HDA Limited ecological appraisal report (HDA Limited, 2020), given the presence of great crested newt within 250 metres of the site boundary, Reasonable Avoidance Measures (RAMs) will be implemented during site clearance works to ensure great crested newt are not detrimentally impacted by the proposed works.

A two-step precautionary approach will be undertaken to mitigate for any potential impacts on great crested newt as a result of the proposed development.

The first stage will involve vegetation manipulation in which the habitats will be reduced down to no less than 100 millimetres (likely to 150 millimetres in accordance with the reptile methodology detailed in Paragraph 5.9.2) using handheld machinery to reduce the suitability of the habitats and encourage individuals to disperse into suitable retained habitat, such as the base of the boundary vegetation. This will be undertaken in a directional manner from east to west. This initial stage will be supervised by a licenced ecologist and undertaken during the great crested newt active season between March to October (inclusive), however ideally during the newt breeding season (mid-March to mid-June, inclusive) when individuals are more likely to be present in their aquatic phase and breeding.

Following the initial vegetation cut and five suitable days have passed in which no great crested newt are recorded as present within the site, the second stage of clearance can commence in which the topsoil is stripped under the supervision of a licensed ecologist. This works should be undertaken within the time periods specified above to ensure they coincide with the great crested newt and reptile active seasons. Clearance will be in a directional manner, working from east to west.

Appendix B

In the unlikely event that during the clearance works a great crested newt is encountered, works will halt immediately and Natural England consulted.

5.10.3 Significance of Residual Effects

Measures to avoid disturbance or harm to great crested newt during construction will mitigate for these potential effects. There will be a net loss of suitable habitat at the site level which will require compensation.

5.10.4 Compensation

The planting of native woody species within the site (see Paragraph 5.4.5), and the bolster infill planting of existing boundary vegetation, will provide additional understorey and ground flora layers for foraging and sheltering great crested newt in their terrestrial phase.

New grassland planting will provide site-wide suitable habitat, and grassland planted adjacent to retained boundaries should be left to develop naturally and not subject to frequent management. This will allow a longer sward and tussocky areas to develop to benefit great crested newt individuals.

5.10.5 Enhancement

The construction of a hibernacula for reptiles (see Paragraph 5.9.5) will be of additional benefit for great crested newt providing suitable sheltering habitat for individuals.

The natural development of vegetation associated with the proposed attenuation basin within the southwest of the site (Paragraph 5.4.5) will provide suitable aquatic habitat for great crested newt within their aquatic phase once established.

5.10.6 Monitoring

No monitoring in relation to great crested newt is required.

5.11 Other Relevant Species

5.11.1 Potential Impacts and Effects

The removal of on-site vegetation has the potential to injure and/or kill hibernating European hedgehog and common toad, if present. The installation of new barriers within the site may disrupt commuting pathways for European hedgehog. Given the habitats of greater suitability for European fox and deer within the wider landscape, and the unsuitability of the on-site habitats for resident individuals, no potential impacts are anticipated in relation to these species.

European hedgehog is protected under Schedule 6 of the Wildlife and Countryside Act 1981 against killing or capturing them using certain methods, whilst common toad is protected under Schedule 5 - see Appendix 3 for details.

Appendix B

5.11.2 Mitigation Measures

A watching brief will be undertaken by on-site contractors during the clearance works for European hedgehog and common toad. Should any individuals or their nests (in the case of European hedgehog) be encountered as part of the clearance works, then these should be relocated to retained boundary habitat.

Any new barriers to be erected within the site should comprise post and rail fences, and not closed board fences or brick walls. If post and rail fences are not possible, gaps should be created within the wooden boards or brick walls measuring a minimum of 13 by 13 centimetres to allow safe passage of individuals across the site, termed 'Hedgehog Highways' (Peoples Trust for Endangered Wildlife, 2018)

5.11.3 Significance of Residual Effects

If the mitigation measures outlined above are followed, it is anticipated that there will be no significant residual effects in relation to European hedgehog and common toad.

5.11.4 Compensation

Given that no significant residual effects are anticipated, no compensation measures are required in relation to European hedgehog and common toad.

5.11.5 Enhancement

The construction of a hibernacula for reptiles (see Paragraph 5.9.5) will be of additional benefit for European hedgehog and common toad by providing suitable sheltering habitat for individuals. New grassland planting throughout the site (Paragraph 5.4.4) will provide additional foraging and commuting opportunities for the species.

5.11.6 Monitoring

No monitoring in relation to European hedgehog and common toad is required.

5.12 Cumulative Effects

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

Appendix B

6.0 CONCLUSIONS

6.1 Conclusion

No statutory designated sites lie within one kilometre of the site however the Thames Basin Heaths SPA lies approximately 5.8 kilometres to the south. Further consultation with East Hampshire District Council should be sought to determine further mitigation required to offset any potential recreational pressures on the designated site as a result of the proposed development.

A Biodiversity Net Gain Assessment is being prepared for the scheme to ensure it delivers a minimum of 10% net gain in biodiversity. An Ecological Mitigation and Management Plan should be prepared to accompany the planning application to ensure the long-term protection and monitoring of the existing and newly created habitats is secured.

The site was assessed to contain a single garage building (B1) of low suitability for roosting bats, and a single dusk emergence survey undertaken by HDA Limited in June 2020 did not record any evidence of roosting bats within the site. Reptile surveys recorded a peak count of two grass snake and therefore the site supports a low population of the species. The site has been assessed as suitable for roosting, foraging and commuting bats, hazel dormouse, foraging and commuting badger and European hedgehog, breeding birds, reptiles, great crested newt and common toad. Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed, including a sensitive lighting design, the implementation of protective barriers throughout the construction phase, sensitively timed works, and appropriately designed fencing to permit passage for European hedgehog.

Compensatory measures will include new site-wide planting which will be of benefit for a number of protected species. Post-development, no residual or cumulative impacts are anticipated. The site will be enhanced for bats and birds through the installation of additional bat roosting and bird nesting features, the installation of reptile hibernaculum within retained boundary vegetation, and the planting of species to benefit pollinating invertebrates. Upon the completion of the Biodiversity Net Gain assessment, it will then be considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including Policies CP21 and CP22 of the East Hampshire District Local Plan and the NPPF (see Section 2.0).

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work

Appendix B

may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

Appendix B

7.0 REFERENCES

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[oak#:~:text=A%20non%2Dnative%20invasive%20plant,its%20leaves%20are%20also%20pointed](https://www.plantlife.org.uk/uk/discover-wild-plants-nature/plant-fungi-species/turkey-oak#:~:text=A%20non%2Dnative%20invasive%20plant,its%20leaves%20are%20also%20pointed)

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Appendix B

Map 1 Site Location Plan

Appendix B

SCHOOL LANE (LAND WEST OF), BENTLEY, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

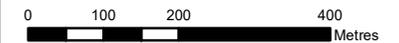
Client:	Camping Property
Date:	October 2022
Status:	Final

KEY

 Site Boundary



Scale at A4: 1:10,000



Prepared by: OW	Date: 230822
Last amended by: OW	Date: 171022

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Appendix B

Map 2 Phase 1 Habitat Map

Appendix B

SCHOOL LANE (LAND WEST OF), BENTLEY, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

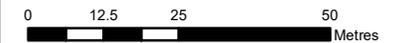
Map 2 - Phase 1 Habitats Map

Client:	Camping Property
Date:	October 2022
Status:	Final

KEY

-  Site Boundary
-  Dense/Continuous Scrub
-  Semi-improved Grassland
-  Tall Ruderal
-  Amenity Grassland
-  Introduced Shrub
-  Buildings
-  Hardstanding
-  Dry Ditch
-  Species-poor Intact Hedgerow
-  Species-poor Hedge and Trees
-  Fence
-  Brick Wall
-  Scattered Trees
-  Log/Brush Pile
-  Building Number
-  Hedgerow Number

Scale at A4: 1:1,250



Prepared by: OW	Date: 230822
Last amended by: OW	Date: 171022

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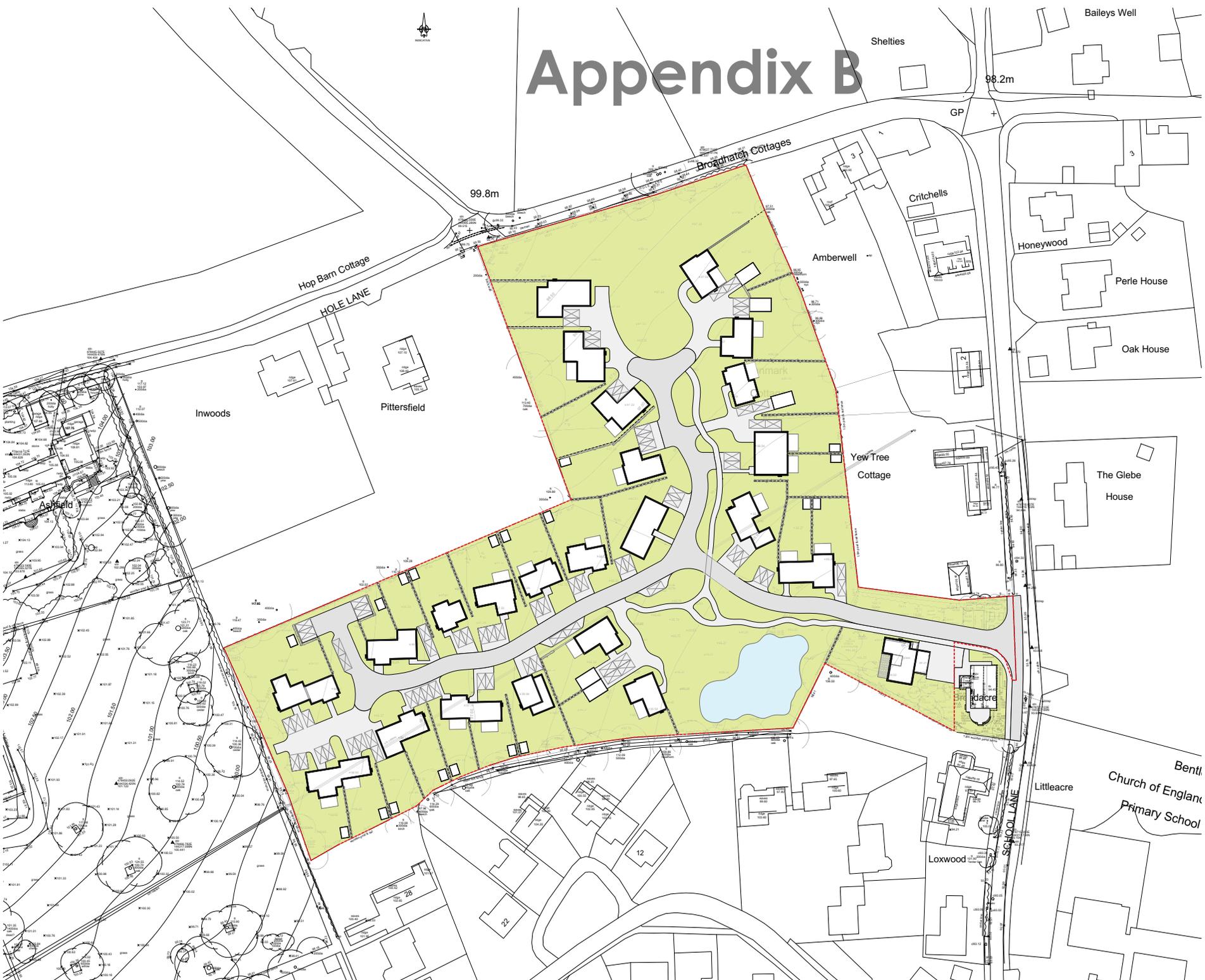
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Appendix B

Appendix 1 Proposed Site Layout

Appendix B

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 project title: School Lane, Bentley
 document title: Proposed Site Plan
 date created: Oct 2022
 scale at A1: 1:500
 project: P22049 - RFT - 00 - 00 - DR - A - 0100
 status: S0
 originator: KM
 volume: MS
 level: MS
 type: NA
 checked by: NA
 approved by: NA
 initial description: Initial Issue
 role: NA
 number: P01
 revision: P01



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project title: School Lane, Bentley		
document title: Proposed Site Plan		
date created: Oct 2022	drawn by: KM	checked by: MS
scale at A1: 1:500		
project: P22049 - RFT - 00 - 00 - DR - A - 0100	volume: MS	level: MS
status: S0	initial description: Initial Issue	role: NA
originator: KM	checked by: NA	approved by: NA
number: P01	revision: P01	

Appendix B

Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on SPAs, SACs or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a SPA, SAC or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Appendix B

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Non-Statutory Sites

Locally Designated Sites

In addition to statutory designations, local authorities often designate sites of nature conservation importance at the local level. Such designations are named differently by each local authority and may be referred to as Local Wildlife Sites (LWS), Sites of Importance for Nature Conservation (SINC) or Sites of Nature Conservation Importance (SNCI), amongst others. The exact level of protection afforded to these sites varies and is normally defined through local planning policy.

Appendix B

Appendix 3 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
 - To impair its ability to survive, breed, or rear or nurture their young;
 - To impair its ability to hibernate or migrate;
 - To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Appendix B

Hazel Dormouse and Great Crested Newt

These species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely, to impair its ability to survive, breed, or rear or nurture their young, to impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any one of these species uses for shelter or protection.

Badger

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

- Kill, injure or take a badger;
- Attempt to kill, injure or take a badger; or
- To damage or interfere with a sett.

The 1992 Act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

Appendix B

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

Appendix B

Appendix 4 Protected and Notable Species Appraisal Methods

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings and trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as loose or missing roof tiles or lifted lead flashing for buildings and holes, cracks, splits, loose bark and ivy cladding for trees.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

Hazel Dormouse

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed

Appendix B

bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.3), and their suitability to be used as a network.

Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England

Appendix B

Biodiversity List, and Local Biodiversity Action Plan (LBAP) species¹⁵, specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

¹⁵ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

Appendix B

Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 1**¹⁶.

Table 1: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	<p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>
Moderate	A structure of tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat).</p> <p>Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch or scrub.</p>
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

¹⁶ Table adapted from (Collins, 2016)

Appendix B

Appendix 6 Statutory Designated Sites within the Zone of Influence

Details of statutory designated sites within the Zone of Influence, as listed in Paragraph 4.2.1, are provided in **Table 2**.

Table 2: Statutory Designated Sites Located Within the Zone of Influence

Site Name	Thames Basin Heaths
Site Designation	SPA
Approximate Relative Location	5.8 kilometres north
Reasons for Designation:	
<p>The Thames Basin Heaths SPA is a composite site that is located across the counties of Surrey, Hampshire and Berkshire in southern England. The open heathland habitats overlie sand and gravel sediments which give rise to sandy or peaty acidic soils, supporting dry heathy vegetation on well-drained slopes, wet heath on low-lying shallow slopes and bogs in valleys. The site consists of tracts of heathland, scrub and woodland, once almost continuous, but now fragmented into separate blocks by roads, urban development and farmland. Less open habitats of scrub, acidic woodland and conifer plantations dominate, within which are scattered areas of open heath and mire. The site supports important breeding populations of a number of birds of lowland heathland, especially Nightjar <i>Caprimulgus europaeus</i> and Woodlark <i>Lullula arborea</i>, both of which nest on the ground, often at the woodland/heathland edge, and Dartford Warbler <i>Sylvia undata</i>, which often nests in gorse <i>Ulex</i> sp. Scattered trees and scrub are used for roosting.</p> <p>Together with the nearby Wealden Heaths SPA and Ashdown Forest SPA, the Thames Basin Heaths form part of a complex of heathlands in southern England that support important breeding bird populations. This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:</p> <p>During the breeding season:</p> <p>Dartford Warbler <i>Sylvia undata</i>, 445 pairs representing at least 27.8% of the breeding population in Great Britain (Count as at 1999)</p> <p>Nightjar <i>Caprimulgus europaeus</i>, 264 pairs representing at least 7.8% of the breeding population in Great Britain (Count mean (1998-99))</p> <p>Woodlark <i>Lullula arborea</i>, 149 pairs representing at least 9.9% of the breeding population in Great Britain (Count as at 1997)</p>	

Appendix B

Appendix 7 Bat Survey Report (August 2020; HDA Limited)

Appendix B

Landscape Architecture
Masterplanning
Ecology



HOLE LANE, BENTLEY

BAT SURVEY REPORT

Prepared for



by

Hankinson Duckett Associates

HDA ref: 966.1

August 2020

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Appendix B

CONTENTS

	Page
1 Introduction	1
2 Methodology	3
3 Results	7
4 Evaluation	15
5 Recommendations	16
6 Conclusion	24
7 References	25

HDA Document Control and Quality Assurance Record

APPENDICES

- A Bat Roost Survey Summary Plan
- B Bat Activity Survey Summary Plan
- C Photographs

Appendix B

1 INTRODUCTION

1.1 Site location and summary description

1.1.1 This report describes a suite of bat surveys carried out within approximately 5.4ha of land to the south and east of Hole Lane, Bentley, Farnham, hereinafter referred to as 'the site'. The site centre is located by National Grid Reference SU 785 443. The study was commissioned by Mr Bob Camping in March 2020.

1.1.2 The site is located to the north of the village of Bentley in East Hampshire and comprises a series of grassland fields bordered by hedgerows and treelines, with an area of woodland immediately adjacent to the western site boundary. Two residential dwellings set within managed gardens are present within the site including Ashfield House in the north and Broadacres in the south-east. The site is bordered to the north by Hole Lane and residential dwellings, beyond which is a band of woodland and fields; to the east by residential properties along School Lane; to the south by residential properties; and to the west by Hole Lane.

1.1.3 A more detailed description of the habitats within the site and its surrounds is given in the Ecological Appraisal (HDA, 2020a). The location and boundary of the site are shown in *Appendix A*.

1.2 Legislative context

1.2.1 All UK bat species are 'European Protected Species' (EPS) protected under the 2019 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations. In relation to an EPS, the 2019 Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of an EPS;
- Deliberately disturb wild animals of any such species, in particular any disturbance which is likely to: (i) impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or to hibernate or migrate; (ii) affect significantly the local distribution or abundance of the species to which they belong;
- Damage or destroy a breeding site or resting place of such an animal; and/or
- To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.

1.2.2 In addition, all UK bats are protected under the 1981 Wildlife and Countryside Act (as amended). All species are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; and/or
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat.

Appendix B

1.2.3 If works are planned that are likely to constitute an offence under the current legislation, an application for an appropriate derogation licence should be made to Natural England.

1.2.4 Seven species of bat (Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe and Lesser Horseshoe) are also identified as Species of Principal Importance under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Section 40 of the Act, together with planning policy and guidance, require planning authorities to regard these species as a material consideration in the planning process.

1.3 Development proposals

1.3.1 The site is proposed for the provision of residential development with associated infrastructure and areas of public open space, as illustrated by the Landscape Strategy (HDA, 2020b).

1.4 Scope and purpose of the report

1.4.1 An extended Phase 1 habitat survey and Phase 1 bat scoping survey carried out in March 2020 as part of the Ecological Appraisal (HDA, 2020a) identified habitats within the site suitable for use by roosting, foraging and commuting bats.

1.4.2 In recognition of the proposed redevelopment of the site, the potential for the site to be used by bats, and within the legislative context set out in *Section 1.2*, a suite of bat surveys were undertaken to determine use of the site by bats and to identify any need for licensing or mitigation. Specifically, the aims of the study were:

- i. To identify potential bat roosts in buildings and trees within the site, where potentially affected by the proposed development;
- ii. To determine the presence/likely absence of bats within potential roosts affected by the proposed works and identify species and numbers;
- iii. To determine levels of bat foraging and commuting activity within habitat potentially affected by the proposed development;
- iv. To determine the requirement, if any, for licensing in respect of bats; and
- v. To identify appropriate mitigation and/or enhancement measures to ensure that the development avoids adverse impacts on bats and, where possible, provides enhancements to support the long-term favourable conservation status of bats in accordance with nature conservation legislation, planning policy and the 2006 NERC Act.

Appendix B

2 METHODOLOGY

2.1 Introduction

2.1.1 The methodology followed in relation to all bat survey work undertaken at the site is consistent with current legislation and good practice guidelines set out by the Bat Conservation Trust (BCT, 2016). Any deviations from the guidelines are identified under the limitations set out in *Section 2.5*. The following sections detail the suite of surveys undertaken to inform the assessment of the proposed development on bats and the results of these surveys are provided in *Section 3*.

2.2 Phase 1 bat scoping survey

2.2.1 The site was initially subject to a Phase 1 bat scoping survey by Hayley Snowdon GradCIEEM of HDA on 25th March 2020. All buildings and trees within the site were assessed for their potential to support roosting bats and classified according to their potential.

Phase 1 building survey

2.2.2 All buildings within the site were inspected externally from ground level using binoculars and a powerful torch to identify and investigate any potential entry and exit points such as missing roof tiles, loose fascias and lifted lead flashing, and to look for evidence of entry/exit in the form of staining, discolouration and/or scratch marks.

2.2.3 Internally, buildings were searched exhaustively where possible, to look for evidence of current or former occupation by bats. A powerful torch was also used to investigate any accessible cavities, crevices and recesses in each building.

2.2.4 In view of the findings of the internal/external inspections, the potential of the buildings to support roosting bats ('confirmed roost', 'high', 'moderate', 'low' or 'negligible') was assessed in accordance with current best practice guidelines. Assessment of bat roosting potential requires consideration of a number of criteria, including the design and construction of the building or structure, the size and location of potential features and access points, the position of the building or structure, aspect, geographical location, surrounding land use and adjacent landscape linkages.

Phase 1 tree survey

2.2.5 All trees within the site were inspected from ground-level with the aid of binoculars and a powerful torch to identify potential features suitable for use by roosting bats. Potential features include splits, cracks and cavities, peeling bark, woodpecker holes, broken branches and a covering of ivy where this is of a sufficient age to provide a suitable microclimate between the tree and ivy stem(s).

Appendix B

2.2.6 In accordance with current best practice guidelines (BCT, 2016), trees were placed into one of five categories. Categorisation was based on the nature, size, location and quality of features present in each tree:

- Negligible suitability - Trees with no or negligible features for roosting bats;
- Low suitability - Trees of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential;
- Moderate suitability - Trees with one or more potential roost sites that could be used by bats but are unlikely to support roost types of high conservation status;
- High suitability - Trees with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time; or
- Known or confirmed bat roost.

2.3 Phase 2 roost surveys

2.3.1 The results of the Phase 1 bat scoping survey of buildings and trees were used to determine the need for Phase 2 survey work of buildings and trees potentially affected by the development proposals. Phase 2 bat roost emergence surveys were conducted to determine presence/probable absence of roosting bats and, where present, identify species and numbers. The level of survey effort conducted was determined with reference to the identified bat roosting potential of each feature in accordance with best practice guidelines.

2.3.2 Surveyors with electronic bat detectors¹ were positioned around each feature to record bats emerging from or entering the building/tree. Surveyors were positioned to provide adequate coverage of all potential emergence points on each feature surveyed. Dusk emergence surveys generally began 15 minutes before sunset, ending approximately 1.5 hours after sunset. Records were made of any emergences and incidental records were also made of bat commuting and foraging activity in the vicinity of each surveyor.

2.3.3 In line with current best practise guidelines (BCT, 2016), Phase 2 bat roost surveys were not conducted on trees which were assessed as having low potential to support roosting bats. Further surveys of these low potential trees are not required, at this stage, in support of a planning application. However, in the event that retention of a tree identified as having low (or higher) potential to support roosting bats is not possible, the appropriate approach to works is given in *Section 5* below.

¹ Pettersson D240x heterodyne and time-expansion detector with MP3 recorder, Anabat Walkabout, Anabat Express and Anabat SD2 with 'Analook' recording software.

Appendix B

2.3.4 Details of the dates and timings of the Phase 2 bat roost surveys are provided in *Table 1* below.

Table 1: Timing and conditions of Phase 2 bat roost surveys

Building/Tree surveyed	Date/Time	Sunset	Conditions
B1 (Ashfield House)	12.05.2020 20:24 – 22:09	20:39	80% cloud cover, Beaufort Scale = 1, dry, 11-10°C
	04.06.2020 20:58 – 22:43	21:13	100% cloud cover, Beaufort Scale = 0, dry, 12.2-11.3°C
	23.06.2020 21.08 – 22.53	21.23	10% cloud cover, Beaufort Scale = 0, dry, 18.6-13.8°C
B6 (Garage)	04.06.2020 20:58 – 22:43	21:13	100% cloud cover, Beaufort Scale = 0, dry, 12.2-11.3°C
T2 & T9	12.05.2020 20:24 – 22:09	20:39	80% cloud cover, Beaufort Scale = 1, dry, 11-10°C
	11.06.2020 21.04 – 22.49	21:19	100% cloud cover, Beaufort Scale = 2-3, 14-11°C

2.4 Phase 2 bat activity survey

Bat activity transects

2.4.1 In order to provide an assessment of the importance of the site for foraging and commuting bats, dusk activity surveys were undertaken between April and July 2020. Surveyors carrying hand-held bat detectors walked transects of the site, with listening stops at regular intervals for periods of up to 5 minutes. Visual observations of bats and bat call registrations were noted, recording time, location, activity and, where known, species. Recordings of foraging and/or commuting activity made using digital devices were subsequently analysed to determine the identity of any unconfirmed species recorded during the surveys. Times and dates of surveys are given in *Table 2* below, along with weather conditions.

Table 2: Details of bat activity surveys

Date	Sunset	Time	Weather conditions
30.04.2020	20:25	20:25 – 22:25	15% cloud cover, Beaufort Scale = 1, dry, 9-8°C
11.06.2020	21:19	21:15 – 23:19	100% cloud cover, Beaufort Scale = 2-3, dry, 14-11°C
07.07.2020	21:01	21:00 – 23:01	100- 25% cloud cover, Beaufort Scale = 0-1, dry, 19-15.5°C

Automated surveys

2.4.2 Automated surveys were carried out as a supplement to the activity transect surveys and to gain further information on the species and frequency of bat activity at the site. A programmable electronic bat detector² was positioned in suitable habitat and left in place on three occasions between May to July 2020. The detector was programmed to record

² Anabat Express with 'Analog' software

Appendix B

all bat activity. Details of the times and dates of automated bat detector deployments are provided in *Table 3* below and the location of each detector deployed is shown in *Appendix B*.

Table 3: Details of automated bat detector deployment

Location	Deployment and collection date	Sunset/Sunrise	Temp. Max./Min. (°C)
A	15/05/2020 – 16/05/2020	20:46 / 05:11	10 / 4
	16/05/2020 – 17/05/2020	20:48 / 05:10	11 / 6
	17/05/2020 – 18/05/2020	20:49 / 05:09	14 / 8
	18/05/2020 – 19/05/2020	20:51 / 05:07	16 / 8
	19/05/2020 – 20/05/2020	20:52 / 05:06	18 / 8
	20/05/2020 – 21/05/2020	20:53 / 05:05	17 / 7
	21/05/2020 – 22/05/2020	20:55 / 05:04	18 / 15
	22/05/2020 – 23/05/2020	20:56 / 05:02	15 / 9
	23/05/2020 – 24/05/2020	20:57 / 05:01	13 / 9
B	11/06/2020 – 12/06/2020	21:17 / 04:44	18 / 13
	12/06/2020 – 13/06/2020	21:18 / 04:43	16 / 12
	13/06/2020 – 14/06/2020	21:19 / 04:43	16 / 9
	14/06/2020 – 15/06/2020	21:19 / 04:43	17 / 9
	15/06/2020 – 16/06/2020	21:19 / 04:43	20 / 11
	16/06/2020 – 17/06/2020	21:20 / 04:43	19 / 9
C	07/07/2020 – 08/07/2020	21:17 / 04:59	22 / 15
	08/07/2020 – 09/07/2020	21:16 / 05:00	18 / 16
	09/07/2020 – 10/07/2020	21:16 / 05:01	18 / 14
	10/07/2020 – 11/07/2020	21:15 / 05:02	15 / 8
	11/07/2020 – 12/07/2020	21:14 / 05:03	16 / 7
	12/07/2020 – 13/07/2020	21:13 / 05:04	17 / 10

2.4.3 The results of the dedicated bat activity transect and automated detector surveys are further supported by additional incidental records of bat activity made during the emergence surveys of the buildings and trees within the site. Together, these surveys allow a robust assessment of bat foraging and commuting activity throughout the site.

2.5 Limitations of surveys

2.5.1 During the Phase 1 bat scoping survey some of the buildings within the site could not be accessed internally or the external elevations viewed adequately on the grounds of health and safety due to the COVID-19 virus. In view of this, a precautionous approach was taken when assigning bat roost potential to these buildings and as such this is not considered a significant constraint to the survey. Trees within the gardens of residential properties were also not surveyed in detail and the activity survey did not include the residential gardens due to access constraints because of COVID-19. The reduced access during the activity survey is not considered a significant limitation as incidental bat activity within these areas of the site was recorded during the emergence surveys of the buildings.

Appendix B

However, if trees within these gardens are proposed for removal, they will require further survey for bat roosting potential, this is discussed further in *Section 5.2.6* below.

2.5.2 It is understood that the residential property within the Broadacre land will be retained within the scheme and subsequently it has not been subject to a Phase 1 bat scoping survey. If proposals change and removal of this building is required, the building will need to be subject to a Phase 1 bat scoping survey to identify its potential to support roosting bats, this is discussed further in *Section 5.2.6* below.

2.5.3 Notwithstanding the above, all surveys followed best practice guidelines (BCT, 2016) and were conducted at an appropriate time of year, under favourable weather conditions and with an appropriate level of survey effort both in terms of the number of surveyors used and number of survey visits undertaken. The surveys are therefore considered sufficient to allow a robust assessment of the likely effects of the proposed development on bats.

3 RESULTS

3.1 Phase 1 building scoping survey

3.1.1 All buildings within the site were inspected during the Phase 1 bat scoping survey³. The results of the Phase 1 building survey are summarised in *Table 4* below and the location of the buildings are shown in *Appendix A*. Photograph references relate to the photographs provided in *Appendix C*.

Table 4: Results of the Phase 1 bat scoping building survey

Building	Description	Findings	Bat roost potential
B1 (Photos 1 and 2)	Ashfield House Two storey residential property constructed of brick walls with a hipped, tiled roof. The building has features including soffit boxing, hanging tiles, dormer windows and chimneys.	External A small number of lifted and missing roof tiles are present across the roof, dormer windows are present on the northern and southern elevations and a small number of hanging tiles are missing on the southern elevation. Internal No access to internal areas on the grounds of health and safety (see <i>Section 2.5.1</i>). No evidence of bats recorded.	High

³ It is understood that the residential property within the Broadacre land will be retained within the scheme. If proposals change and removal of this building is required, the building will need to be subject to a Phase 1 bat scoping survey to identify its potential to support roosting bats.

Appendix B

Building	Description	Findings	Bat roost potential
B2 (Photo 3)	Shed A single-storey shed constructed of wooden shiplap walls and a pitched corrugated bitumen roof.	External Although the bitumen roof is slightly lifted in places, it is not considered to provide suitable features for roosting bats. Internal No access to internal areas on the grounds of health and safety (see <i>Section 2.5.1</i>). The building is light within due to the presence of windows and it is therefore considered highly unlikely to support roosting bats. No evidence of bats recorded.	Negligible
B3 (Photo 4)	Garage A single-storey garage constructed of wooden shiplap walls and a pitched corrugated bitumen roof. A greenhouse is attached to the eastern elevation of the garage.	External Although slight gaps are present under the roofing on the western elevation, these are highly unlikely to provide suitable features for roosting bats. Internal No access to internal areas on the grounds of health and safety (see <i>Section 2.5.1</i>), however taking into consideration the nature and construction of the building it is considered highly unlikely to support roosting bats. No evidence of bats recorded.	Negligible
B4 (Photo 5)	Shed Single-storey garden shed with wooden shiplap walls and pitched felt roof. A lean to with wooden weatherboard and plastic sheet walls and a sloping felt roof is attached to the eastern elevation.	External No suitable features for roosting bats recorded. Internal No access to internal areas on the grounds of health and safety (see <i>Section 2.5.1</i>), however taking into consideration the nature and structure of the building it is considered highly unlikely to support roosting bats. No evidence of bats recorded.	Negligible
B5 (Photo 6)	Greenhouse Single-storey greenhouse with glass walls and pitched glass roof.	External No suitable features for roosting bats recorded. Internal No suitable features for roosting bats recorded. No evidence of bats recorded.	Negligible

Appendix B

Building	Description	Findings	Bat roost potential
B6 (Photo 7)	Shed Single-storey garden shed with wooden shiplap walls and pitched felt roof.	External Gap around the door and slight gaps between the wooden panels provide access into the building. Internal No access to internal areas on the grounds of health and safety (see <i>Section 2.5.1</i>), however taking into consideration the nature and structure of the building it is considered highly unlikely to support roosting bats. No evidence of bats recorded.	Negligible
B7 (Photo 8)	Playhouse Single-storey playhouse with wooden shiplap walls and a pitched felt roof.	External No suitable features for roosting bats recorded. Internal No access to internal areas on the grounds of health and safety (see <i>Section 2.5.1</i>), however taking into consideration the nature and structure of the building it is considered highly unlikely to support roosting bats. No evidence of bats recorded.	Negligible
B8 (Photo 9)	Cart Shed Single-storey, open-sided shed with wooden weatherboard walls and pitched, corrugated bitumen roof.	External No suitable features for roosting bats recorded. Internal No suitable features for roosting bats recorded. No evidence of bats recorded.	Negligible
B9 (Photo 10)	Stables Single-storey stables constructed of wooden shiplap walls and a corrugated bitumen roof.	External No suitable features for roosting bats recorded. Internal No access to internal areas on the grounds of health and safety (see <i>Section 2.5.1</i>), however taking into consideration the nature and structure of the building it is considered highly unlikely to support roosting bats. No evidence of bats recorded.	Negligible
B10 (Photo 11)	Shelter Single-storey animal shelter constructed of wooden frame and corrugated asbestos walls with a sloping corrugated asbestos roof.	External No suitable features for roosting bats recorded. Internal No suitable features for roosting bats recorded. No evidence of bats recorded.	Negligible

Appendix B

Building	Description	Findings	Bat roost potential
B11 (Photo 12)	Garage Single-storey garage with brick walls and a pitched tiled roof. Wooden cladding in a good state of repair is present on the western elevation.	External A small number of lifted roof tiles. Internal No access to internal areas on the grounds of health and safety (see <i>Section 2.5.1</i>). No evidence of bats recorded.	Low

3.2 Phase 1 tree survey

3.2.1 Ten trees located within the site were identified as having potential to support roosting bats⁴. The results of the Phase 1 tree survey are summarised in *Table 5* below and the location of the trees are shown in *Appendix A*.

Table 5: Results of Phase 1 bat scoping tree survey

Tree ref	Species	Potential roost feature(s)	Bat roost potential
T1	Ash	Three knotholes on the western aspect with possible depth.	Low
T2	Poplar	Mature tree with missing crown. A possible trunk cavity on the western aspect, an upward facing knothole on the southern aspect and a horizontal crack on the eastern aspect.	Moderate
T3	Willow	Small branch cavity on southern aspect.	Low
T4	Birch	A tree stump with a woodpecker hole of possible depth on the south-western aspect.	Low
T5	Hornbeam	Occluded wood on trunk, with a small cavity at the top of the occluded wood on the north-western aspect.	Low
T6	Hornbeam	Trunk cavity and multiple possible branch cavities on the northern aspect.	Moderate
T7	Hornbeam	Trunk cavities into deadwood on north-western aspect and folded wood creating possible cavities on eastern aspect.	Moderate
T8	Hornbeam	A number of trunk cavities with possible depth on north-western aspect.	Low
T9	Poplar	Woodpecker hole on western aspect with a cavity at the base of trunk indicating hollowing of stem.	Moderate
T10	Lombardy Poplar	Deadwood and peeling bark on the western aspect.	Low

3.2.2 All other trees within the site were assessed as having 'negligible' potential to support roosting bats during the Phase 1 bat scoping survey and have therefore not been mapped in *Appendix A*.

⁴ Trees within the gardens of Ashfield House and Broadacre have not been exhaustively checked for bat roosting potential due to access restrictions in relation to the COVID-19 virus. If these trees are proposed to be felled as part of the scheme they will require full Phase 1 bat scoping surveys to determine their potential to support roosting bats.

Appendix B

3.3 Phase 2 bat roost surveys

3.3.1 The results of the Phase 1 bat scoping survey was used to determine the requirement for Phase 2 bat roost survey work of buildings and trees where these had potential to be affected by development proposals, in accordance with current best practise guidelines (BCT, 2016). A suite of Phase 2 bat roost surveys took place on those buildings and trees which are to be affected by the proposed development using the appropriate number of surveyors to ensure comprehensive coverage. Details of the results of the Phase 2 bat roost surveys are provided in *Table 6* below.

3.3.2 All the remaining buildings within the site with the potential to be affected by the development proposals were identified as having 'negligible' potential to support roosting bats. Two trees (T6 and T7) have moderate potential to support roosting bats however it is understood that they will be retained within the development scheme. As such no further survey of these buildings/trees were required in line with current guidance (BCT, 2016).

3.3.3 *Table 6* provides a summary of the results of the Phase 2 bat roost surveys of buildings and trees carried out at the site. Locations of identified emergence points are described in the table and are shown on the 'Bat Roost Survey Summary Plan' in *Appendix A* and photographs of the buildings are provided in *Appendix C*.

Table 6: Results of Phase 2 bat roost surveys

Building/ Tree	Type/Date	Results	Updated Roost Status
B1 (Ashfield House)	Dusk 12.05.2020	Emergence of 1 x silent bat (likely <i>Pipistrellus</i> sp.) from beneath a hanging tile above the first-floor bay window on the southern elevation.	Confirmed roost Low status occasional day roost supporting up to four Common Pipistrelle bats and a silent bat (the silent bat is also likely to be Common or Soprano Pipistrelle in view of the timing of the emergence, character of the bat recorded, the results of the other surveys of the building and the feature it was seen to emerge from).
	Dusk 04.06.2020	Emergence of 4 x Common Pipistrelle from beneath lifted roof tiles associated with a dormer window on the southern elevation.	
	Dusk 23.06.2020	No emergences/re-entries	
B11 (Garage)	Dusk 04.06.2020	No emergences/re-entries	Low
T2	Dusk 12.05.2020	No emergences/re-entries	Moderate
	Dusk 11.06.2018	No emergences/re-entries	
T9	Dusk 12.05.2020	No emergences/re-entries	Moderate
	Dusk 11.06.2018	No emergences/re-entries	

Appendix B

3.4 Phase 2 activity transect surveys

3.4.1 Details of the date and time of bat activity transect surveys, along with weather conditions and sunset times, are provided in *Table 2*. The areas covered during each survey visit included most⁵ of the site boundaries and associated hedgerows, woodland edge and scattered trees within the site.

3.4.2 A visual summary of bat foraging and commuting activity recorded during the surveys has been provided in *Appendix B*. In total, at three species/species groups of bat were recorded during the transect survey, namely Common Pipistrelle, Soprano Pipistrelle and *Myotis* sp. bats. A summary of the species recorded, their activity and an estimation of numbers using the site during any one survey is provided in *Table 7* below.

Table 7: Summary of bat activity during transect surveys

Species	Activity summary	Approx. number recorded*
Common Pipistrelle	Common Pipistrelle was the most frequently recorded species during the activity surveys. Frequent foraging activity was recorded along the northern site boundary in association with Hole Lane and associated outgrown hedgerows, residential dwellings and gardens and the hedgerows and scattered trees that bisect the centre of the site adjacent to the public footpath. Common Pipistrelles were also recorded on a less frequent basis using hedgerows and woodland edge bordering the fields in the remainder of the site. It is estimated that up to 3 Common Pipistrelle bats could have been using the site at any one time for foraging and commuting.	3
Soprano Pipistrelle	The majority of Soprano Pipistrelle activity was associated with foraging in the vicinity of hedgerows and scattered trees that bisect the centre of the site, adjacent to the public footpath. It is expected that up to 1 Soprano Pipistrelle bat could have been using the site at any one time and that the site forms part of a much larger foraging range for a low number of individuals of this species.	1
<i>Myotis</i> sp.	<i>Myotis</i> species of bat was only recorded once during the transect surveys, briefly passing near hedgerows and scattered trees in the centre of the site. It is likely that the site is used by no more than 1 <i>Myotis</i> sp. bat at any one time and that the site forms part of a much larger foraging range for a low number of individuals of this species.	1

*This is an approximation of the number of bats of any one species estimated to have been using the site during any one visit.

3.4.3 The majority of activity recorded within and adjacent to the site during the transect surveys related to Common Pipistrelle bats, with up to 3 Common Pipistrelle bats considered to be using the site at any one time. The majority of Common Pipistrelle activity was recorded along Hole Lane to the north of the site in association with the

⁵ Transect surveys were not carried out in the gardens of Ashfield House and Broadacre due to access restrictions in relation to the COVID-19 virus. This is not considered a significant limitation to the survey as incidental activity within these areas was recorded during the emergence surveys of the buildings within these areas.

Appendix B

adjacent outgrown hedgerows, residential dwellings and gardens. Moderate levels of activity was also recorded in association with the hedgerows and scattered trees that cross the centre of the site adjacent to the public footpath. Common Pipistrelles were also recorded on a less frequent basis using hedgerows and woodland edge habitats bordering the fields in the remainder of the site.

3.4.4 Soprano Pipistrelle and *Myotis* sp. bats were also recorded on an occasional or individual basis. Activity relating to these species consisted of brief passes by single bats foraging or commuting in the vicinity of hedgerows and scattered trees within the centre of the site.

3.5 Phase 2 automated activity surveys

3.5.1 The dates during which the automated detector was deployed, along with sunset/sunrise times and temperatures are provided in *Table 3*. The locations in which the automated bat detector was placed during each deployment are shown on the plan in *Appendix B*.

3.5.2 The automated detector was placed in three separate locations to give an indication of the species using different areas of the site and relative levels of activity throughout the night. A summary of bat activity recorded during the automated surveys in each location is provided below in *Table 8*. In total, at least six species/species groups were recorded during the automated surveys: Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's, Brown Long-eared bat and *Myotis* sp.

Table 8: Summary of bat activity recorded by the automated detector

Location	Activity summary
A	<p>The automated detector at Location A recorded bat activity in association with an outgrown hedgerow, scattered trees and adjacent grassland field in the south of the site.</p> <p>A total of 1325 bat passes were recorded over 9 nights; an average of 147 bat recordings per night.</p> <p>Common Pipistrelle was the most frequently recorded species at Location A (85.2% of the bat recordings), with occasional to regular foraging activity recorded during every night.</p> <p>Occasional passes by Soprano Pipistrelle, Brown Long-eared bat, <i>Myotis</i> sp, Leisler's and Noctule were also recorded (7.9%, 3.3%, 1.7%, 1.1% and 0.7% of passes, respectively).</p>

Appendix B

Location	Activity summary
B	<p>The automated detector at Location B recorded bat activity along a hedgerow and adjacent grassland field in the east of the site.</p> <p>A total of 263 bat passes were recorded over 6 nights; an average of 44 bat recordings per night.</p> <p>Common Pipistrelle was the most frequently recorded species at Location B (78.7% of the bat recordings), with occasional to regular foraging activity recorded during every night. Soprano Pipistrelle was the second most frequently recorded species at Location B (17.9% of the bat recordings), with occasional foraging activity recorded during every night.</p> <p>Occasional passes by <i>Myotis</i> sp. bat and Noctule were also recorded (1.9% and 1.5% of passes, respectively).</p>
C	<p>The automated detector at Location C recorded bat activity along the woodland edge and adjacent grassland field in the west of the site.</p> <p>A total of 2205 bat passes were recorded over 6 nights; an average of 368 bat recordings per night.</p> <p>Common Pipistrelle was the most frequently recorded species at Location C (86.8% of the bat recordings), with occasional to regular foraging activity recorded during every night. Soprano Pipistrelle was the second most frequently recorded species at Location C (11.2% of the bat recordings), with occasional foraging activity recorded during every night.</p> <p>Occasional passes by Brown Long-eared bats, Noctule, <i>Myotis</i> sp. and Leisler's bat were also recorded (0.9%, 0.5%, 0.5% and 0.1% of passes respectively).</p>

3.5.3 In summary, the static detectors recorded Common Pipistrelle, Soprano Pipistrelle, *Myotis* sp. and Noctule bats at all locations the remote detectors were deployed. Brown Long-eared bat and Leisler's bat were recorded at all locations except Location B.

3.5.4 The greatest number of bat recordings per night was recorded at Location C and the highest diversity of bat species was recorded at Locations A and C. The fewest number of bat recordings per night and the lowest diversity of bat species was recorded at Location B. Common Pipistrelle was the most frequently recorded species relating to 85.7% of all bat passes, with all locations being used by this species on at least an occasional basis on all nights. Soprano pipistrelle bats were the second most frequently recorded species relating to 10.5% of all bat passes, with all locations being used by this species on at least an occasional basis on all nights. Brown Long-eared bat followed by *Myotis* sp., Noctule and Leisler's bats were recorded on an occasional basis (1.7%, 1.1%, 0.6% and 0.5% of all bat recordings, respectively), with infrequent passes and foraging at much lower numbers than Common Pipistrelle.

Appendix B

4 EVALUATION / SUMMARY IMPACT ASSESSMENT

4.1 Bat roosting habitat

- 4.1.1 Up to four Common Pipistrelles were recorded roosting within Ashfield House (B1). On the first survey, a single silent bat was recorded emerging from under a hanging tile above the first-floor bay window on the southern elevation. Due to the early emergence time of the silent bat, its size and behaviour, and the bat activity recorded during the subsequent surveys, it is highly likely that this was either a Soprano or Common Pipistrelle. On the second survey up to four Common Pipistrelle bats were recorded emerging from lifted roof tiles in the vicinity of a dormer window on the southern elevation. No bat roosting activity was recorded on the third survey visit.
- 4.1.2 The survey results indicate that Ashfield House (B1) supports non-breeding day roosts supporting up to four Common Pipistrelles and a silent bat (also likely to be a Common or Soprano Pipistrelle). The low number of bats recorded roosting within the building indicates that these are small low-status non-breeding roosts which may be used by male or non-breeding female bats. The UK population of Common Pipistrelle and Soprano Pipistrelle bats is 3,040,000 and 4,470,000 individuals respectively (Mathews *et. al.*, 2018). These species are relatively common and widespread and therefore the roosts recorded within Ashfield House (B1) are unlikely to be of more than low local interest.
- 4.1.3 No bat roosting activity was recorded during the Phase 2 emergence surveys of B11, T2 or T9, therefore no bat roosts are expected to have been present within these features at the time of survey.
- 4.1.4 Notwithstanding the low status of the bat roosts recorded, in the event that planning permission is granted for development of the site which includes the demolition of Ashfield House (B1) it will not be possible to retain the identified roosts (HDA, 2020). Proposals subsequently have the potential to conflict with the nature conservation legislation afforded to bats (set out in *Section 1.2*). In view of this either: i) a full European Protected Species (EPS) licence would need to be applied for from Natural England, and granted, prior to the development works taking place; or ii) the work would need to be carried out under a Low Impact Licence under the supervision of an appropriately registered bat ecologist⁶.
- 4.1.5 Whichever licensing route is taken, measures to protect bats would need to be implemented during development works and roosting opportunities for bats should be maintained at the site in accordance with the 2019 National Planning Policy Framework (NPPF) and 2006 NERC Act. Suitable outline measures to achieve these requirements

⁶ Note that bat licences can usually only be applied for once planning permission has been granted and conditions relating to wildlife discharged. Natural England have a determination period of 30 working days for an EPS licence and 15 working days for a Low Impact Licence following registration.

Appendix B

within the scheme and ensure that the favourable conservation status of the local bat population is maintained are therefore provided in *Section 5* of this report.

4.2 Foraging and commuting activity

4.2.1 At least six species of bat were recorded using the site for foraging and commuting, with varying levels of activity observed throughout the surveys. The plan in *Appendix B* provides an overview of bat activity recorded during the surveys.

4.2.2 The majority of activity recorded related to Common Pipistrelle bats, with up to 3 Common Pipistrelle bats considered to be using the site at any one time. The majority of Common Pipistrelle activity was recorded along the northern site boundary in association with Hole Lane and adjacent outgrown hedgerows, residential dwellings and associated gardens and the hedgerows and scattered trees that bisect the centre of the site adjacent to the public footpath. Common Pipistrelles were also recorded on a less frequent basis using hedgerows bordering the fields in the remainder of the site. Soprano Pipistrelle and *Myotis* sp. bat were also recorded from similar habitat on a much less frequent basis suggesting the site forms only a small part of a much wider foraging territory for individuals of these species. In addition, Brown Long-eared bats, Noctule and Leisler's bats were only recorded during the automated detector surveys.

4.2.3 Despite the number of species recorded and the overall number of bats expected to have been present within the site at any one time, overall the level of bat activity recorded was generally considered to be low, relative to the size of the site, and similar foraging and commuting opportunities are relatively widespread in the wider area. As a whole the site is therefore considered to be of no more than moderate local interest for foraging bats. This interest largely relates to habitats associated with the hedgerows, woodland edge and scattered trees bordering and crossing the site, with the grassland habitats dominating the site being of no more than site interest for foraging bats.

4.2.4 Notwithstanding the above, development proposals should seek to maintain and, where possible, enhance foraging and commuting opportunities for all species of bats using the site in accordance with nature conservation legislation, planning policy and the 2006 NERC Act. Recommendations to maintain and enhance the value of the site for bats are provided in *Section 5* below.

5 RECOMMENDATIONS

5.1 This section identifies measures to be implemented during development of the site in order to avoid, mitigate and compensate potential impacts on bats, and to maintain the favourable conservation status of the local bat population. In addition, recommendations

Appendix B

for enhancement of the site for roosting and foraging bats are included in accordance with the 2019 NPPF and the 2006 NERC Act.

5.2 Roosting bats

5.2.1 Low status non-breeding day roosts supporting up to four Common Pipistrelles and one silent bat (likely either Common Pipistrelle or Soprano Pipistrelle) was recorded within Ashfield House (B1). The garage (B11) and trees (T2 and T9) subject to Phase 2 emergence surveys were not considered to support roosting bats at the time of the survey.

5.2.2 Development proposals of the site will result in the loss of the confirmed roost sites identified in B1. As such, either: i) a European Protected Species (EPS) licence would need to be obtained from Natural England prior to the commencement of any works affecting the roosts; or ii) the work would need to be carried out under a Low Impact Licence under the supervision of an appropriately registered bat ecologist. All works affecting the bat roosts should be supported by a detailed method statement describing how the favourable conservation status of bats at the site would be maintained, including information on how loss of the roost sites would be compensated and timing of works to minimise impacts on bats. Mitigation would centre on:

- Creation of appropriately designed and sited new roosting opportunities for bats, proportionate to that being lost; and
- Implementation of works affecting roost sites at a time of year when bats are least vulnerable to disturbance/ likely to be present, employing sensitive working practices.

5.2.3 Measures by which this can be achieved are given below. These measures described should be implemented unless otherwise agreed with the local planning authority or Natural England.

Replacement of roost sites

5.2.4 A strategy for mitigating the loss of the existing roost sites resulting from the proposed development works is described below. Provision of replacement roosting opportunities should be reviewed at an appropriate stage in light of detailed design and, where necessary, the findings of updated surveys to determine the status of bats at the time of works.

Short-term roost replacement: tree-mounted bat boxes

5.2.5 Since the proposed development involves the demolition of Ashfield House (B1) containing the identified bat roosts, it will not be possible to retain the confirmed bat roosts during the development works, suitable replacement roosting opportunities should

Appendix B

therefore be provided during construction phase, prior to new roosting opportunities being created within the newly constructed buildings on the site. Common and Soprano Pipistrelle bats are known to roost in both trees and bat boxes (University of Bristol, 2010), with records of bat boxes having been used for successful breeding.

5.2.6 To provide replacement opportunities for bats associated with the identified roost sites prior to demolition commencing, at least four bat boxes should be installed on suitable retained trees within the site in the vicinity of the existing roosts to be lost. These should be located within areas away from the proposed construction works. The precise position should be determined through consultation with an appropriately qualified and experienced bat ecologist, but will need to integrate the location of suitable retained trees, buildings and habitat connections with avoidance of areas with highest potential future lightspill. Suitable locations exist in association with the retained scattered trees in the centre of the site and along the southern boundary. Specifically, initial replacement roost mitigation should consist of the following bat boxes (or similar) as advised by a suitably qualified ecologist:

- 2 x Schwegler 1FF boxes⁷; and
- 2 x Schwegler 2F boxes⁸.

5.2.7 To provide the opportunity for bats to find and utilise new roost sites prior to development, bat boxes should be put in place at an appropriate stage in advance of demolition and development works commencing.

Long-term roost replacement: Crevices

5.2.8 The bat boxes described above should be retained on completion of development in order to mitigate for the loss of bat roosting opportunities. Measures to ensure the long-term availability of roost sites following the proposed works are described below.

5.2.9 Common and Soprano Pipistrelle are considered to be a primarily crevice or hole-dwelling species (Mitchell-Jones, 2004). To provide replacement roost sites and maintain opportunities for these bats within the completed development and deliver enhancements to the long-term roosting potential of the site, a number of features suitable for crevice dwelling bats should be incorporated into the new buildings. A list of potential features proportionate to the roosts to be lost to the proposed works is described below:

- A minimum of four dedicated features should be provided in a variety of locations on the new buildings across the site. These could include a selection of:

⁷ In a study conducted by the Vincent Wildlife Trust (Colin Morris, pers. comm.), Schwegler 1FF bat boxes were identified as the box design that attracts the most species of bat, as well as being the most favoured by rare species such as Bechstein's Bat.

⁸ In the same study, Schwegler 2F bat boxes were identified as the box design most likely to contain bats.

Appendix B

- Schwegler 1FR Bat Tubes or 'Habibat' type boxes incorporated into south- to west-facing elevations of the new buildings at the site;
- Provision of 20mm x100mm gaps beneath roof and ridge tiles providing access between tiles and the underfelt below. Alternatively, dedicated bat access tiles could be installed to perform a similar function;
- Provision of gaps to allow access by bats into cavity walls; and/or
- Provision of 20mm x 200mm gaps along the soffit boards providing access to soffit boxes (using soffit bat boxes if desired) or the internal roof space where appropriate.

5.2.10 Where any features for roosting bats are provided in association with roofs of new buildings, bitumastic (traditional) roofing felt should be used to avoid entanglement of bats.

5.2.11 All replacement roost sites should be located away from areas most affected by construction and operational phase noise and lighting. The precise position of replacement roost sites should be determined through consultation with an appropriately qualified and experienced ecologist at the detailed design stage, but would in any case need to integrate the location of suitable retained trees and habitat connections with avoidance of areas subject to significant levels of light spill (See *Section 5.3* for further detail).

Long-term protection and enhancement of roosting opportunities

5.2.12 Trees not supporting roosting bats at the time of survey have potential to support bats in the future and therefore such features should be retained and their ability to support roosting bats maintained where possible. If significant loss of future roosting opportunities arises, this should be offset through alternative roost provision elsewhere within the site. The integrity of replacement roost sites and retained roosting opportunities should be secured in the long-term through the maintenance of connections to commuting and foraging habitat and sensitive use of lighting.

5.2.13 The proposed development works would provide opportunity to enhance the value of the site for roosting bats in the long-term in accordance with the 2019 NPPF and the 2006 NERC Act through the provision of additional opportunities for roosting bats to those described above. The detailed design and location of such features would be determined at an appropriate stage prior to construction, but in addition to the mitigation measures described above, consideration should be given to inclusion of additional roosting opportunities including:

- Installation of additional bat boxes on retained buildings and/or mature trees across the site; and/or

Appendix B

- Creation of additional bat roosting opportunities on new buildings in keeping with those described in *Section 5.2.9* above.

5.2.13 By providing a variety of roosting opportunities in different locations and orientations across the site, a range of roost spaces with varied microclimates will be provided which would offer roosting opportunities for bats throughout the year and maintain the future long-term potential of the site to support roosting bats.

Approach and timing of works

Buildings

5.2.14 Little is known about the hibernation habits of Common and Soprano Pipistrelles. In view of the difficulties in ruling out use of Ashfield House (B1) by small numbers of hibernating bats, works to this building during the winter hibernation months (November to March) should be avoided, since any bats present during this period may be particularly sensitive to disturbance. In addition, although the findings of the surveys suggest that only non-breeding bat roosts are present at the site, given that a degree of uncertainty always exists in relation to the exact status of a summer roost, best practice is to also avoid the peak breeding period (June to August) when young bats, unable to fly, may be present.

5.2.15 Accordingly, to minimise any adverse impacts, any initial works affecting roost locations within Ashfield House (B1) should be conducted during suitable climatic conditions in either the spring (April-May) or autumn (September-October).

5.2.16 In the event that building stripping or demolition is required outside of the timeframes described above then works to Ashfield House (B1) potentially affecting roosting bats should be either: (i) preceded by an updated survey to confirm the continued absence of a breeding roost (for demolition works between June and August); or (ii) be carried out during periods of mild weather when bats are active with minimum night time temperatures exceeding 7°C for five consecutive nights (for demolition works between November and February).

5.2.17 As identified above, bat boxes on retained trees should be provided in advance of loss of any roost in order to provide alternative roost sites prior to works commencing.

5.2.18 All demolition or stripping works involving the removal of features from Ashfield House (B1) or the garage (B11) with the potential to conceal roosting bats should be overseen by a licensed bat worker under an Ecological Watching Brief. Potential features on these buildings include underneath lifted or missing roof tiles and gaps beneath hanging tiles. Suitable features should be inspected prior to demolition/stripping and a cautious

Appendix B

approach should be employed, particularly in the vicinity of the known roosts, with key features removed by hand where appropriate.

- 5.2.19 Should any bat be encountered during any works to B1 (subject to a EPS licence), it would be moved by the licensed bat worker to one of the pre-installed bat boxes described in *Section 5.2.6*. In the event that a roosting bat is discovered during works to any other building on site, works must cease and Natural England contacted to agree an appropriate course of action. A licence may need to be applied for, and approved, before works can continue.

Trees

- 5.2.20 No bat roosting activity was recorded during the Phase 2 bat roost surveys of T2 and T9 and therefore no bat roosts are expected to have been present within these trees at the time of survey.
- 5.2.21 Tree roosting bats can move roosts frequently and individual features may be used sporadically, with little or no sign of occupation outside of these times. All trees containing features suitable for use by roosting bats should therefore be retained wherever possible in order to maximise the current and future value of the site for bats. Where significant loss of future roosting opportunities arises, this should be offset through alternative roost provision elsewhere within the site.
- 5.2.22 It is expected that all the other trees within the site with potential to support bats will be retained and unaffected by the proposed redevelopment of the site. However, where retention of trees identified as providing opportunities for roosting bats is not possible within the proposed development, due to the transitory nature with which bats may use roost sites in trees it is recommended that felling works affecting any of the trees with potential to support roosting bats are carried out in accordance with the following procedure, including T2 and T9:
1. Trees suitable for climbing inspections should first be climbed by a licensed bat worker to inspect potential roost sites for bats. In the event that a bat (or evidence of bats) is encountered, and the tree cannot be retained, then felling/works to this tree should be delayed until an EPS licence has been sought and obtained from Natural England prior to soft felling in accordance with the methodology described under point 3 below. In the event that no bats (or evidence of bats) are encountered during an exhaustive search then any features should be 'soft stopped' to prevent occupation prior to felling.
 2. Trees with 'moderate' potential, for which an exhaustive climbed inspection is not possible or practicable should be subject to two emergence/re-entry surveys

Appendix B

following BCT best practice guidelines to confirm the absence of roosting bats prior to any works affecting the tree commencing.

3. 'Low' potential trees that are unsuitable for climbing inspections and/or have not been subject to an emergence survey immediately in advance of works should be 'soft felled' under the supervision of a suitably qualified ecologist. Soft felling involves progressive removal of the tree, using ropes to gently lower sections of tree potentially supporting roosting bats to the ground for inspection by a suitably qualified ecologist. Where appropriate, features should be left on the ground overnight before clearing to allow any bats present to escape.

5.2.23 In the event that a roosting bat is discovered during any of the above works, trimming/felling works must cease and Natural England contacted to agree an appropriate course of action. A licence may need to be applied for, and approved, before works can continue.

5.2.24 All trees requiring felling or pruning during future management of the site should first be inspected for any potential bat roosts present. Should works be proposed to any trees with the potential to support bat roosts, these should first be subject to survey to determine the presence/likely absence of roosting bats in line with the procedure outlined in *Section 5.2.22* above.

Further survey

5.2.25 Bats may occupy roost sites on a seasonal or temporary basis and old roost sites may be abandoned and new roosts occupied within relatively short periods of time. In view of this, where appropriate, Phase 2 bat roost surveys of buildings and trees to be affected by the proposed development should be updated in advance of development commencing. The guidance of a suitably qualified ecologist should be sought to determine if and when surveys should be updated with regard to the development programme. This would ensure that up-to-date information is available to inform the extent of any mitigation and licensing requirements relating to bats.

5.2.26 In addition due to the access constraints associated with the trees within the gardens of the residential properties and the residential property within the Broadacres land, should works be required to any of these features they should be subject to further bat surveys as assess if roosting bats are present.

5.3 Foraging and commuting habitat

5.3.1 The site is considered as a whole to be of no more than moderate local importance for foraging bats. It is expected to provide only a small area of foraging habitat for low numbers of Common Pipistrelle, which are relatively common and widespread species in

Appendix B

the UK. The site is also used by at least another five species/species groups on a more occasional basis.

5.3.2 A number of the bat species identified at the site (Soprano Pipistrelle, Noctule and Brown Long-eared bat) are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act and therefore the effects of development on foraging and commuting habitat are a material consideration in the planning process. Development proposals should therefore seek to maintain and enhance the current opportunities for commuting and foraging bats. This could be achieved through implementation of the following measures:

- Linear vegetative features on the boundaries of the site should be retained wherever possible and any loss, for example to provide road and footpath access to the site, should be minimised and adequate compensatory habitat provided at an appropriate location elsewhere.
- Where appropriate, new linear features such as hedgerows and treelines should be created to improve connectivity between areas of suitable roosting and foraging habitat within the site and the wider area to increase opportunities for commuting bats.
- Landscape proposals within areas of open space across the site should seek to include high quality habitat for foraging bats. This might include shrub planting, creation of rough and meadow grassland areas, woodlands and marginal vegetation and/or use of native species-rich hedgerows and treelines along boundaries.
- Creation of new wetland habitats including reedbeds, ponds and drains either as stand-alone features or as part of the surface water drainage strategy. These habitats are capable of supporting large numbers of invertebrates, providing a significant foraging resource for bats; and
- Formal planting schemes should seek to including fruiting, pollen and nectar-rich species in order to encourage invertebrate prey for bats.

5.3.3 The emerging development proposals shown on the Landscape Strategy (HDA, 2020a) indicate that a number of the above measures can be achieved within the proposed development.

5.3.4 There is currently subject to limited light spill from streetlights along Hole Lane to the north of the site, in addition to light spill from residential dwellings adjacent to the northern, eastern and southern site boundaries. The integrity of retained and new foraging and commuting habitat, both within the site and its surrounds, should be conserved through the sensitive use of lighting throughout the construction and operational phases of the proposed development. In accordance with the Bat

Appendix B

Conservation Trust and Institute of Lighting Practitioners guidance (BCT and ILP, 2018) this could be achieved through employment of a selection of the following measures in the vicinity of retained/newly created areas of suitable foraging habitat and in the vicinity of trees and buildings providing opportunities for roosting bats:

- Use only the minimum amount of light required for safety and amenity, and minimise upward reflected light.
- Avoid use of bare bulbs or upward-pointing lights. The spread of light should be kept near to or below the horizontal.
- Use narrow spectrum bulbs (between 4000 and 2700k) and/or low UV emitting bulb types.
- Avoid light-spill into adjacent areas through luminaire design or with accessories, such as hoods, cowls, louvres and shields to direct the light.
- Minimise the height of lighting columns.
- For pedestrian lighting, use low level lighting that is as directional as possible and below 3 lux at ground level.
- Where necessary, use embedded road lights to illuminate roadways and light only high-risk stretches of roads such as crossings and merges.
- Limit the times that lights are on to provide some dark periods for wildlife through use of timers and/or use automatic dimmers to reduce lighting outside times of peak use.

5.3.5 It is recommended that all detailed external lighting proposals are reviewed at appropriate design stages by a suitably qualified ecologist. This could be secured via a condition of planning consent.

6 CONCLUSION

6.1 The bat survey work at the site recorded active roosts supporting up to four Common Pipistrelle and one silent bat (likely either Common or Soprano Pipistrelle) within Ashfield House (B1). The proposed development of the site, which requires demolition of this building, would result in the loss of these bat roosts. Although the roosts are considered to be low status non-breeding roosts pertaining to very low numbers of relatively common and widespread species, any development at the site must give regard to the legal protection afforded to all bats, which protects both individual bats and the conservation status of populations.

6.2 Measures to ensure the protection of individual bats during development works and maintenance of opportunities for roosting bats in the long-term, including provision of a range of new bat roosting opportunities and suitable timing of activities, are described in *Section 5* of this report. The measures described should form the basis of a detailed Method Statement which would accompany an application to Natural England for a full

Appendix B

European Protected Species (EPS) licence to permit development works affecting bats or support the implementation of works under a Low Impact Licence.

- 6.3 The site is considered to be of no more than moderate local interest for foraging bats. Notwithstanding this, measures are also described for the maintenance and enhancement of current opportunities provided by the site for foraging and commuting bats within the completed scheme. These include sensitive lighting design and landscape planting works. It is likely that the measures described could maintain and possibly enhance the value of the site in the long-term for this group.
- 6.4 Subject to the implementation of the recommendations given in *Section 5*, it is considered that the favourable conservation status of local bat populations would be maintained and, through long-term provision of higher quality roosting and foraging habitat at the site, potentially enhanced. This would ensure compliance with the nature conservation objectives of the EC Habitats Directive, the 2006 NERC Act and the guidance underpinning the 2019 National Planning Policy Framework.

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Appendix B

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Appendix B

HDA Document Control and Quality Assurance Record

Project Title: Hole Lane, Bentley
Project Reference: 966.1
Document Title: Bat Survey Report
Commissioning Party: Bob Camping

Issue	Description	Date of Issue	Signed
1	Bat Survey Report	August 2020	eb

	Personnel	Position
Author	[REDACTED]	Assistant Ecologist
Approved for issue	[REDACTED]	Principal Ecologist

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Appendix B

APPENDIX A

Bat Roost Survey Summary Plan

Appendix B



KEY

-  Site boundary
- BUILDINGS***
-  Confirmed bat roost
-  High bat roost potential
-  Low bat roost potential
-  Negligible bat roost potential
-  Building not subject to Phase 1 bat scoping survey**
- Emergence survey results**
-  Emergence of Common Pipistrelle
-  Emergence of silent bat (likely *Pipistrellus* sp.)
- TREES***
-  Moderate bat roost potential
-  Low bat roost potential
-  Trees not subject to full Phase 1 bat scoping survey***

*Roosting categories relate to roost potential in accordance with the BCT 2016 guidelines. All other trees within the site are regarded as having 'Negligible' potential to support roosting bats.

** This building is expected to be retained within the scheme. If the retention of this building is not possible it will need to be subject to a Phase 1 bat scoping survey to determine its potential to support roosting bats.

*** Trees within the gardens of Ashfield House and Broadacre have not been exhaustively checked for bat roosting potential due to access restrictions. If these trees are proposed to be felled as part of the scheme they will require full Phase 1 bat scoping surveys to determine their potential to support roosting bats.

CLIENT:
Mr Bob Camping

PROJECT:
Hole Lane, Bentley

TITLE:
Bat Roost Survey Summary Plan

SCALE AT A3: Not to scale DATE: August 2020

966.1/04

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Appendix B

APPENDIX B

Bat Activity Survey Summary Plan

Appendix B

APPENDIX C

Photographs

Appendix B



Photo 1: Northern elevation of B1.



Photo 2: South-western elevation of B1.



Photo 3: South-western elevation of B2.



Photo 4: Western elevation of B3.



Photo 5: South-eastern elevations of B4.



Photo 6: Southern and western elevations of B5.



Photo 7: Western elevation of B6.



Photo 8: Southern and western elevations of B7.

Appendix B



Photo 9: Northern and eastern elevations of B8.



Photo 10: Eastern elevation of B9.



Photo 11: Southern and eastern elevations of B10.



Photo 12: Southern and western elevations of B11.

Appendix B

Appendix 8 Reptile Survey Report (September 2020; HDA Limited)

Appendix B

Landscape Architecture
Masterplanning
Ecology



HOLE LANE, BENTLEY: ECOLOGY REPTILE SURVEY REPORT

Prepared for Bob Camping

by

Hankinson Duckett Associates

HDA ref: 966.1

Sept 2020

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Appendix B

CONTENTS

	Page
1 Introduction	1
2 Methodology	2
3 Results	4
4 Site Evaluation	4
5 Recommendations	6
6 Conclusion	8
7 References	9

HDA Document Control and Quality Assurance Record

APPENDICES

A Reptile Survey Summary Plan

Appendix B

1 INTRODUCTION

1.1 Site location and summary description

1.1.1 This report describes a reptile survey of approximately 5.4ha of land to the south and east of Hole Lane, Bentley, Farnham, hereinafter referred to as 'the site'. The site centre is located by National Grid Reference SU 785 443. The study was commissioned by Mr. Bob Camping in March 2020.

1.1.2 The site is located to the north of the village of Bentley in East Hampshire and comprises a series of grassland fields bordered by hedgerows and treelines, with an area of woodland immediately adjacent to the western site boundary. Two residential dwellings set within managed gardens are present within the site including Ashfield House in the north and Broadacres in the south-east. The site is bordered to the north by Hole Lane and residential dwellings, beyond which is a band of woodland and fields; to the east by residential properties along School Lane; to the south by residential properties; and to the west by Hole Lane.

1.1.3 The location and boundary of the site are shown in *Appendix A*. A more detailed description of the habitats present is given in the Ecological Appraisal (HDA, 2020).

1.2 Development proposals

1.2.1 The site is proposed for the provision of residential development with associated infrastructure and areas of public open space.

1.3 Background and legislative context

1.3.1 Four species of reptile are widespread in England: Grass Snake *Natrix natrix*; Slow-worm *Anguis fragilis*; Common Lizard *Zootoca vivipara*; and Adder *Vipera berus*. The Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* are restricted to certain sand dune and heathland sites.

1.3.2 Reptiles can be found in a range of habitats and typically require a mosaic of vegetation types. Habitat interfaces are important, with reptiles requiring woodland, scrub or hedgerow for shelter, longer vegetation for hunting and patches of sheltered short turf, bare ground or log piles for basking areas. Areas that catch the sun (i.e. those with a southerly aspect) are preferred over those where direct sunlight is absent for most of the day. In addition, Grass Snakes favour damp habitats such as those associated with still and running water, grazing marshes, mires etc.

Appendix B

1.3.3 All species of reptile are protected through Sections 9(1) and 9(5) of the 1981 Wildlife and Countryside Act (as amended). It is an offence to:

- Intentionally kill or injure any reptile; and
- Sell, offer for sale, possess or transport for the purposes of sale or publish advertisements to buy or sell any reptile.

Due to their rarity, Sand Lizards and Smooth Snakes have additional protection.

1.3.4 Reptiles across the UK have undergone significant declines in recent years and all native reptile species are listed as priority species on the UKBAP and identified as Species of Principal Importance under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Section 40 of the Act requires that these species are a material consideration in the planning process.

1.4 Scope and purpose of the report

1.4.1 An extended Phase 1 habitat survey carried out as part of the Ecological Appraisal (HDA, 2020) identified habitats within the site suitable for use by reptiles including woodland edge, hedgerow bases and grassland habitats. In addition, log piles and arising are present within the site which provide refuge opportunities for reptiles.

1.4.2 A reptile survey was subsequently undertaken to inform an assessment of the likely effects of the proposed development of the site on reptiles and this is the subject of this report. The aims of this study are:

- i) To establish the presence/probable absence of reptiles within the site;
- ii) To assess the relative importance of different areas of the site for reptiles; and
- iii) To give recommendations for impact avoidance, minimisation and mitigation in the event of development.

2 METHODOLOGY

2.1 The survey methodology employed has been devised to accord with the requirements of all relevant legislation and good practice guidance, including The Herpetofauna Worker's Manual (JNCC, 1999) and Reptile Survey Guidance (Froglife, 1999).

2.2 The site was surveyed seven times by Anna Potter and Hayley Snowden CIEEM of HDA. Surveys were generally carried out during optimum temperature and weather conditions (intermittent or hazy sunshine, temperature between 9°C and 20°C and low winds). Dates of survey visits, with survey timings and weather conditions, are shown in *Table 1* below:

Appendix B

Table 1: Survey times and weather conditions

Survey visit	Date	Time of visit	Weather conditions	Temp (°C)
1	16.04.2020	10.15 – 11.00	Dry, 10% cloud cover, calm	16 - 16.5
2	22.04.2020	14.50 – 15.30	Dry, bright, 5% cloud cover, light breeze	20 - 21
3	30.04.2020	18.00 – 19.00	Dry, bright, 15% cloud cover, moderate breeze	17 - 18
4	12.05.2020	17.00 – 18.00	Dry, clear and bright, light breeze	13 - 12
5	15.05.2020	10.30 – 11.30	Humid, dry, 50% cloud cover, calm	17 - 19
6	19.05.2020	08.30 – 09.15	Humid, dry, 100% cloud cover, calm	13 - 14
7	21.05.2020	16.30 – 17.30	Humid, dry, 60% cloud cover, calm	20 - 19

- 2.3 Two methods of surveying were used. Firstly, artificial refugia (squares of roofing felt 0.5m x 0.5m) were placed, in advance of the survey commencing, at potential basking areas throughout the site. A total of 50 refugia were placed, giving a total density of 9.26 refugia per hectare. This density is within, albeit at the higher end of the recommended density of 5 to 10 refugia per hectare of suitable reptile habitat. The high density of refugia could result in an over estimation of population size when evaluating the results (see *Section 4*), however the higher density was considered appropriate given the objectives of the survey in order to increase the likelihood of encountering reptiles and to better determine the distribution across the site. The locations of the refugia are shown on the plan in *Appendix A*.
- 2.4 During each of the survey visits, all refugia were inspected for any reptiles basking on the upper side, then lifted and checked for sheltering animals before being carefully replaced. A different route was taken for each of the survey visits to ensure that there was no bias due to the time of survey.
- 2.5 The second survey method involved transect searches across suitable habitats within the site. This ensured that all areas were represented in the survey, and that the survey was not biased towards those reptiles more likely to use refugia. Transect searches involve walking slowly around the site, visually searching potential basking areas and marking the locations of any reptiles observed on a map. Potential reptile refuges already present within the site such as logs and discarded debris were also lifted to check for the presence of animals.
- 2.6 The following information was recorded for each reptile survey visit: species seen, number of animals seen, location (refugia number), date, start and finish times, temperature and weather.

Appendix B

2.7 Limitations

2.7.1 The reptile surveys were carried out at appropriate times of the year during suitable weather conditions for reptile activity.

2.7.2 With regard to the above, it is therefore considered that no significant limitations were encountered during the surveys and the survey findings allow a robust assessment of the likely effects of the proposed development on reptiles.

3 RESULTS

3.1 Habitat assessment

3.1.1 The west of the site consists of two grazed fields bordered by treelines and hedgerows with mature trees, scrub and large log piles scattered throughout. The east of the site consists of a rough grassland field with occasional areas of scrub bordered by hedgerows. Both the eastern and western areas of the site provide good opportunities for reptiles. In addition, there are two residential properties with associated amenity grassland and ornamental shrubs within the site which provided some, albeit limited, opportunities for reptiles.

3.2 Refugia and visual searches

3.2.1 Grass Snake was the only reptile species recorded during the survey. The results of the survey are summarised in *Table 2* below and the locations at which animals were recorded are shown in *Appendix A*.

Table 2: Reptiles recorded

Survey visit	Reptiles observed
1	2 x Grass Snake (2 adults) recorded
2	No reptiles recorded
3	No reptiles recorded
4	No reptiles recorded
5	No reptiles recorded
6	No reptiles recorded
7	1 x Grass Snake (1 adult) recorded

3.2.2 During the course of the survey a maximum count of two Grass Snakes were recorded on any one visit. The records of Grass Snake were made in the east of the site, relating to the long grass associated with the field margins.

4 SITE EVALUATION

4.1 A number of guidelines are used to evaluate the importance of a site for reptiles, based on both the population density and number of species present, in addition to historical factors.

Appendix B

4.2 The Guidelines for Biological Selection of Sites of Special Scientific Interest (SSSIs) (JNCC, 1989) gives a scoring system for the evaluation of sites on the basis of their reptile population. It suggests that for the commoner species of reptile, the best localities in which three or more species occur should be selected as potential SSSIs.

4.3 The Herpetofauna Workers' Manual (JNCC, 1998) suggests that sites falling outside of the SSSI selection criteria should be designated as Sites of Importance for Nature Conservation (SINCs) if they meet the following criteria:

- Any site with a large population of a single species;
- Any site with a moderate population of two species;
- Any site at the edge of the geographical range of a species; and
- Any site with a long documented history.

4.4 The Key Reptile Site register is a mechanism designed to promote safeguarding of important reptile sites. To qualify for the register, the site in question must meet at least one of the following criteria (Froglife, 1999):

- Supports three or more reptile species;
- Supports two snake species;
- Supports an exceptional population of at least one species (*Table 3*);
- Supports an assemblage of species scoring at least 4 (*Table 3*); and
- Does not satisfy the above criteria but is of particular regional importance due to local rarity (e.g. in the East Midlands, Adders are very rare so even "low" populations should be designated as Key Sites).

4.5 The criteria for scoring populations of the four common reptile species for the purposes of the Key Reptile Register are given in *Table 3* below.

Table 3: Population parameters for the Key Reptile Sites register

Reptile species	Low population Score 1	Good population Score 2	Exceptional population Score 3
Adder	<5	5-10	>10
Grass Snake	<5	5-10	>10
Common Lizard	<5	5-20	>20
Slow-worm	<5	5-20	>20

Figures in the table refer to maximum number of adults seen by observation and / or under refugia (placed at a density of up to 10 per hectare) by one person in one day.

4.6 Using these criteria, the site supports a 'low' population of Grass Snake with a maximum count of 2 adults.

Appendix B

4.7 With regard to the criteria described above the site would not qualify as a SSSI, SINC or Key Reptile Site on the basis of its reptile assemblage. Grass Snake is a relatively common and widespread species in southern England and suitable habitat for this species is relatively abundant in the wider area. The site is therefore considered to be of low local value for Grass Snake.

4.8 Although the site is not considered to qualify either wholly or in part for designation on the basis of its reptile interest, the site is considered to be of low local value for reptiles. In addition to affording individual reptiles present the protection provided under the 1981 Wildlife and Countryside Act (as amended), any development proposals for the site should therefore seek to maintain and, where possible, enhance its current value for this group in accordance with the 2006 NERC Act and planning policy and guidance. Measures by which this can be achieved are provided in *Section 5* below.

5 RECOMMENDATIONS

5.1 The site supports a very low population of Grass Snake. Although the site is not considered to qualify as a SSSI, SINC or Key Reptile Site on the basis of its reptile interest, the site is considered to be of low local value for reptiles and the protection afforded to all native reptile species will apply.

5.2 It is recommended that development proposals seek to avoid areas of higher quality reptile habitat within the site, such as scrub, hedgerow bases and rough grassland habitats. Where loss of potential reptile habitat is unavoidable, it will be necessary to employ measures during development works to ensure the protection of any individual reptiles present together with the long-term maintenance of opportunities for reptiles at the site in accordance with the 2006 NERC Act.

5.3 Sensitive Approach to Site Clearance

5.3.1 Suitable measures for the protection of reptiles during development works within the site are outlined below. Although Grass Snake are likely to be present within suitable habitat across the site, in view of the limited number and distribution of Grass Snake recorded, and assuming that the site management remains the same (and subsequently the distribution and character of habitats on site does not change significantly prior to construction), a full reptile translocation exercise is not recommended in this instance prior to development commencing.

5.3.2 Instead, it is recommended that a controlled approach is taken to site clearance in those areas where potential reptile habitat is to be lost such as tall ruderal vegetation, scrub, rough grassland and hedgerow base habitats in order to displace any reptiles present into

Appendix B

areas of contiguous habitat within the site and wider area. This would require the following:

- Firstly, vegetation cover should be reduced to a minimum height of 150mm. This would ideally take place at a time avoiding the bird breeding season (typically between March and August inclusive) or otherwise be preceded by a check of suitable habitat for active nests immediately prior to commencement of works by a suitably qualified ecologist.
- Where potential for reptiles to be present remains, a minimum period of 5 days with daytime temperatures of $>12^{\circ}\text{C}$ should then be allowed to elapse prior to the second stage of vegetation clearance (see below).
- The second stage would involve clearance of all suitable vegetation to ground level (i.e. $<75\text{mm}$) by hand during mild temperatures ($>14^{\circ}\text{C}$) at a suitable time of year when reptiles are likely to be active (mid-March to early October inclusive). At this time any potential hibernacula or refugia encountered should be carefully dismantled by hand. This stage of clearance should be undertaken under the supervision of a suitably qualified ecologist who would capture and relocate any reptiles encountered to areas of retained habitat on the margins of the site.
- Where potential for reptiles to be present still remains, a further 5 days with daytime temperatures of $>12^{\circ}\text{C}$ should then be allowed to elapse to enable any remaining reptiles to disperse from the area of works, prior to carrying out a destructive search.
- Following clearance of vegetation to ground level and removal of any refugia by hand, no suitable reptile habitat would remain and it is expected that any remaining reptiles would disperse from the area of works into adjacent habitat on their own accord.
- In order to be certain that no reptiles are present within the area of works, where any potential for reptiles to be present remains a destructive search should be carried out. This will involve the progressive stripping of topsoil from the area of works under the supervision of a suitably qualified ecologist.
- In the event that the destructive search is delayed, vegetation should be maintained at ground level until the destructive search is carried out. Similarly, following the destructive search, the land should be maintained as unsuitable for the recolonisation of reptiles prior to and throughout the construction works.

5.3.3 It is recommended that the approach to mitigation is reviewed at an appropriate stage prior to works commencing in order to allow consideration of any changes to management of habitats within the site which may have affected their ability to support reptiles since this report was produced.

Appendix B

5.3.4 It is recommended that the measures to protect and maintain the site's reptile population form the basis of a detailed Reptile Mitigation Method Statement to be agreed with Natural England and/or the Local Planning Authority at an appropriate stage.

5.4 Maintaining and Enhancing Opportunities for Reptiles

5.4.1 In accordance with the 2019 NPPF and 2006 NERC Act, development proposals should seek to maintain and where possible enhance opportunities for reptiles at the site. This could be achieved through the retention, enhancement and creation of reptile habitats as part of the landscape strategy for the site. Consideration should be given to:

- Enhancement of woodland and hedgerow edge habitats through creation of ecotones (a gradation from woodland/hedgerow to scrub to rough grassland habitats);
- Creation of new waterbodies to provide habitats favoured by Grass Snake;
- Inclusion of other high quality reptile habitats within the landscape scheme in the form of rough and meadow grasslands and scrub;
- Provision of opportunities for hibernation and refuge through provision of log/brush piles and purpose built hibernaculum; and
- Securing the long-term integrity of new and retained reptile habitat through inclusion within a long-term management plan.

5.4.2 The emerging development proposals (Proposed Site Plan, 2020) indicate that it will be possible to incorporate the above measures within the site such as the retention of the treeline and hedgerows along the site boundaries, the creation of new green areas with opportunities for rough grassland and the creation of the two SuDS basins in the south of the site. Subject to detailed design and securing suitable management it is expected that these could maintain opportunities provided by the site for reptiles in the long-term.

6 CONCLUSION

6.1 Subject to the implementation of the measures outlined above to protect reptiles and ensure that suitable habitat remains following development at the site, the proposed development is unlikely to result in adverse effects on the local reptile population.

7 REFERENCES

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Appendix B

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Appendix B

HDA Document Control and Quality Assurance Record

Project Title: Hole Lane, Bentley Ecology
Project Reference: 966.1
Document Title: Reptile Survey Report
Commissioning Party: Bob Camping

Issue	Description	Date of Issue	Signed
1	Reptile Survey Report	August 2020	

	Personnel	Position
Author	Anna Potter	Assistant Ecologist
Approved for issue	Clare Bird MCIEEM	Principal Ecologist

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Appendix B

APPENDIX A

Reptile Survey Summary Plan

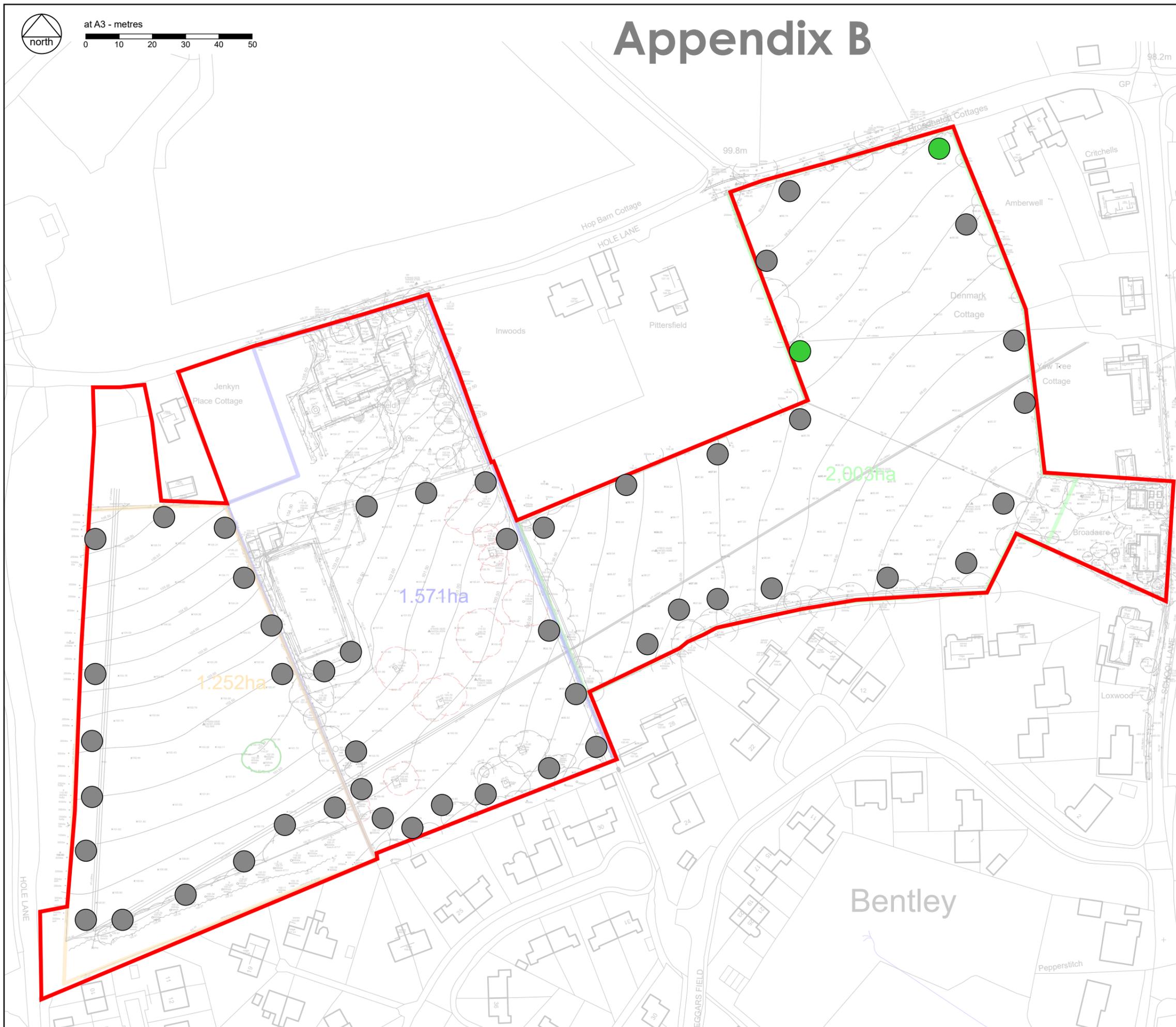


at A3 - metres
0 10 20 30 40 50

Appendix B

KEY

-  Site boundary
-  Reptile refugia location
-  Grass Snake



CLIENT:
Bob Camping
PROJECT:
Hole Lane, Bentley Eco
TITLE:
Reptile Survey Summary Plan
SCALE AT A3:
Not to scale DATE:
August 2020

966.1/03

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Landscape Architecture
Masterplanning
Ecology



Appendix B



Land west of School Lane
Bentley, Hampshire

TRANSPORT STATEMENT

For Residential Development
On behalf of Camping Property Limited

2022/6673/TS01

October 2022

Appendix B



DOCUMENT CONTROL

Project: Land west of School Lane
For Residential Development

Project Location: Bentley, Hampshire

Report Type: Transport Statement

Client: Camping Property Limited

Reference: 2022/6673/TS01

Document Checking

	Name	Date	Signature
Author:			
Checked by:			
Approved by:			

Status

Issue	Date	Status	Amendment	Issued by
1	14.09.2022	Draft	-	CMB
2	17.10.2022	Final	-	CMB
3				
4				
5				

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TABLE of CONTENTS

1	INTRODUCTION	3
1.1	Background.....	3
1.2	Local Planning History	3
1.3	Scope of Report	3
2	BASELINE CONDITIONS.....	4
2.1	Local Road Network	4
2.2	Wider Highway Network	4
2.3	Accident Data	4
2.4	Traffic Surveys.....	5
3	ACCESSIBILITY CREDENTIALS	6
3.1	Pedestrian Accessibility	6
3.2	Cycle Accessibility	6
3.3	Accessibility by Bus	6
3.4	Accessibility by Rail.....	7
4	DEVELOPMENT PROPOSALS AND ACCESS ARRANGEMENTS	8
4.1	Development Proposals.....	8
4.2	Access Arrangements.....	8
4.3	Visibility Requirements	8
4.4	Proposed Parking Provision	10
5	TRAFFIC GENERATION AND IMPACT	11
5.2	Impact on School Lane	12
6	SUMMARY AND CONCLUSIONS	13
6.2	Summary.....	13
6.3	Conclusion.....	13
	APPENDIX 1 Proposed Site Layout Plans	
	APPENDIX 2 HCC response	
	APPENDIX 3 PIA Accident Data	
	APPENDIX 4 Aug/Sept ATC Data	
	APPENDIX 5 Jan ATC Data	
	APPENDIX 6 Historical Weather Data	
	APPENDIX 7 ATC Data Summary	
	APPENDIX 8 SSD Calculator	
	APPENDIX 9 TRICS Output Report	
	APPENDIX 10 Drawings	

1 INTRODUCTION

1.1 Background

- 1.1.1 RGP has been commissioned by Camping Property to prepare a Transport Statement in relation to a proposed residential development on land west of School Lane, Bentley, Hampshire, GU10 5JP (the site). The site is located within the boundaries of East Hampshire District Council (EHDC) and the local highway authority is Hampshire County Council (HCC).
- 1.1.2 The development proposals consist of the erection of 34 residential dwellings (including fifteen affordable units), together with the associated vehicular and pedestrian access, landscaping, and public open space on land west of School Lane, Bentley, Farnham, with all matters reserved except for access. The architect's proposed site layout drawings P22049-RFT-00-00-DR-A-0100 prepared by Re-Format Architects is contained within **Appendix A**.
- 1.1.3 The proposed development of 34 units falls well below the usual threshold defined by Hampshire County Council (HCC) above which a Transport Assessment is typically required. Notwithstanding this point, this Transport Statement (TS) considers the appropriateness of the proposed development in this location in the context of transport-related policy at both the national and local level.

1.2 Local Planning History

- 1.2.1 Discussions have previously taken place with Officers at HCC for other developments in the vicinity of the site at the pre-application stage. Furthermore, planning applications have been submitted which have been subject of further discussions with Officers at HCC.
- 1.2.2 A similar scheme has also previously been the subject of a planning application, which was consulted upon by HCC, with reference 21002/006/FUL. A copy of the consultation response for the previous similar scheme is attached hereto at **Appendix B**. The principal concern of HCC was the achievable visibility from the proposed access which was in part affected by the change in HCC's technical guidance TG3 – Stopping Sight Distance and Visibility Splays Rev 2, which was published in September 2021, after the planning submission. This document therefore considers the design of the access with reference to the updated TG3 document.

1.3 Scope of Report

- 1.3.1 The remainder of this TS report comprises the following sections:
- (i) Section 2 sets out the baseline transport conditions in the local area and highway network, and provides a review of highway safety;
 - (ii) Section 3 provides a review of the site's accessibility credentials identifying opportunities for sustainable travel;
 - (iii) Section 4 reviews the development proposals and site access arrangements;
 - (iv) Section 5 considers the anticipated traffic impact on the local highway network supported by trip generation assessment; and
 - (v) Section 6 provides summary of the report's conclusions.
- 1.3.2 This TS also considers the implications of development-related traffic on the operational and safety characteristics of the surrounding highway, demonstrating that the local highway and transport networks can accommodate the proposed level of development.

2 BASELINE CONDITIONS

2.1 Local Road Network

2.1.1 The site is situated to the rear of a dwelling on the western side of School Lane which runs in a north-south orientation serving a number of residential dwellings and a primary school and recreation ground located to the south of the site. The roads surrounding the site serve as collector roads. They are rural in nature with varying carriageway widths and no footway in the vicinity of the site. The carriageway is bordered by grass verges and hedgerows on either side and driveways serving residential dwellings accessed directly on the road.

2.1.2 School Lane is subject to a 30mph speed limit however, the relatively narrow and sinuous nature of local roads is such that vehicle speeds are typically lower than the posted speed limit.

2.2 Wider Highway Network

2.2.1 The A31 is situated approximately 600m to the south of the site and can be accessed via Main Road. The A31 runs northeast-southwest providing access locally to Farnham, Guildford, Winchester and beyond. The site's location in the context of the wider highway network is shown in **Figure 2.1** below.



Figure 2.1: Wider Highway Network

2.2.2 Northbound journeys from the site to locations such as Basingstoke, are facilitated by Hole Lane, and southbound journeys to locations such as Bordon are facilitated by Station Road.

2.3 Accident Data

2.3.1 Accident data has been requested from and received from Hampshire Constabulary and is attached at **Appendix C**. The data shows just two PIAs in a 5-year period within the study area.

2.3.2 There have been no accidents on School Lane and no pattern or cluster of accidents have been identified. Based on the data available pertaining to local road accidents, the results demonstrate that there are no notable deficiencies in the local highway network, and the safety record in the vicinity of the site is considered to be good.

2.4 Traffic Surveys

- 2.4.1 RGP has previously undertaken traffic surveys during August / September 2020, and during January 2022 in order to obtain baseline traffic flows and speeds to allow an investigation of the appropriate level of visibility required from the proposed access. The surveys have been conducted in accordance with TG3, as requested by HCC in its consultation response to the previous application on the site (attached at **Appendix B**).
- 2.4.2 The most recent Automatic Traffic Counter (ATC) surveys were conducted on School Lane in two locations, north and south of the proposed access. These were conducted approximately 43 metres north and south of the proposed access, as per the requirements of TG3.
- 2.4.3 The ATC survey raw data from August/September 2020 are attached hereto at **Appendix D**, whilst the raw data from the January 2022 survey are attached hereto **Appendix E**. Detailed analysis of the data, with regard to the approach speeds and visibility requirements is set out within **Section 4** of this report.
- 2.4.4 It is clear from the ATC survey results that School Lane is very lightly trafficked and vehicle speeds are typically well below the posted speed limit. School Lane operates as a shared surface with pedestrians, cyclists and vehicles sharing the same carriageway. Below is an extract from Manual for Streets (MfS), relating to shared space streets.



Figure 2.2 Extract of Manual for Streets

- 2.4.5 It is evident from MfS that School Lane exhibits traffic levels well below the self-limiting factor identified based on research of 100 vehicles per hour.

3 ACCESSIBILITY CREDENTIALS

3.1 Pedestrian Accessibility

3.1.1 There is currently no segregated footway provision in the vicinity of the site and as such pedestrians are required to share the carriageway. As identified above however, the current traffic levels on School Lane are well below the threshold defined by research where a shared space is not suitable and as such School Lane operates well as a shared surface.

3.2 Cycle Accessibility

3.2.1 Whilst there is no dedicated cycle infrastructure in the vicinity of the site, the low vehicle speeds and traffic volumes on School Lane make the road suitable for cyclists. Manual for Streets paragraph 6.4.1 states: *“Cyclists should generally be accommodated on the carriageway. In areas with low traffic volumes and speeds, there should not be any need for dedicated cycle lanes on the street”*.

3.2.2 There are a number of services and amenities within a cyclable distance of the site including local retail and employment areas as well as Bentley railway station, where cycle storage areas exist as indicated in **Photograph 1** below.



Photo 1: Existing Cycle Stands at Bentley Station

3.2.3 This village location experiences very low traffic flows and speeds and as such cycling on the carriageway is considered appropriate for cyclists of all abilities.

3.3 Accessibility by Bus

3.3.1 The 'Star Inn' and 'Bentley Crossroads' bus stops are situated approximately 450m and 550m to the south of the site respectively and provide access to the number 65 bus service. A summary of bus services available from the stops is provided in **Table 1** below.

Table 1 - Summary of Service from Local Bus Stops

Service	Route Summary	Typical Frequency	Operating Hours
65	Alton - Farnham - Guildford	Mon-Sat: 1 every hour	Mon-Fri: 06:50-20:30 Sat: 08:10-20:30

3.4 Accessibility by Rail

3.4.1 Bentley railway station is situated approximately 2.3km to the south of the site and can be accessed via Station Road. The station provides access to regular services between Alton and London Waterloo providing access to locations including Aldershot, Woking and Clapham Junction. A summary of destinations accessible from Bentley railway station is provided in **Table 2** below.

Table 2 - Summary of Services from Bentley Railway Station

Destination	Typical Journey Time	Typical Frequency
Alton	8 minutes	1 every hour
Aldershot	13 minutes	1 every hour
Woking	30 minutes	1 every hour
Clapham Junction	57 minutes	1 every hour
London Waterloo	1 hour 8 min	1 every hour
Alton	8 minutes	1 every hour

3.4.2 Bentley railway station has a total of 85 car parking spaces and 2 accessible spaces. In addition, the station has a total of 23 cycle parking spaces comprised of 9 cycle lockers and 14 cycle stand parking spaces. The spaces are monitored by CCTV and would provide a convenient opportunity for future residents to cycle to the station and continue their journey by train.

4 DEVELOPMENT PROPOSALS AND ACCESS ARRANGEMENTS

4.1 Development Proposals

4.1.1 The development proposals consist of the erection of 34 residential dwellings (including fifteen affordable units), together with the associated vehicular and pedestrian access, landscaping, and public open space on land west of School Lane, Bentley, Farnham, with all matters reserved except for access. The proposed site layout is attached hereto in **Appendix A**.

4.2 Access Arrangements

4.2.1 The proposed access road would be provided from School Lane, located to the east of the site, as illustrated on **Drawing 2022/6673/001 and 002** attached hereto.

4.2.2 The access road would be 4.8 metres in width which would allow two cars to pass simultaneously. This access width is considered appropriate in the unlikely occurrence of vehicles egressing and entering the site at the same time, both vehicles can be accommodated within the access road whilst also providing sufficient manoeuvring space for private cars reversing from proposed parking spaces. A footway is also proposed along the western side of School Lane between the site and the existing footway to the south, as shown in its entirety on **Drawing 2022/6673/002**.

4.2.3 In relation to refuse collection, **Drawings 2022/6673/003 and 2022/6673/004** show a standard refuse collection vehicle used by EHDC (11.2 metre long) entering and exiting the site in a forward gear and turning within the turning heads provided on site. Bin storage for each of the residential units shall be stored within the curtilage of each dwelling, as outlined within Manual for Streets (MfS) bin stand locations would result in an operative carry distance no greater than 25 metres.

4.3 Visibility Requirements

4.3.1 HCC's 'Technical Guidance Note TG3' document states at Paragraph 1.2: "MfS criteria shall apply where the Design Speed is up to and including 60kph."

4.3.2 HCC's TG3 refers at paragraph 3.1.5 to the need to identify 'Spot Speeds' in accordance with CA185, when considering approach speeds for existing roads. Spot Speeds need to be determined under free flow conditions with a minimum number of vehicle readings and with the frequency of measurement and timing as per CA185.

4.3.3 Paragraph 2.5.1 of CA185 identifies that all speed measurements should be taken during dry conditions.

4.3.4 Paragraph 2.6 of CA185 states that a minimum of 200 readings should be taken at each time (i.e. each speed measurement period).

4.3.5 With regard to Speed Measurement Periods, paragraph 2.7 of CA185 identifies that two different periods should be undertaken, at different times of the day and on different days. The traffic volume on School Lane is such that it is not possible to achieve 200 readings in each direction during a specific day, or shorter period. Therefore, two different periods have been surveyed, during dry weather and with greater than 200 readings in each direction.

4.3.6 Paragraph 2.8.1 confirms that the two speed measurement periods should be undertaken in different months and at least one month apart. Paragraph 2.10 confirms that weekends should not be used.

- 4.3.7 As identified above surveys have been undertaken during August / September 2020 and January 2022, with the full results attached at **Appendix D and E**. In accordance with CA185' only dry days have been considered as part of this assessment with the weather statistics attached hereto at **Appendix F** confirming the dry days, during the survey periods.
- 4.3.8 Where the ATCs were undertaken in two locations, north and south of the proposed access, only the approach speeds have been considered, (i.e. northbound speeds on the ATC south of the access and southbound speeds on the ATC north of the access).
- 4.3.9 As set out in the results summary attached hereto at **Appendix G** a total of at least 200 speed observations were recorded during each survey measurement period, and during dry conditions, not including weekends and as such both survey periods reflect conditions which are in accordance with CA185. The greyed-out rows on the summary at **Appendix F** identify those survey dates removed from assessment due to them being at the weekend (or bank holiday) or wet weather conditions.
- 4.3.10 Furthermore, in accordance with CA185 the worst case observed speed from the two speed measurement periods have been considered.
- 4.3.11 The approach design speeds (dry weather spot speeds) are therefore as follows:
- (i) Southbound – 40.1 kph (24.9mph)
 - (ii) Northbound – 40.9 kph (25.4mph)
- 4.3.12 According to HCC's stopping sight distance calculator, copies of which are attached hereto at **Appendix H**, the required visibility based on the above design speeds are as follows:
- (i) 2.4m x 33 metres to the north;
 - (ii) 2.4m x 34 metres to the south.
- 4.3.13 Attached **Drawing 2022/6673/001** therefore demonstrates that these required visibility splays are achievable to an approaching vehicle travelling along School Lane. In accordance with paragraph 3.3.3 of TG3 the y-distance has been indicated to the wheel track, a distance of 0.3 metres from the nearside edge of the surface course.
- 4.3.14 Furthermore, an earlier iteration of the proposed access arrangements have been subject to consideration by means of a Stage 1 Road Safety Audit (RSA1) in February 2021 reference RW-MC-21-3299-RSA1 in relation to application (Planning Reference: 55711/001). Only two matters for consideration were raised by the RSA1 which were dealt with as part of the designer's response and have been incorporated within the latest design drawings.

4.4 Proposed Parking Provision

4.4.1 Parking standards for the development proposals are found within East Hampshire District Council's (EHDC) 'Vehicle Parking Standards SPD' (July 2018). The relevant vehicle and cycle parking standards are summarised below within **Table 3** below.

Table 3 - Vehicle and Cycle Parking Requirements

Residential Land Use	Vehicle Parking Standard (Resident)	Vehicle Parking Standard (Visitor)	Cycle Parking Standard (Resident)	Cycle Parking Standard (Visitor)
1 bed dwelling	1 space per dwelling	1 space per 5 dwellings	1 space per dwelling	Visitor cycle spaces will be expected at 10% of the long stay cycle spaces in developments of 5 units or more.
2/3 bed dwelling	2 spaces per dwelling	1 space per 5 dwellings	2 spaces per dwelling	
4+ bed dwellings	3 spaces per dwelling	1 space per 5 dwellings	2 spaces per dwelling	

4.4.2 As outlined in **Table 3**, the development proposals would require the provision of 73 car parking spaces for residents and 7 visitor spaces. In terms of cycle parking, 67 cycle storage spaces would be required to accord with local parking standards.

4.4.3 The development proposals include 73 parking spaces in total including 7 visitor parking bays, thereby complying with standards. Furthermore, given the site's highly accessible village location (as set out within **Section 3**) the proposed level of parking is considered appropriate to meet the likely level of parking demand.

4.4.4 Sufficient covered and secure cycle parking space for 2 cycles shall be provided within the curtilage of each dwelling.

5 TRAFFIC GENERATION AND IMPACT

- 5.1.1 The traffic generation potential associated with the proposed residential development has been assessed using the TRICS database in order to provide a robust reflection of the proposed trip generation.
- 5.1.2 The TRICS database version 7.9.2 has been assessed using the following search parameters and with respect to the following type of settlements:
- (i) Use Class: C3;
 - (ii) Sub Class: Houses privately owned;
 - (iii) Regions: England, excluding Greater London;
 - (iv) Locations: Suburban areas only; and
 - (v) Monday to Friday surveys;
- 5.1.3 The full TRICS outputs from the assessment are attached hereto at **Appendix I**, whilst the peak hour and daily traffic generation have been factored to reflect the development proposals and are summarised in **Table 4** below.

Table 4 – Anticipated Vehicle Trip Generation – Proposed Residential Development

TRICS Traffic Generation (34 Units)			
Time Period	Arrivals	Departures	Two-way Total
AM Peak Hour	4	13	17
PM Peak Hour	13	7	20
Daily Traffic	82	84	166
*Figures subject to rounding			

- 5.1.4 The TRICS assessment suggests that the development could generate a total of 166 daily two-way vehicle movements, of which up to 20 two-way movements would occur during each of the morning and evening peak hours. This is equivalent to 1 additional movement every 3 minutes.
- 5.1.5 This increase in vehicle trips across a daily period is considered negligible on the highway network and cannot be considered to have a severe impact as defined in Paragraph 111 of the NPPF which states: *“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.”*
- 5.1.6 Previously a methodology was used and agreed with HCC to establish the distribution of traffic for the previous larger proposal on the site. For robustness however for this modest development it is assumed that 100% of traffic would pass through the junction of School Lane with Main Road.
- 5.1.7 Junction capacity modelling assessments are typically required where peak hour movements at existing junctions would increase by such an extent that local junctions are operating at or beyond capacity. A rule of thumb for considering whether to assess a junction is if a development would result in an impact of at least 30 two-way movements through a particular junction during a peak hour. The impact would be below this threshold at less than 20 two-way movements during peak hours as a worst case.

5.2 Impact on School Lane

- 5.2.1 HCC, in its previous consultation response identified a concern with regard to the impact of proposals on School Lane and this has been considered below.
- 5.2.2 Based on the most recent January 2022 ATC traffic survey results the busiest existing use of School Lane is 29 vehicles during the AM peak hour. Based on the assessment of traffic impact the proposals would lead to an increase of 17 movements during the AM peak hour resulting in a total of 46 vehicles during an hour (1 vehicle every 78 seconds).
- 5.2.3 As identified in **Figure 2.3** above, MfS identifies that Shared surfaces, like School Lane operate most effectively with traffic volumes below 100 vph, since pedestrians are happy to walk in the road in these conditions without safety concern.
- 5.2.4 Post development the future traffic flows on School Lane would be well below this threshold and as such the lane could continue to operate as a shared surface and there is no justification for any segregated pedestrian facilities to be provided. Notwithstanding this the proposals include a new footway along the western side of School Lane.
- 5.2.5 The average speed on School Lane was recorded as 20.4mph (32.8kph), which is equivalent to 9.1 metres per second. A car would therefore take circa 34 seconds (312m/9.1) to travel along School Lane between the site access and the junction with Main Road.
- 5.2.6 The likelihood of two vehicles meeting each other on School Lane is therefore very low and is further reduced on the narrow sections of School Lane which allow single-way working only.
- 5.2.7 Therefore, the proposals would not lead to an impact on School Lane at the proposed formal narrowing during peak periods and there would be no impact of the proposals on the safe operation of School Lane.

6 SUMMARY AND CONCLUSIONS

6.1.1 This Transport Statement has been prepared by RGP on behalf of Camping Property to consider the transport and highways implications of a proposed development consisting of the erection of 34 residential dwellings (including fifteen affordable units), together with the associated vehicular and pedestrian access, landscaping, and public open space on land west of School Lane, Bentley, Farnham, with all matters reserved except for access at land west of School Lane, Bentley.

6.2 Summary

6.2.1 This report can be summarised as follows:

- (i) The site is located in an area that is accessible via a range of non-car modes given the context of the village location;
- (ii) Analysis of personal injury accidents in proximity to the application site has not identified any abnormal causation factors, and therefore concludes the proposed development will have no adverse effect on highway safety;
- (iii) Appropriate access to the site can be provided from School Lane with adequate visibility in accordance with the design speed of the road and HCC's TG3 design guide;
- (iv) The proposed parking provision for the site is considered to be suitable based on the relevant policy guidance and local conditions; and
- (v) The trip generating impact of the proposals is negligible and would not have a severe impact upon the operation of the local highway network.

6.2.2 This TS report has therefore established that safe and convenient access can be provided to the site and that the development would not result in an unacceptable impact on safety and the cumulative impact on the road network would not be 'severe'.

6.3 Conclusion

6.3.1 The National Planning Policy Framework at Section 111 states "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

6.3.2 In conclusion, this report has established that the development would not result in an unacceptable impact on safety and there would be no residual or severe cumulative impacts on the surrounding transport network. Therefore, planning permission should not be withheld on transport grounds.

Appendix B

APPENDIX 1 PROPOSED SITE LAYOUT PLANS

Appendix B



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rev.	date	changes description	Status	issued by
P01	06/10/2022		S0	KM

RE-FORM

AT

www.re-format.co.uk mail@re-format.co.uk +44 (0)1730 778778

project title
School Lane, Bentley

document title
Proposed Site Plan

date created	drawn by	checked by	approved by
Oct 2022	KM	MS	NA

scale at A1
1:500

project originator volume level type role number
P22049 - RFT - 00 - 00 - DR - A - 0100

status	suitability description	revision
S0	Initial Issue	P01

Appendix B



APPENDIX 2 HCC RESPONSE

Appendix B



**Hampshire
County Council**

**East Hampshire District Council
Penns Place
Petersfield
Hampshire
GU31 4EX**

*Economy, Transport and Environment Department
Elizabeth II Court West, The Castle
Winchester, Hampshire SO23 8UD*

**Tel: 0300 555 1375 (General Enquiries)
0300 555 1388 (Roads and Transport)
0300 555 1388 (Recycling Waste & Planning)
Textphone 0300 555 1390
Fax 01982 847055**

www.hants.gov.uk

Enquiries To

Direct Line

Date

16 September 2021

My reference 033609

**Your
reference 21002/006/FUL**

Email eastdc@hants.gov.uk

Dear Mrs Powis,

Construction of additional dwelling at Broadacre, School Lane, Bentley GU10 5JP

I refer to the consultation on the above planning application and would make the following comments.

The proposal here is to create a new parking area for the existing dwelling and to construct a further 4 bedroom property to the rear of the existing property with associated parking. The scheme includes the provision of a new relocated access to replace the existing access to School Lane. School Lane is an adopted metalled road highway within a 30mph speed restriction area with highway verges to both sides.

EHDC as Local Parking Authority will consider the proposed levels of parking for cars and cycles based on the requirements of the East Hants Vehicle Parking Standards SPD (July 2018). The Highway Authority would advise that there is adequate turning space within the curtilage to ensure vehicles are able to enter and leave the site in a forward gear.

In creating the new access there is a requirement to provide the necessary visibility splays to accord with the standards set out within the HCC Technical Guidance Note TG3 - Stopping Site Distance and Visibility Splays Rev 2, as a dropped kerb/ verge crossing access the required visibility within a 30mph speed restriction area is 2m x 43m as a full bellmouth as shown currently the requirement would be for 2.4m x 43m. Within those splays there should be no obstruction to vision above 0.6m. in height from the edge of carriageway. The appropriate visibility splays should be shown on the layout

*Director of Economy, Transport and Environment
Stuart Jarvis BSc DipTP FCIHT MRTPI*

Call charges apply. For information see www3.hants.gov.uk/contactus/call-charges Your name and address will be recorded in our database and may be made available to others only in accordance with the Data

Appendix B



**Hampshire
County Council**

drawing. The splays shall be provided within land under the control of the applicants and/or within the highway boundary (verge). A reduction in the y distance (43m) would only be acceptable if evidence of lower vehicle speeds on School Lane, were provided by vehicle speed surveys undertaken to accord with the requirements of TG3.

Also the closure of the existing access should be clearly shown and the highway verge reinstated. The reinstatement works would be included within the process to implement any approved access works.

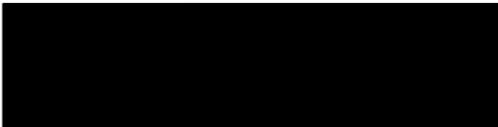
If the planning authority are minded to grant planning permission those works, due to the width and form of the proposed access, would be required to be secured through a Minor Works 278 Agreement and a link to the process is provided here:

<https://www.hants.gov.uk/transport/developers/constructionstandards>

Subject to details of the access arrangements being agreed the Highway Authority are satisfied that the additional traffic generation from a single dwelling would not have a detrimental impact on the operation or safety of the local highway network.

As from the information available it cannot be shown that the development can be accommodated in a manner that would not cause increased danger and inconvenience to highway users the Highway Authority would recommend - a holding objection until an amended layout plan is provided showing the required highway access arrangements as set out above.

Yours sincerely,



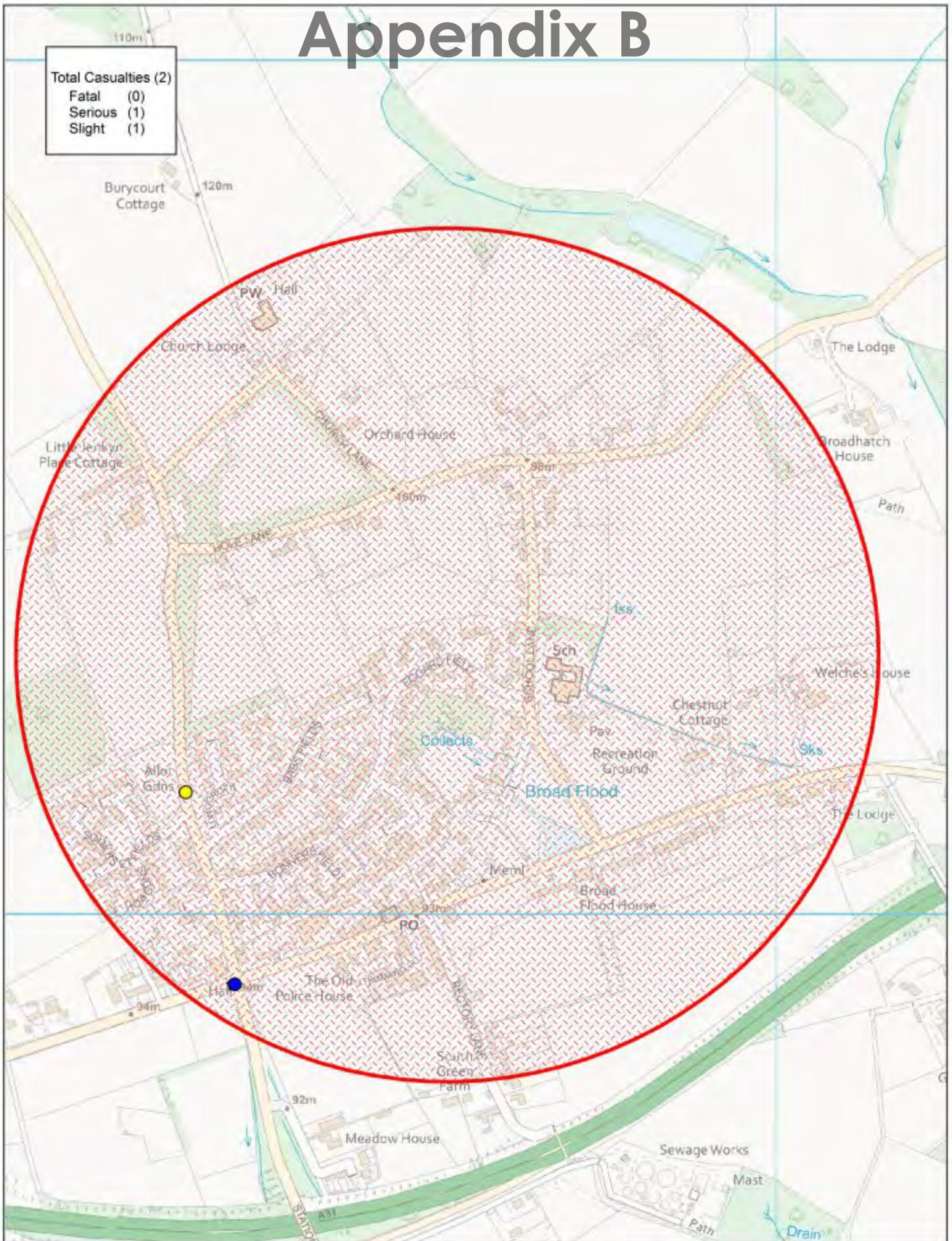
Director of Economy, Transport and Environment
Stuart Jarvis BSc DipTP FCIHT MRTPI

Call charges apply. For information see www3.hants.gov.uk/contactus/call-charges Your name and address will be recorded in our database and may be made available to others only in accordance with the Data

APPENDIX 3 PIA ACCIDENT DATA

Appendix B

Total Casualties (2)
 Fatal (0)
 Serious (1)
 Slight (1)



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 Hampshire Police
 Licence No. 01021C 2020

1 : 5800

DATE 07/10/2020

DRAWING No.

DRAWN BY

Appendix B

Accidents between dates **01/04/2015** and **30/04/2020** (61) months

Selection: Notes:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons -HC - RPU Stats Requests - OLD ("SJ
BENTLEY BACSSR1020097")

Selected Polygon: SJ BENTLEY BACSSR1020097

44180190658 23/05/2018 Time 0810 Vehicles 2 Casualties 1 Serious
E:478370 N:143918 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Crossroads Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

Factor:	Participant:	Confidence:
1st: Vegetation	Vehicle 1	Possible
2nd: Failed to look properly	Vehicle 1	Very Likely
3rd:		
4th:		
5th:		
6th:		

VEH 1 (CAR) TRAVELLING NW ALONG STATION ROAD, TURNS RIGHT ONTO BENTLEY HIGH STREET ACROSS THE PATH OF VEH 2 (M/CYCLE) TRAVELLING SW ALONG BENTLEY HIGH STREET AND COLLIDES, CAUSING THE RIDER TO BE THROWN OFF.

Occurred on BENTLEY HIGH STREET AT JUNCTION WITH STATION ROAD, BENTLEY, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from SE to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 47 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Motor Cycle over 50 cc and up to 125cc Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 25 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 25 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Appendix B

Accidents between dates **01/04/2015** and **30/04/2020** (61) months

Selection: Notes:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons -HC - RPU Stats Requests - OLD ("SJ
BENTLEY BACSSR1020097")

44180254786 07/07/2018 Time 1028 Vehicles 2 Casualties 1 Slight
E:478313 N:144143 First Road: U Road Type Single carriageway
Speed limit: 40 Junction Detail: Not within 20m of junction
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Defective lights or indicators	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:	Careless/Reckless/In a hurry	Vehicle 1	Possible
4th:	Vehicle blind spot	Vehicle 1	Possible
5th:			
6th:			

VEH1 (CAR) TRAVELLING S ALONG HOLE LANE PULLS INTO A LAYBY TO ALLOW AN ONCOMING VEH TO PASS AS IT IS A NARROW ROAD. VEH2 (P/CYCLE) TRAVELLING S ALONG HOLE LANE PULLS INTO THE SAME LAYBY BEHIND VEH1. VEH1 REVERSES SUDDENLY AND COLLIDES WITH VEH2.

Occurred on HOLE LANE, 22 METERS N OF JUNCTION WITH SOMERSET FIELDS, BENTLEY, HAMPSHIRE.

Vehicle Reference 1 Car Reversing
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 71 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead but held up
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 49 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 49 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not known

Appendix B

Accidents between dates **01/04/2015** and **30/04/2020** (61) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("SJ BENTLEY BACSSR1020097")

Notes:

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	0	0	0
2-wheeled motor vehicles	0	1	0	1
Pedal cycles	0	0	1	1
Horses & other	0	0	0	0
Total	0	1	1	2

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	0	0	0
Passenger	0	0	0	0
Motorcycle rider	0	1	0	1
Cyclist	0	0	1	1
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	1	1	2

Appendix B

Hampshire Constabulary - Police Account Receipt

775907

Station 01 Division "SSU" 02/10 2020

Received of RGP

the sum of 91 pounds 30 pence. Personal Rcpt. No. _____

for stats Data - Bentley - BACS / SR 110201097

£ 91 . 30

Cheque	PO.
Cash	BACS ✓



APPENDIX 4 AUG/SEPT ATC DATA

Appendix B

Modal Dir2

Globals

Report Id	CustomList-205
Descriptor	Modal Dir2
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2020-09-08T09:13:59
Legal	Copyright (c)1997 - 2016 MetroCount
Graphic	
Language	English
Country	United Kingdom
Time	UTC + 60 min
Create Version	5.0.2.0
Metric	Part metric
Speed Unit	mph
Length Unit	metre
Mass Unit	tonne

Dataset

Site Name	Bentley
Site Attribute	ATC 7
File Name	S:\RGPL-012 Modal Data Limited\MetroCount\MetroCount\MTE 5.02\Data\Bentley 0 2020-09-08 0950.EC0
File Type	Plus
Algorithm	Factory default axle
Description	School Lane
Lane	0
Direction	5
Direction Text	5 - South bound A]B, North bound B]A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2020-08-25T17:15:47
Start Time	2020-08-25T17:15:47
Finish Time	2020-09-08T09:49:47
Operator	RM
Configuration	40 MC5600 00 00 00 00 00 ? HG203MQT MC56-L5 [MC55] (c)Microcom 19Oct04

Profile

Name	Default Profile
Title	MetroCount Traffic Executive
Graphic Logo	
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	10
Filter Start	2020-08-26T00:00:00
Filter End	2020-09-08T00:00:00
Class Scheme	ARX
F	Cls(1-12) Dir(BA) Sp(5,100) Headway(]0) Span(0 - 100) Lane(0-16)
Low Speed	5
High Speed	100
Posted Limit	40
Speed Limits	40 40 40 40 40 40 40 40 40
Separation	0.000
Separation Type	Headway
Direction	BA
Encoded Direction	15

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Wednesday, 26 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
1300	0	4	0	0	0	0	0	0	0	0	0	0	4	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	16.6	-
1400	1	8	0	0	0	0	0	0	0	0	0	0	9	0	1	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0	19.4	-
1500	0	7	0	1	0	0	0	0	0	0	0	0	8	0	3	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	17.3	-
1600	2	8	0	0	0	0	0	0	0	0	0	0	10	0	3	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	19	-
1700	0	8	0	0	0	0	0	0	0	1	0	0	9	0	3	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	18.4	-
1800	1	10	0	0	0	0	0	0	0	0	0	0	11	0	4	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	17.4	23.2
1900	0	4	1	0	0	0	0	0	0	0	0	0	5	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	19.6	-
2000	1	1	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	18.2	-
2100	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	-
2200	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	23.4	-
2300	1	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17.8	-
08-09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
17-18	0	8	0	1	0	0	9	0	3	1	5	0	18.4	-																		
10-16	1	19	0	1	0	21	0	5	9	6	1	0	18.1	22.9																		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
00-00	6	56	1	1	0	0	0	0	0	1	0	0	65	1	17	17	27	3	0	18.6	23.2											

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Friday, 28 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	26	-	
0700	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	19.5	-	
0800	0	10	0	0	0	0	0	0	0	0	0	0	10	0	1	2	5	2	0	0	0	0	0	0	0	0	0	0	0	21.2	-	
0900	0	8	0	1	0	0	0	0	0	0	0	0	9	1	1	3	3	0	1	0	0	0	0	0	0	0	0	0	0	19.7	-	
1000	1	7	0	0	0	0	0	0	0	0	0	0	8	0	1	3	2	1	0	1	0	0	0	0	0	0	0	0	0	21.2	-	
1100	1	11	0	1	0	0	0	0	0	0	0	0	13	0	1	6	6	0	0	0	0	0	0	0	0	0	0	0	0	19.4	22.7	
1200	0	11	0	0	0	0	0	0	0	0	0	0	11	0	1	4	6	0	0	0	0	0	0	0	0	0	0	0	0	20.1	23.7	
1300	0	12	1	1	0	0	0	0	0	0	0	0	14	0	1	2	9	2	0	0	0	0	0	0	0	0	0	0	0	21.6	24.8	
1400	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	3	2	1	0	0	0	0	0	0	0	0	0	0	0	21.6	-	
1500	0	6	0	1	0	0	0	0	0	0	0	0	7	2	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	18	-	
1600	1	7	0	0	0	0	0	0	0	0	0	0	8	1	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	17.8	-	
1700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	20.2	-	
1800	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	20.6	-	
1900	1	2	0	0	0	0	0	0	0	0	0	0	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	15.4	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	18.2	-	
2100	0	3	0	0	0	0	0	0	0	0	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	19.9	-	
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	16.2	-	
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.7	-	
08-09	0	10	0	10	0	1	2	5	2	0	21.2	-																				
17-18	0	2	0	2	0	0	1	1	0	20.2	-																					
10-16	2	53	1	3	0	59	2	4	19	29	4	0	1	0	20.3	24.1																
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	4	99	1	4	0	108	5	10	33	50	8	1	1	0	20	24.1																

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Monday, 31 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	23.5	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0800	1	3	0	0	0	0	0	0	0	0	0	0	4	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14.1	-	
0900	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	21.7	-	
1000	2	5	0	0	0	0	0	0	0	0	0	0	7	0	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	19.8	-	
1100	1	4	0	0	0	0	0	0	0	0	0	0	5	1	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	18.7	-	
1200	0	8	0	0	0	0	0	0	0	0	0	0	8	0	2	4	2	0	0	0	0	0	0	0	0	0	0	0	0	17.7	-	
1300	0	1	0	0	0	1	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17.3	-	
1400	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	16.9	-	
1500	0	7	0	0	0	1	0	0	0	0	0	0	8	0	2	0	5	1	0	0	0	0	0	0	0	0	0	0	0	19.8	-	
1600	3	3	1	1	0	1	0	0	0	0	0	0	9	3	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	13.4	-	
1700	1	2	0	0	0	0	0	0	0	0	0	0	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	16.9	-	
1800	1	7	0	0	0	0	0	0	0	0	0	0	8	1	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	14.2	-	
1900	0	9	0	1	0	0	0	0	0	0	0	0	10	3	1	2	4	0	0	0	0	0	0	0	0	0	0	0	0	16	-	
2000	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	23.9	-	
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	24.2	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
08-09	1	3	0	4	1	2	1	0	14.1	-																						
17-18	1	2	0	3	0	2	0	1	0	16.9	-																					
10-16	3	28	0	0	0	2	0	0	0	0	0	0	33	1	7	10	13	2	0	18.7	23.2											
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	9	59	1	2	0	3	0	0	0	0	0	0	74	9	19	19	23	4	0	17.3	23.4											

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Tuesday, 01 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	25.3	-	
0600	1	1	0	1	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	18.2	-	
0700	2	1	0	0	0	0	0	0	0	0	0	0	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	16.1	-	
0800	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	1	3	1	0	1	0	0	0	0	0	0	0	0	0	24.9	-	
0900	1	10	0	0	0	0	0	0	0	0	0	0	11	0	1	2	4	4	0	0	0	0	0	0	0	0	0	0	0	22.1	27.5	
1000	2	10	0	1	0	0	0	0	0	0	0	0	13	0	6	3	2	2	0	0	0	0	0	0	0	0	0	0	0	17.7	26.2	
1100	2	6	0	0	0	0	0	0	0	0	0	0	8	1	2	0	2	3	0	0	0	0	0	0	0	0	0	0	0	19.9	-	
1200	0	12	0	1	0	0	0	0	0	0	0	0	13	0	2	5	4	2	0	0	0	0	0	0	0	0	0	0	0	19.3	25.2	
1300	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	18.9	-	
1400	1	3	0	0	0	0	0	0	0	0	0	0	4	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	18.6	-	
1500	1	7	0	0	0	0	0	0	0	0	0	0	8	1	2	1	1	3	0	0	0	0	0	0	0	0	0	0	0	18.8	-	
1600	0	7	0	0	0	0	0	0	0	0	0	0	7	0	2	2	1	2	0	0	0	0	0	0	0	0	0	0	0	19.5	-	
1700	1	2	0	1	0	0	0	0	0	0	0	0	4	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	20.7	-	
1800	0	3	1	0	0	0	0	0	0	0	0	0	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	21	-	
1900	1	5	0	0	0	0	0	0	0	0	0	0	6	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	19.5	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	21.5	-	
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	31	-	
08-09	0	6	0	6	0	0	1	3	1	0	1	0	24.9	-																		
17-18	1	2	0	1	0	4	0	1	1	1	1	0	20.7	-																		
10-16	6	43	0	2	0	51	2	14	13	12	10	0	18.8	25.5																		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	12	81	1	5	0	99	2	21	27	26	21	1	1	0	19.9	25.7																

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Thursday, 03 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	24.6	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	2	2	0	1	0	0	0	0	0	0	0	0	5	1	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	17.9	-	
0800	0	8	0	1	0	0	0	0	0	0	0	0	9	0	2	2	4	1	0	0	0	0	0	0	0	0	0	0	0	20.5	-	
0900	0	10	0	0	0	0	0	0	0	0	0	0	10	0	2	3	4	1	0	0	0	0	0	0	0	0	0	0	0	20	-	
1000	0	8	0	0	0	0	0	0	0	0	0	0	8	2	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	14.4	-	
1100	0	11	0	1	0	0	0	0	0	0	0	0	12	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	9.1	11.9		
1200	0	5	0	0	0	0	0	0	0	0	0	0	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	-	
1300	0	7	0	1	0	0	0	0	0	0	0	0	8	4	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	12.6	-	
1400	0	10	0	0	0	0	0	0	0	0	0	0	10	0	6	2	1	1	0	0	0	0	0	0	0	0	0	0	0	16.4	-	
1500	1	3	1	1	0	0	0	0	0	0	0	0	6	1	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	20.2	-	
1600	0	8	0	1	0	0	0	0	0	0	0	0	9	0	1	3	4	1	0	0	0	0	0	0	0	0	0	0	0	19.9	-	
1700	0	9	0	0	0	0	0	0	0	0	0	0	9	0	2	2	2	3	0	0	0	0	0	0	0	0	0	0	0	20.7	-	
1800	0	13	0	0	0	0	0	0	0	0	0	0	13	0	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	22.1	24.9	
1900	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	0	3	2	0	0	0	0	0	0	0	0	0	0	0	22.5	-	
2000	1	3	0	0	0	0	0	0	0	0	0	0	4	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	17.8	-	
2100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	16.6	-	
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	31.2	-	
08-09	0	8	0	1	0	9	0	2	2	4	1	0	20.5	-																		
17-18	0	9	0	9	0	2	2	2	3	0	20.7	-																				
10-16	1	44	1	3	0	49	17	16	9	5	2	0	13.5	19.7																		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	4	105	1	7	0	117	18	26	26	35	11	1	0	17.7	24.3																	

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Friday, 04 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	24.5	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	1	7	1	0	0	0	0	0	0	0	0	0	9	1	2	1	3	2	0	0	0	0	0	0	0	0	0	0	19.3	-		
0800	0	10	0	1	0	0	0	0	0	0	0	0	11	2	0	1	6	2	0	0	0	0	0	0	0	0	0	0	20.3	26.4		
0900	0	6	0	2	0	0	0	0	0	0	0	0	8	0	2	0	3	3	0	0	0	0	0	0	0	0	0	0	21.1	-		
1000	2	12	0	0	0	0	0	0	0	0	0	0	14	1	3	3	6	1	0	0	0	0	0	0	0	0	0	19	23.7			
1100	0	8	1	1	0	0	0	0	0	0	0	0	10	0	3	4	3	0	0	0	0	0	0	0	0	0	0	0	17.3	-		
1200	2	4	0	0	0	0	0	0	0	0	0	0	6	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	18	-		
1300	1	5	0	1	0	0	0	0	0	0	0	0	7	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	11.4	-		
1400	0	6	0	1	0	0	0	0	0	0	0	0	7	0	0	4	1	2	0	0	0	0	0	0	0	0	0	0	21.8	-		
1500	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	17.7	-		
1600	2	9	1	0	0	0	0	0	0	0	0	0	12	0	1	7	3	1	0	0	0	0	0	0	0	0	0	0	19.6	24.9		
1700	1	9	0	0	0	0	0	0	0	0	0	0	10	1	1	5	3	0	0	0	0	0	0	0	0	0	0	0	17.6	-		
1800	0	5	0	1	0	0	0	0	0	0	0	0	6	1	1	0	3	1	0	0	0	0	0	0	0	0	0	0	18.8	-		
1900	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	1	3	2	0	0	0	0	0	0	0	0	0	0	24.2	-		
2000	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	21.3	-		
2100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	26.2	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
08-09	0	10	0	1	0	11	2	0	1	6	2	0	20.3	26.4																		
17-18	1	9	0	10	1	1	5	3	0	17.6	-																					
10-16	5	41	1	3	0	50	6	10	15	16	3	0	17.7	23.9																		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	9	98	3	7	0	117	11	17	31	43	15	0	19.1	24.7																		

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Saturday, 05 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0800	1	6	0	0	0	0	0	0	0	0	0	0	7	0	1	3	1	2	0	0	0	0	0	0	0	0	0	0	0	20.6	-	
0900	1	2	0	0	0	0	0	0	0	0	0	0	3	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	18.4	-	
1000	1	11	0	0	0	0	0	0	0	0	0	0	12	0	3	2	7	0	0	0	0	0	0	0	0	0	0	0	18.8	22.1		
1100	2	13	0	0	0	0	0	0	0	0	0	0	15	0	4	4	7	0	0	0	0	0	0	0	0	0	0	0	18.5	23.2		
1200	1	2	0	0	0	0	0	0	0	0	0	0	3	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	19.2	-		
1300	0	10	0	0	1	0	1	0	0	0	0	0	12	0	1	3	8	0	0	0	0	0	0	0	0	0	0	0	19.8	23.1		
1400	0	5	0	0	0	1	0	0	0	0	0	0	6	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	21.2	-		
1500	0	10	0	2	0	0	0	0	0	0	0	0	12	1	3	4	4	0	0	0	0	0	0	0	0	0	0	0	16.9	22.4		
1600	2	8	0	0	0	0	0	0	0	0	0	0	10	2	1	3	4	0	0	0	0	0	0	0	0	0	0	0	17.2	-		
1700	0	5	0	1	0	0	0	0	0	0	0	0	6	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	22.1	-		
1800	3	3	0	0	0	0	0	0	0	0	0	0	6	0	2	1	2	1	0	0	0	0	0	0	0	0	0	0	19.4	-		
1900	0	4	1	0	0	0	0	0	0	0	0	0	5	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	20.7	-		
2000	0	3	0	0	0	0	0	0	0	0	0	0	3	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	22.3	-		
2100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	28.6	-		
2200	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	19.6	-		
2300	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	22	-		
08-09	1	6	0	7	0	1	3	1	2	0	20.6	-																				
17-18	0	5	0	1	0	6	0	0	2	3	1	0	22.1	-																		
10-16	4	51	0	2	1	1	1	0	0	0	0	0	60	2	12	14	29	3	0	18.8	23.1											
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	11	88	1	3	1	1	1	0	0	0	0	0	106	4	19	28	43	11	1	0	19.3	24.4										

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Sunday, 06 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85	
0000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17.4	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0800	1	2	0	0	0	0	0	0	0	0	0	0	3	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	19	-	
0900	0	4	0	1	0	0	0	0	0	0	0	0	5	0	0	1	3	1	0	0	0	0	0	0	0	0	0	0	23.2	-	
1000	1	9	0	0	0	0	0	0	0	0	0	0	10	0	1	1	6	2	0	0	0	0	0	0	0	0	0	0	22.6	-	
1100	5	7	0	0	0	1	0	0	0	0	0	0	13	2	5	1	5	0	0	0	0	0	0	0	0	0	0	16.1	22.9		
1200	3	12	0	0	0	0	0	0	0	1	0	0	16	0	4	6	5	1	0	0	0	0	0	0	0	0	0	18.4	23.6		
1300	1	5	0	0	0	1	0	0	0	0	0	0	7	0	3	1	3	0	0	0	0	0	0	0	0	0	0	17.5	-		
1400	1	5	0	1	0	0	0	0	0	0	0	0	7	0	1	2	2	2	0	0	0	0	0	0	0	0	0	21.4	-		
1500	3	8	0	0	0	0	0	0	0	0	0	0	11	0	2	2	6	0	1	0	0	0	0	0	0	0	0	20.5	25.1		
1600	1	8	0	0	0	0	0	0	0	0	0	0	9	0	1	1	5	2	0	0	0	0	0	0	0	0	0	21.6	-		
1700	0	3	0	0	0	1	0	0	0	0	0	0	4	0	1	1	2	0	0	0	0	0	0	0	0	0	0	19.1	-		
1800	1	5	0	0	0	0	0	0	0	0	0	0	6	1	1	2	2	0	0	0	0	0	0	0	0	0	0	17.2	-		
1900	0	4	0	0	0	0	0	0	0	0	0	0	4	0	1	0	3	0	0	0	0	0	0	0	0	0	0	19.6	-		
2000	1	2	0	0	0	0	0	0	0	0	0	0	3	0	1	0	1	1	0	0	0	0	0	0	0	0	0	20.7	-		
2100	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8.9	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	31.8	-		
08-09	1	2	0	3	0	1	0	1	1	0	19	-																			
17-18	0	3	0	0	0	1	0	0	0	0	0	0	4	0	1	1	2	0	19.1	-											
10-16	14	46	0	1	0	2	0	0	0	1	0	0	64	2	16	13	27	5	1	0	19.2	23.7									
00-05	0	1	0	1	0	0	1	0	17.4	-																					
00-00	19	75	0	3	0	3	0	0	0	1	0	0	101	4	22	19	44	10	2	0	19.5	24.4									

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Monday, 07 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	23.7	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	1	6	0	0	0	0	0	0	0	0	0	0	7	0	2	1	4	0	0	0	0	0	0	0	0	0	0	0	0	20	-	
0800	0	12	0	0	0	0	0	0	0	0	0	0	12	1	2	4	5	0	0	0	0	0	0	0	0	0	0	0	18.1	21.6		
0900	1	10	0	1	0	0	0	0	0	0	0	0	12	1	2	7	2	0	0	0	0	0	0	0	0	0	0	0	16.7	21.6		
1000	2	3	0	1	0	0	0	0	0	0	0	0	6	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	16.8	-		
1100	1	6	0	1	1	0	0	0	0	0	0	0	9	0	2	3	3	0	1	0	0	0	0	0	0	0	0	0	19.4	-		
1200	0	5	0	1	0	0	0	0	0	0	0	0	6	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	19.7	-		
1300	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	19.2	-		
1400	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	19.1	-		
1500	0	16	0	1	0	0	0	0	0	0	0	0	17	3	3	5	5	1	0	0	0	0	0	0	0	0	0	0	16.9	23.7		
1600	0	7	0	1	0	0	0	0	0	0	0	0	8	0	3	2	3	0	0	0	0	0	0	0	0	0	0	0	18	-		
1700	1	5	0	0	0	0	0	0	0	0	0	0	6	0	2	0	3	1	0	0	0	0	0	0	0	0	0	0	19.8	-		
1800	0	9	0	0	0	0	0	0	0	0	0	0	9	0	1	4	3	1	0	0	0	0	0	0	0	0	0	0	20.1	-		
1900	3	2	0	0	0	0	0	0	0	0	0	0	5	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	16.1	-		
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24.9	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19.4	-		
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
08-09	0	12	0	12	1	2	4	5	0	18.1	21.6																					
17-18	1	5	0	6	0	2	0	3	1	0	19.8	-																				
10-16	3	41	0	4	1	0	49	4	10	15	16	3	1	0	18.2	23.5																
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	9	95	0	6	1	0	111	6	25	34	40	5	1	0	18.4	23.7																

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - BA

Grand Total

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5	Vbin 10	Vbin 15	Vbin 20	Vbin 25	Vbin 30	Vbin 35	Vbin 40	Vbin 45	Vbin 50	Vbin 55	Vbin 60	Vbin 65	Vbin 70	Vbin 75	Vbin 80	Mean	Vpp 85
--	123	1083	13	63	3	10	1	0	0	3	0	0	1299	90	228	344	494	131	10	2	0	0	0	0	0	0	0	0	0	19	24.4

Appendix B

Modal Dir2

Globals

Report Id CustomList-205
Descriptor Modal Dir2
Created by MetroCount Traffic Executive
Creation Time (UTC) 2020-09-08T09:16:18
Legal Copyright (c)1997 - 2016 MetroCount
Graphic
Language English
Country United Kingdom
Time UTC + 60 min
Create Version 5.0.2.0
Metric Part metric
Speed Unit mph
Length Unit metre
Mass Unit tonne

Dataset

Site Name Bentley
Site Attribute ATC 7
File Name S:\RGPL-012 Modal Data Limited\MetroCount\MetroCount\MTE 5.02\Data\Bentley 0 2020-09-08 0950.EC0
File Type Plus
Algorithm Factory default axle
Description School Lane
Lane 0
Direction 5
Direction Text 5 - South bound A]B, North bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2020-08-25T17:15:47
Start Time 2020-08-25T17:15:47
Finish Time 2020-09-08T09:49:47
Operator RM
Configuration 40 MC5600 00 00 00 00 00 ? HG203MQT MC56-L5 [MC55] (c)Microcom 19Oct04

Profile

Name Default Profile
Title MetroCount Traffic Executive
Graphic Logo
Header
Footer
Percentile 1 85
Percentile 2 95
Pace 10
Filter Start 2020-08-26T00:00:00
Filter End 2020-09-08T00:00:00
Class Scheme ARX
F Cls(1-12) Dir(AB) Sp(5,100) Headway(]0) Span(0 - 100) Lane(0-16)
Low Speed 5
High Speed 100
Posted Limit 40
Speed Limits 40 40 40 40 40 40 40 40 40
Separation 0.000
Separation Type Headway
Direction AB
Encoded Direction 15

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Wednesday, 26 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
1300	0	5	0	0	0	0	0	0	0	0	0	0	0	5	0	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	16.4	-
1400	0	6	0	1	0	0	0	0	0	0	0	0	0	7	0	3	2	0	2	0	0	0	0	0	0	0	0	0	0	0	17.7	-
1500	1	15	0	0	0	0	0	0	0	0	0	0	0	16	0	1	6	7	2	0	0	0	0	0	0	0	0	0	0	20.1	23.7	
1600	0	14	0	2	0	0	0	0	0	0	0	0	0	16	0	2	9	4	1	0	0	0	0	0	0	0	0	0	0	19.6	23.7	
1700	1	13	0	0	0	0	0	0	0	0	0	0	0	14	0	2	4	6	1	1	0	0	0	0	0	0	0	0	0	20.5	25.8	
1800	1	10	0	0	0	0	0	0	0	0	0	0	0	11	0	2	5	4	0	0	0	0	0	0	0	0	0	0	0	18.7	23.7	
1900	1	3	0	0	0	0	0	0	0	0	0	0	0	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	20.5	-	
2000	1	2	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	19.7	-	
2100	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	17.7	-	
2200	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12.7	-	
2300	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	29.2	-	
08-09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
17-18	1	13	0	14	0	2	4	6	1	1	0	20.5	25.8																			
10-16	1	26	0	1	0	28	0	6	9	9	4	0	18.8	24.6																		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	5	73	0	3	0	81	0	15	30	28	7	1	0	19.4	23.4																	

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Thursday, 27 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15.7	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	26.3	-	
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	28.7	-	
0800	1	8	0	1	0	0	0	0	0	0	0	0	10	1	1	3	3	2	0	0	0	0	0	0	0	0	0	0	0	20.6	-	
0900	0	4	1	2	0	0	0	0	0	0	0	0	7	0	0	3	2	2	0	0	0	0	0	0	0	0	0	0	0	21.6	-	
1000	0	10	0	1	0	0	0	0	0	0	0	0	11	0	0	3	4	4	0	0	0	0	0	0	0	0	0	0	0	23.5	28.3	
1100	0	11	0	1	0	0	0	0	0	0	0	0	12	0	2	3	6	1	0	0	0	0	0	0	0	0	0	0	0	19.9	25.1	
1200	1	13	0	1	0	0	0	0	0	0	0	0	15	1	1	3	6	4	0	0	0	0	0	0	0	0	0	0	0	20.8	26	
1300	0	6	0	1	0	0	0	0	0	0	0	0	7	0	0	3	3	1	0	0	0	0	0	0	0	0	0	0	0	21.7	-	
1400	0	10	0	0	0	0	0	0	0	0	0	0	10	0	2	2	5	1	0	0	0	0	0	0	0	0	0	0	0	20.4	-	
1500	1	14	0	0	0	0	0	0	0	0	0	0	15	1	3	2	7	2	0	0	0	0	0	0	0	0	0	0	0	19.3	25	
1600	0	11	0	1	0	0	0	0	0	0	0	0	12	0	1	5	4	2	0	0	0	0	0	0	0	0	0	0	0	20.2	25.3	
1700	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	2	1	0	1	0	0	0	0	0	0	0	0	0	0	20.3	-	
1800	0	3	0	0	0	0	0	0	0	0	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	19.2	-	
1900	0	4	0	0	0	0	0	0	0	0	0	0	4	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	17.7	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	21.4	-	
2100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	24.7	-	
2200	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	25.3	-	
2300	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.1	-	
08-09	1	8	0	1	0	10	1	1	3	3	2	0	20.6	-																		
17-18	0	5	0	5	0	1	2	1	0	1	0	20.3	-																			
10-16	2	64	0	4	0	70	2	8	16	31	13	0	20.8	25.7																		
00-05	0	1	0	1	0	0	1	0	15.7	-																						
00-00	3	109	1	9	0	122	3	13	31	51	23	1	0	20.9	25.8																	

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Friday, 28 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	20.1	-	
0700	1	5	0	0	0	0	0	0	0	0	0	0	6	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	22.3	-		
0800	0	10	0	1	0	0	0	0	0	0	0	0	11	0	3	4	4	0	0	0	0	0	0	0	0	0	0	0	18	23.3		
0900	0	8	0	0	0	0	0	0	0	0	0	0	8	1	0	3	3	1	0	0	0	0	0	0	0	0	0	0	18.9	-		
1000	1	10	0	1	0	0	0	0	0	0	0	0	12	0	0	7	3	2	0	0	0	0	0	0	0	0	0	0	20.5	26.1		
1100	1	13	0	0	0	0	0	0	0	0	0	0	14	0	1	5	7	0	1	0	0	0	0	0	0	0	0	0	20	22.9		
1200	1	12	0	0	0	0	0	0	0	0	0	0	13	0	1	3	8	1	0	0	0	0	0	0	0	0	0	0	21.4	24.2		
1300	0	10	1	1	0	0	0	0	0	0	0	0	12	0	0	5	6	0	0	1	0	0	0	0	0	0	0	0	21.9	25.5		
1400	1	9	0	0	0	0	0	0	0	0	0	0	10	0	1	2	6	1	0	0	0	0	0	0	0	0	0	0	21.3	-		
1500	1	9	0	1	0	0	0	0	0	0	0	0	11	1	2	2	6	0	0	0	0	0	0	0	0	0	0	0	18.7	24.3		
1600	1	7	0	2	0	0	0	0	0	0	0	0	10	0	0	5	4	1	0	0	0	0	0	0	0	0	0	0	19.6	-		
1700	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	20.5	-		
1800	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	8	2	0	0	0	0	0	0	0	0	0	0	23.1	-		
1900	1	4	0	1	0	0	0	0	0	0	0	0	6	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	17.1	-		
2000	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	20.4	-		
2100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	21.2	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	20.2	-	
08-09	0	10	0	1	0	11	0	3	4	4	0	18	23.3																			
17-18	0	5	0	5	0	0	2	3	0	20.5	-																					
10-16	5	63	1	3	0	72	1	5	24	36	4	1	1	0	20.6	24.3																
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	8	123	1	7	0	139	2	11	43	72	9	1	1	0	20.3	24.2																

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Saturday, 29 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85	
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22.1	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	19.2	-	
0800	0	7	0	0	0	0	0	0	0	0	0	0	7	0	0	3	2	2	0	0	0	0	0	0	0	0	0	0	23.2	-	
0900	2	7	1	0	0	0	0	0	0	0	0	0	10	0	2	5	3	0	0	0	0	0	0	0	0	0	0	0	18.8	-	
1000	0	10	1	1	0	0	0	0	0	0	0	0	12	0	2	1	6	3	0	0	0	0	0	0	0	0	0	0	21	27	
1100	0	13	0	0	0	0	0	0	0	0	0	0	13	0	1	3	9	0	0	0	0	0	0	0	0	0	0	0	20.9	24.1	
1200	0	8	0	1	0	0	0	0	0	0	0	0	9	0	1	3	5	0	0	0	0	0	0	0	0	0	0	0	19.5	-	
1300	0	5	0	1	0	0	0	0	0	0	0	0	6	0	0	2	0	4	0	0	0	0	0	0	0	0	0	0	25.5	-	
1400	0	4	0	1	0	0	0	0	0	0	0	0	5	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	17.5	-	
1500	0	12	0	1	0	0	0	0	0	0	0	0	13	1	2	6	3	1	0	0	0	0	0	0	0	0	0	0	17.9	23.2	
1600	0	7	0	2	0	0	0	0	0	0	0	0	9	0	3	2	2	2	0	0	0	0	0	0	0	0	0	0	19.4	-	
1700	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	19.5	-	
1800	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	25.2	-	
1900	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0	22.5	-	
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19.8	-	
2200	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	23.1	-	
2300	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	20.5	-	
08-09	0	7	0	7	0	0	3	2	2	0	23.2	-																			
17-18	0	6	0	6	0	1	2	3	0	19.5	-																				
10-16	0	52	1	5	0	58	1	7	18	24	8	0	20.2	24.7																	
00-05	0	1	0	1	0	0	0	1	0	22.1	-																				
00-00	3	98	2	7	0	110	1	14	36	40	19	0	20.5	25.6																	

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Sunday, 30 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	23.7	-	
0800	2	4	0	0	0	0	0	0	0	0	0	0	6	0	0	4	0	2	0	0	0	0	0	0	0	0	0	0	21.1	-		
0900	0	7	0	1	0	1	0	0	0	0	0	0	9	1	1	3	3	1	0	0	0	0	0	0	0	0	0	0	18.3	-		
1000	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	19.4	-		
1100	1	6	0	0	0	0	0	0	0	0	0	0	7	0	1	1	4	1	0	0	0	0	0	0	0	0	0	0	20.7	-		
1200	4	18	0	0	0	0	0	0	0	0	0	0	22	0	3	5	10	4	0	0	0	0	0	0	0	0	0	0	20.7	26		
1300	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	18.5	-		
1400	3	6	0	0	0	0	0	0	0	0	0	0	9	0	2	6	0	1	0	0	0	0	0	0	0	0	0	0	17.8	-		
1500	0	11	0	0	0	0	0	0	0	0	0	0	11	0	2	2	4	3	0	0	0	0	0	0	0	0	0	0	20.9	26.1		
1600	1	13	0	0	0	1	0	0	0	0	0	0	15	0	4	2	7	2	0	0	0	0	0	0	0	0	0	0	19.2	25.7		
1700	0	8	0	0	0	0	0	0	0	0	0	0	8	0	1	3	3	1	0	0	0	0	0	0	0	0	0	0	20	-		
1800	1	7	0	0	0	0	0	0	0	0	0	0	8	0	3	2	2	1	0	0	0	0	0	0	0	0	0	0	17.7	-		
1900	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	2	1	1	0	1	0	0	0	0	0	0	0	0	22.2	-		
2000	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	16.9	-		
2100	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	31	-		
2200	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	19.3	-		
2300	0	3	0	1	0	0	0	0	0	0	0	0	4	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	19.4	-		
08-09	2	4	0	6	0	0	4	0	2	0	21.1	-																				
17-18	0	8	0	8	0	1	3	3	1	0	20	-																				
10-16	8	51	0	59	0	8	20	22	9	0	20	25.4																				
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	12	109	0	3	0	2	0	0	0	0	0	0	126	2	20	41	40	21	0	2	0	19.9	25.9									

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Monday, 31 August 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24.8	-	
0600	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	22.2	-	
0700	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17.4	-	
0800	0	6	0	0	0	0	0	0	0	0	0	0	0	6	1	0	3	1	1	0	0	0	0	0	0	0	0	0	0	18.4	-	
0900	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	22.5	-	
1000	0	7	0	0	0	1	0	0	0	0	0	0	0	8	0	1	1	4	2	0	0	0	0	0	0	0	0	0	0	22.4	-	
1100	2	10	0	0	0	0	0	0	0	0	0	0	0	12	0	4	3	5	0	0	0	0	0	0	0	0	0	0	18.7	22.8		
1200	1	7	0	1	0	0	0	0	0	0	0	0	0	9	1	1	5	2	0	0	0	0	0	0	0	0	0	0	0	17.5	-	
1300	1	11	0	0	0	0	0	0	0	0	0	0	0	12	0	0	9	2	1	0	0	0	0	0	0	0	0	0	18.5	22.5		
1400	0	8	0	0	0	0	0	0	0	0	0	0	0	8	0	2	3	2	1	0	0	0	0	0	0	0	0	0	0	18.7	-	
1500	1	8	0	0	0	0	0	0	0	0	0	0	0	9	1	1	3	2	0	2	0	0	0	0	0	0	0	0	0	20.1	-	
1600	1	9	0	0	0	0	0	0	0	0	0	0	0	10	0	1	4	5	0	0	0	0	0	0	0	0	0	0	0	19.6	-	
1700	2	6	0	0	0	0	0	0	0	0	0	0	0	8	0	0	3	4	1	0	0	0	0	0	0	0	0	0	0	20.9	-	
1800	0	8	0	2	0	0	0	0	0	0	0	0	0	10	2	2	3	3	0	0	0	0	0	0	0	0	0	0	0	16	-	
1900	0	4	0	1	0	0	0	0	0	0	0	0	0	5	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	21.5	-	
2000	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	15.6	-	
2100	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17.7	-	
2200	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	22.2	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
08-09	0	6	0	6	1	0	3	1	1	0	18.4	-																				
17-18	2	6	0	8	0	0	3	4	1	0	20.9	-																				
10-16	5	51	0	1	0	1	0	58	2	9	24	17	4	2	0	19.2	24															
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	8	96	1	4	0	1	0	110	5	15	42	37	9	2	0	19.2	24															

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Tuesday, 01 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	22.3	-	
0600	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14.5	-	
0700	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	20.5	-		
0800	0	8	0	0	0	0	0	0	0	0	0	0	0	8	0	1	1	6	0	0	0	0	0	0	0	0	0	0	20.7	-		
0900	1	10	0	0	0	1	0	0	0	0	0	0	0	12	1	3	2	6	0	0	0	0	0	0	0	0	0	0	18.2	23		
1000	0	11	0	2	0	0	0	0	0	0	0	0	0	13	0	3	4	6	0	0	0	0	0	0	0	0	0	0	18.8	22.1		
1100	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	16.8	-		
1200	1	11	0	0	0	0	0	0	0	0	0	0	0	12	1	1	6	4	0	0	0	0	0	0	0	0	0	0	18.1	21.6		
1300	2	4	0	0	0	0	0	0	0	0	0	0	0	6	0	3	3	0	0	0	0	0	0	0	0	0	0	0	14.5	-		
1400	0	7	0	1	0	0	0	0	0	0	0	0	0	8	0	0	2	5	1	0	0	0	0	0	0	0	0	0	21.4	-		
1500	0	10	0	0	0	0	0	0	0	0	0	0	0	10	0	1	3	6	0	0	0	0	0	0	0	0	0	0	19.9	-		
1600	1	7	0	0	0	0	0	0	0	0	0	0	0	8	0	2	0	4	2	0	0	0	0	0	0	0	0	0	21.1	-		
1700	1	7	0	4	0	0	0	0	0	0	0	0	0	12	0	2	1	5	4	0	0	0	0	0	0	0	0	0	21.8	26.9		
1800	1	5	0	0	0	0	0	0	0	0	0	0	0	6	0	0	2	3	1	0	0	0	0	0	0	0	0	0	21.1	-		
1900	0	5	0	0	0	0	0	0	0	0	0	0	0	5	1	0	2	2	0	0	0	0	0	0	0	0	0	0	17.5	-		
2000	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	1	2	0	0	0	0	0	0	0	0	0	24.8	-		
2100	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	25.1	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	29	-	
08-09	0	8	0	8	0	1	1	6	0	20.7	-																					
17-18	1	7	0	4	0	12	0	2	1	5	4	0	21.8	26.9																		
10-16	3	45	0	3	0	51	1	9	18	22	1	0	18.7	22																		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	7	97	0	9	0	1	0	114	3	18	28	53	12	0	19.8	24.4																

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Wednesday, 02 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	20.7	-	
0600	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	22.6	-	
0700	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	16.2	-	
0800	0	9	0	2	0	0	0	0	0	0	0	0	0	11	1	3	2	4	1	0	0	0	0	0	0	0	0	0	0	18.2	24.9	
0900	0	11	0	1	0	0	0	0	0	0	0	0	0	12	0	1	6	4	1	0	0	0	0	0	0	0	0	0	0	20.3	24.6	
1000	1	10	1	0	0	0	0	0	0	0	0	0	0	12	0	2	5	4	1	0	0	0	0	0	0	0	0	0	0	20.1	24.4	
1100	1	10	0	2	0	0	0	0	0	0	0	0	0	13	0	1	4	3	5	0	0	0	0	0	0	0	0	0	0	22	27.4	
1200	2	6	0	0	0	0	0	0	0	0	0	0	0	8	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	18.9	-	
1300	0	10	0	1	0	0	0	0	0	0	0	0	0	11	0	0	2	6	3	0	0	0	0	0	0	0	0	0	0	22.6	26.6	
1400	1	6	0	1	0	1	0	0	0	0	0	0	0	9	0	3	3	3	0	0	0	0	0	0	0	0	0	0	0	17.5	-	
1500	1	10	0	0	0	0	0	0	0	0	0	0	0	11	0	3	3	2	2	1	0	0	0	0	0	0	0	0	0	19.9	27.3	
1600	1	11	1	0	0	0	0	0	0	0	0	0	0	13	1	0	5	5	2	0	0	0	0	0	0	0	0	0	0	19.1	24.7	
1700	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	22.7	-	
1800	0	9	0	0	0	0	0	0	0	0	0	0	0	9	0	1	2	6	0	0	0	0	0	0	0	0	0	0	0	20.7	-	
1900	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	23.6	-	
2000	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	22.1	-	
2100	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	14	-	
2200	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	27.9	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
08-09	0	9	0	2	0	11	1	3	2	4	1	0	18.2	24.9																		
17-18	0	7	0	7	0	0	1	6	0	22.7	-																					
10-16	6	52	1	4	0	1	0	64	0	11	19	22	11	1	0	20.4	25.9															
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	7	109	2	9	0	1	0	128	2	17	40	51	16	2	0	20.2	24.8															

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Thursday, 03 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	21.3	-	
0600	1	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	20.9	-	
0700	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	23.1	-	
0800	1	9	1	0	0	0	0	0	0	0	0	0	0	11	1	2	4	3	1	0	0	0	0	0	0	0	0	0	18.2	22.7		
0900	0	4	0	2	0	0	0	0	0	0	0	0	0	6	2	0	1	1	2	0	0	0	0	0	0	0	0	0	0	18.2	-	
1000	0	11	0	0	0	0	0	0	0	0	0	0	0	11	2	3	5	1	0	0	0	0	0	0	0	0	0	0	0	14.7	19.7	
1100	1	12	0	1	0	0	0	0	0	0	0	0	0	14	5	7	2	0	0	0	0	0	0	0	0	0	0	0	0	11.4	16.1	
1200	1	5	0	1	0	0	0	0	0	0	0	0	0	7	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10.1	-	
1300	1	5	0	2	0	0	0	0	0	0	0	0	0	8	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	10.6	-	
1400	1	6	0	2	0	0	0	0	0	0	0	0	0	9	1	2	5	1	0	0	0	0	0	0	0	0	0	0	0	15.5	-	
1500	0	19	0	2	0	0	0	0	0	0	0	0	0	21	1	2	2	13	3	0	0	0	0	0	0	0	0	0	0	21.4	25.5	
1600	1	7	0	0	0	0	0	0	0	0	0	0	0	8	1	1	2	2	1	1	0	0	0	0	0	0	0	0	0	20.2	-	
1700	0	7	0	1	0	0	0	0	0	0	0	0	0	8	0	1	1	6	0	0	0	0	0	0	0	0	0	0	0	20.7	-	
1800	0	9	0	1	0	0	0	0	0	0	0	0	0	10	0	0	3	6	1	0	0	0	0	0	0	0	0	0	0	21.6	-	
1900	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	20.8	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	24	-	
2100	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24.5	-	
2200	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19.8	-	
2300	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	29.6	-	
08-09	1	9	1	0	0	0	0	0	0	0	0	0	0	11	1	2	4	3	1	0	18.2	22.7										
17-18	0	7	0	1	0	8	0	1	1	6	0	20.7	-																			
10-16	4	58	0	8	0	70	17	20	15	15	3	0	15.2	23.1																		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	7	109	1	13	0	130	21	24	30	42	12	1	0	17.7	24.1																	

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Friday, 04 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.4	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	26.6	-	
0600	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	19	-	
0700	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	20.8	-	
0800	0	10	1	1	0	0	0	0	0	0	0	0	12	1	2	0	6	3	0	0	0	0	0	0	0	0	0	0	0	21.2	28	
0900	0	6	0	1	0	0	0	0	0	0	0	0	7	0	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	17.2	-	
1000	0	12	1	2	0	0	0	0	0	0	0	0	15	1	4	2	7	1	0	0	0	0	0	0	0	0	0	0	18.5	24.3		
1100	0	12	2	0	0	0	0	0	0	0	0	0	14	0	5	4	3	2	0	0	0	0	0	0	0	0	0	0	18	25.2		
1200	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	6	3	0	0	0	0	0	0	0	0	0	0	0	20.4	-		
1300	0	7	0	0	0	0	0	0	0	0	0	0	7	0	1	1	3	2	0	0	0	0	0	0	0	0	0	0	0	21.4	-	
1400	0	4	0	2	0	0	0	0	0	0	0	0	6	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	21.9	-	
1500	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	19.1	-	
1600	1	12	0	1	0	0	0	0	0	0	0	0	14	0	1	7	5	1	0	0	0	0	0	0	0	0	0	0	0	19.5	24.5	
1700	1	12	0	0	0	0	0	0	0	0	0	0	13	1	2	3	5	2	0	0	0	0	0	0	0	0	0	0	19.2	25		
1800	1	6	0	1	0	0	0	0	0	0	0	0	8	0	1	2	3	1	1	0	0	0	0	0	0	0	0	0	21.2	-		
1900	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	20.5	-		
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2100	1	1	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12.8	-	
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	29.2	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
08-09	0	10	1	1	0	12	1	2	0	6	3	0	21.2	28																		
17-18	1	12	0	13	1	2	3	5	2	0	19.2	25																				
10-16	0	46	3	4	0	53	1	10	17	17	8	0	19.5	25.2																		
00-05	0	0	0	1	0	1	0	0	0	1	0	21.4	-																			
00-00	4	107	4	9	0	124	4	19	35	48	17	1	0	19.7	24.9																	

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Saturday, 05 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	23.9	-
0800	2	6	0	0	0	1	0	0	0	0	0	0	9	0	2	4	1	2	0	0	0	0	0	0	0	0	0	0	0	18.4	-	
0900	1	9	0	1	0	0	0	0	0	0	0	0	11	0	1	2	6	1	1	0	0	0	0	0	0	0	0	0	0	21.6	27.3	
1000	5	15	0	0	0	0	0	0	0	0	0	0	20	0	1	3	15	1	0	0	0	0	0	0	0	0	0	0	0	21.7	24.5	
1100	0	12	0	0	0	1	0	0	0	0	0	0	13	0	6	1	6	0	0	0	0	0	0	0	0	0	0	0	0	17.3	22.8	
1200	2	8	0	0	0	0	0	0	0	0	0	0	10	0	2	3	3	2	0	0	0	0	0	0	0	0	0	0	0	20.5	-	
1300	1	13	0	0	0	0	0	0	0	0	0	0	14	0	0	2	8	4	0	0	0	0	0	0	0	0	0	0	0	23.1	26.6	
1400	3	7	1	0	0	0	0	0	0	0	0	0	11	0	4	2	5	0	0	0	0	0	0	0	0	0	0	0	0	17.5	22	
1500	1	5	0	1	0	0	0	0	0	0	0	0	7	1	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	15.2	-	
1600	0	13	1	2	0	0	0	0	0	0	0	0	16	1	1	7	4	3	0	0	0	0	0	0	0	0	0	0	0	19.5	26.1	
1700	1	12	0	0	0	0	0	0	0	0	0	0	13	0	2	4	5	2	0	0	0	0	0	0	0	0	0	0	0	20.2	25.9	
1800	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	22.4	-	
1900	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	23	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	20.4	-	
2100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15.1	-	
2200	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	24.8	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
08-09	2	6	0	0	0	1	0	0	0	0	0	0	9	0	2	4	1	2	0	18.4	-											
17-18	1	12	0	13	0	2	4	5	2	0	20.2	25.9																				
10-16	12	60	1	1	0	1	0	0	0	0	0	0	75	1	15	14	38	7	0	19.8	24.5											
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	16	117	2	4	0	2	0	0	0	0	0	0	141	2	22	34	63	19	1	0	20.1	24.8										

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Sunday, 06 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85	
0000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	15.5	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	17.9	-
0800	1	3	0	0	0	0	0	0	0	0	0	0	4	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	21	-
0900	1	11	0	0	0	0	0	0	0	0	0	0	12	0	1	4	4	3	0	0	0	0	0	0	0	0	0	0	22	27	
1000	0	5	0	1	0	0	0	0	0	0	0	0	6	0	1	1	4	0	0	0	0	0	0	0	0	0	0	0	20.1	-	
1100	0	14	0	0	0	0	0	0	0	0	0	0	14	0	2	3	8	1	0	0	0	0	0	0	0	0	0	0	20.4	24.8	
1200	1	11	0	0	0	0	0	0	0	0	0	0	12	0	1	6	3	2	0	0	0	0	0	0	0	0	0	0	20.2	25.3	
1300	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	1	5	3	0	0	0	0	0	0	0	0	0	0	23.3	-	
1400	0	10	0	1	0	0	0	0	0	1	0	0	12	0	1	5	4	2	0	0	0	0	0	0	0	0	0	0	20.8	26.4	
1500	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	20.1	-	
1600	1	7	0	0	0	0	0	0	0	0	0	0	8	0	1	4	2	1	0	0	0	0	0	0	0	0	0	0	20.4	-	
1700	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	28.8	-	
1800	1	5	0	0	0	0	0	0	0	0	0	0	6	1	1	2	0	1	1	0	0	0	0	0	0	0	0	0	19.5	-	
1900	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	23.8	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	25.7	-	
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2300	0	2	0	1	0	0	0	0	0	0	0	0	3	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	22.3	-
08-09	1	3	0	4	0	0	1	3	0	21	-																				
17-18	0	1	0	1	0	0	0	0	1	0	28.8	-																			
10-16	1	51	0	2	0	0	0	0	0	1	0	0	55	0	5	17	25	8	0	20.9	25.1										
00-05	0	2	0	2	0	1	1	0	15.5	-																					
00-00	6	87	0	3	0	0	0	0	0	1	0	0	97	2	9	31	36	17	2	0	21	26									

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Monday, 07 September 2020

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 65	Vbin 65 70	Vbin 70 75	Vbin 75 80	Mean	Vpp 85		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	28.4	-	
0600	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	22.1	-	
0700	0	6	0	0	0	0	0	0	0	0	0	0	0	6	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	21.7	-	
0800	0	20	0	1	0	0	0	0	0	0	0	0	0	21	3	5	5	7	1	0	0	0	0	0	0	0	0	0	0	17.8	22.4	
0900	2	7	0	1	0	0	0	0	0	0	0	0	0	10	2	1	1	4	2	0	0	0	0	0	0	0	0	0	0	18.9	-	
1000	0	7	0	2	0	0	0	0	0	0	0	0	0	9	2	0	1	4	2	0	0	0	0	0	0	0	0	0	0	19.9	-	
1100	0	8	0	1	1	0	0	0	0	0	0	0	0	10	0	1	4	5	0	0	0	0	0	0	0	0	0	0	0	19.6	-	
1200	1	7	0	0	0	0	0	0	0	0	0	0	0	8	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	20.4	-	
1300	1	5	0	1	1	0	0	0	0	0	0	0	0	8	0	1	2	4	1	0	0	0	0	0	0	0	0	0	0	21.4	-	
1400	0	15	0	1	0	0	0	0	0	0	0	0	0	16	0	1	2	12	1	0	0	0	0	0	0	0	0	0	0	20.6	23.2	
1500	2	14	0	0	1	0	0	0	0	0	0	0	0	17	0	6	6	5	0	0	0	0	0	0	0	0	0	0	0	17.2	22.8	
1600	0	8	0	0	0	0	0	0	0	0	0	0	0	8	0	0	3	2	2	1	0	0	0	0	0	0	0	0	0	23.1	-	
1700	1	8	0	1	0	0	0	0	0	0	0	0	0	10	0	1	2	4	3	0	0	0	0	0	0	0	0	0	0	21.8	-	
1800	0	9	0	0	0	0	0	0	0	0	0	0	0	9	0	0	1	6	2	0	0	0	0	0	0	0	0	0	0	23.8	-	
1900	1	4	0	0	0	0	0	0	0	0	0	0	0	5	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	18	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	24.9	-	
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
08-09	0	20	0	1	0	21	3	5	5	7	1	0	17.8	22.4																		
17-18	1	8	0	1	0	10	0	1	2	4	3	0	21.8	-																		
10-16	4	56	0	5	3	0	68	2	10	18	34	4	0	19.6	23.6																	
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
00-00	8	123	0	8	3	0	142	7	18	35	66	15	1	0	20.1	24.6																

Appendix B

Modal Dir2

Report Id - CustomList-205
 Site Name - Bentley
 Description - School Lane
 Direction - AB

Grand Total

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Total	Vbin 5	Vbin 10	Vbin 15	Vbin 20	Vbin 25	Vbin 30	Vbin 35	Vbin 40	Vbin 45	Vbin 50	Vbin 55	Vbin 60	Vbin 65	Vbin 70	Vbin 75	Vbin 80	Mean	Vpp 85
--	94	1357	14	88	3	7	0	0	0	1	0	0	1564	54	215	456	627	196	13	3	0	0	0	0	0	0	0	0	0	19.9	24.8

APPENDIX 5 JAN ATC DATA

Appendix B



modaldata.com

SCHOOL LANE, BENTLEY - NORTH SITE NORTHBOUND

Globals

Report Id	CustomList-74
Descriptor	Modal Dir2
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2022-01-25T11:48:21
Legal	Copyright (c)1997 - 2019 MetroCount
Graphic	
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	5.0.7.0
Metric	Part metric
Speed Unit	mph
Length Unit	metre
Mass Unit	tonne

Dataset

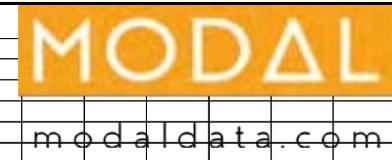
Site Name	School Lane Bentley
Site Attribute	ATC 10
File Name	C:\Users\richardmoore\Desktop\North Site - School Lane, Bentley 0 2022-01-25 1131.EC0
File Type	Plus
Algorithm	Factory default axle
Description	Northern site
Lane	0
Direction	7
Direction Text	7 - North bound A)B, South bound B)A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2022-01-11T12:48:20
Start Time	2022-01-11T12:48:20
Finish Time	2022-01-25T11:31:20
Operator	RM
Configuration	80 00 14 6a 6a 00 00 00 00 00

Profile

Name	Default Profile
Title	MetroCount Traffic Executive
Graphic Logo	
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	10
Filter Start	2022-01-14T00:00:00
Filter End	2022-01-21T00:00:00
Class Scheme	ARX
F	Cls(1-12) Dir(AB) Sp(6,99) Headway(0) Span(0 - 100) Lane(0-16)
Low Speed	6
High Speed	99
Posted Limit	30
Speed Limits	
Separation	0.000
Separation Type	Headway
Direction	AB
Encoded Direction	15

Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													NORTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - AB																															
Friday, 14 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	28.8	-		
0800	0	12	0	1	0	0	0	0	0	0	0	0	13	1	2	4	3	3	0	0	0	0	0	0	0	0	0	20	26.2		
0900	0	6	0	4	0	0	0	0	0	0	0	0	10	2	1	2	3	2	0	0	0	0	0	0	0	0	0	19.2	-		
1000	1	3	0	1	0	0	0	0	0	0	0	0	5	1	0	1	2	1	0	0	0	0	0	0	0	0	0	19.7	-		
1100	1	7	0	1	0	0	0	0	0	0	0	0	9	1	0	2	3	3	0	0	0	0	0	0	0	0	0	22.1	-		
1200	1	4	0	3	0	0	0	0	0	0	0	0	8	0	1	2	2	2	1	0	0	0	0	0	0	0	0	22.2	-		
1300	0	4	0	1	0	0	0	0	0	0	0	0	5	0	1	1	3	0	0	0	0	0	0	0	0	0	0	19.8	-		
1400	1	11	0	0	0	0	0	0	0	0	0	0	12	0	2	1	1	7	1	0	0	0	0	0	0	0	0	24	30		
1500	0	13	0	0	0	0	0	0	0	0	0	0	13	0	1	6	3	2	1	0	0	0	0	0	0	0	0	21.5	28.1		
1600	1	7	0	0	0	0	0	0	0	0	0	0	8	0	2	2	2	2	0	0	0	0	0	0	0	0	0	20.2	-		
1700	0	6	0	1	0	0	0	0	0	0	0	0	7	0	0	2	4	0	1	0	0	0	0	0	0	0	0	21.6	-		
1800	0	8	0	0	0	0	0	0	0	0	0	0	8	0	1	1	4	1	1	0	0	0	0	0	0	0	0	23	-		
1900	0	4	0	1	0	0	0	0	0	0	0	0	5	0	0	2	1	2	0	0	0	0	0	0	0	0	0	22.8	-		
2000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	28.2	-		
2100	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	25.9	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	29.2	-		
2300	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	24.3	-		
08-09	0	12	0	1	0	0	0	0	0	0	0	0	13	1	2	4	3	3	0	0	0	0	0	0	0	0	0	20	26.2		
17-18	0	6	0	1	0	0	0	0	0	0	0	0	7	0	0	2	4	0	1	0	0	0	0	0	0	0	0	21.6	-		
10-16	4	42	0	6	0	0	0	0	0	0	0	0	52	2	5	13	14	15	3	0	0	0	0	0	0	0	0	21.9	29		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	5	93	0	13	0	0	0	0	0	0	0	0	111	5	11	27	32	29	7	0	0	0	0	0	0	0	0	21.8	28.2		



Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													NORTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - AB																															
Saturday, 15 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32.1	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	-	
0800	0	3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	-	
0900	0	5	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.8	-	
1000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29.9	-	
1100	0	11	0	2	0	0	0	0	0	0	0	0	6	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	19.7	23.6	
1200	0	9	0	0	0	0	0	0	0	0	0	0	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	19.1	-	
1300	0	5	0	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	-	
1400	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	-	
1500	1	4	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	23.7	-	
1600	0	9	0	0	0	0	0	0	0	0	0	0	2	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	24.1	-	
1700	0	4	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25.8	-	
1800	0	4	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	25.5	-	
1900	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	31.5	-	
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2100	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	39.1	-	
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14.3	-	
08-09	0	3	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	-	
17-18	0	4	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25.8	-	
10-16	1	31	0	2	0	0	0	0	0	0	0	0	13	11	7	0	0	0	0	0	0	0	0	0	0	0	0	0	21	26.2	
00-05	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	32.1	-	
00-00	1	63	0	2	0	0	0	0	0	0	0	0	17	26	15	3	0	0	0	0	0	1	0	0	0	0	0	0	23	27.8	



modaldata.com

Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													NORTHBOUND																		
Report Id - CustomList-74																										MODAL					
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - AB																												modaldata.com			
Sunday, 16 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	-	
0800	2	3	0	0	0	0	0	0	0	0	0	0	5	2	0	1	1	1	0	0	0	0	0	0	0	0	0	0	16.7	-	
0900	1	5	0	1	0	0	0	0	0	0	0	0	7	1	1	2	1	2	0	0	0	0	0	0	0	0	0	0	19.4	-	
1000	0	4	0	0	0	0	0	0	0	0	0	0	4	0	1	2	1	0	0	0	0	0	0	0	0	0	0	19	-		
1100	3	6	0	1	0	1	0	0	0	1	0	0	12	1	4	6	0	0	1	0	0	0	0	0	0	0	0	16.8	20.5		
1200	0	6	0	1	0	0	0	0	0	0	0	0	7	0	1	0	2	3	1	0	0	0	0	0	0	0	0	24.5	-		
1300	0	6	0	0	0	1	0	0	0	0	0	0	7	0	2	0	0	5	0	0	0	0	0	0	0	0	0	23.9	-		
1400	0	4	0	1	0	1	0	0	0	0	0	0	6	1	0	2	3	0	0	0	0	0	0	0	0	0	0	18.7	-		
1500	0	6	0	1	0	0	0	0	0	0	0	0	7	0	0	5	0	2	0	0	0	0	0	0	0	0	0	19.6	-		
1600	0	7	0	0	0	0	0	0	0	0	0	0	7	0	0	3	3	1	0	0	0	0	0	0	0	0	0	20.1	-		
1700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	26.4	-		
1800	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	25.7	-		
1900	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	1	1	0	0	0	0	0	0	0	0	27.7	-		
2000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	28.7	-		
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	26.6	-		
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
08-09	2	3	0	0	0	0	0	0	0	0	0	0	5	2	0	1	1	1	0	0	0	0	0	0	0	0	0	16.7	-		
17-18	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	26.4	-		
10-16	3	32	0	4	0	3	0	0	0	1	0	0	43	2	8	15	6	10	2	0	0	0	0	0	0	0	0	20.1	28		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	6	56	0	5	0	3	0	0	0	1	0	0	71	5	9	21	13	20	3	0	0	0	0	0	0	0	0	20.7	28.2		

Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													NORTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - AB																															
Monday, 17 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	27.9	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	32.5	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	25.8	-		
0800	0	11	0	0	0	0	0	0	0	0	0	0	11	0	0	5	2	4	0	0	0	0	0	0	0	0	0	21	25.6		
0900	0	3	0	3	0	0	0	0	0	0	0	0	6	0	1	2	1	1	1	0	0	0	0	0	0	0	0	20.9	-		
1000	0	4	0	2	0	0	0	0	0	0	0	0	6	0	0	2	0	2	1	1	0	0	0	0	0	0	0	26.8	-		
1100	0	9	0	1	0	1	0	0	0	0	0	0	11	0	1	1	3	4	2	0	0	0	0	0	0	0	0	24.7	30.7		
1200	1	8	0	0	1	0	0	0	0	0	0	0	10	1	1	2	3	3	0	0	0	0	0	0	0	0	0	20	-		
1300	0	5	0	0	0	0	0	0	0	0	0	0	5	0	2	1	1	1	0	0	0	0	0	0	0	0	0	18.5	-		
1400	0	7	0	0	0	0	0	0	0	0	0	0	7	1	0	4	2	0	0	0	0	0	0	0	0	0	0	18.1	-		
1500	0	11	0	1	0	0	0	0	0	0	0	0	12	1	0	4	5	2	0	0	0	0	0	0	0	0	0	20.4	27.4		
1600	0	8	0	1	0	0	0	0	0	0	0	0	9	0	0	4	3	2	0	0	0	0	0	0	0	0	0	21.6	-		
1700	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	28	-		
1800	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	1	1	2	0	0	0	0	0	0	0	0	0	21.9	-		
1900	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	1	1	0	0	0	0	0	0	0	0	26.4	-		
2000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	31	-		
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	24.7	-		
2300	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	16.3	-		
08-09	0	11	0	0	0	0	0	0	0	0	0	0	11	0	0	5	2	4	0	0	0	0	0	0	0	0	0	21	25.6		
17-18	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	28	-		
10-16	1	44	0	4	1	1	0	0	0	0	0	0	51	3	4	14	14	12	3	1	0	0	0	0	0	0	0	21.5	28		
00-05	0	2	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	1	2	0	0	0	0	0	0	0	0	29.4	-		
00-00	2	85	0	9	1	1	0	0	0	0	0	0	98	3	7	26	27	24	10	1	0	0	0	0	0	0	0	22.1	28.3		



Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													NORTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - AB																												modaldata.com			
Tuesday, 18 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.7	-	
0800	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	3	0	0	0	0	0	0	0	0	0	0	22.9	27.7	
0900	0	3	1	2	0	0	0	0	0	0	0	0	6	0	0	2	0	1	3	0	0	0	0	0	0	0	0	0	26.4	-	
1000	0	7	0	1	0	0	0	0	0	0	0	0	8	1	0	2	4	1	0	0	0	0	0	0	0	0	0	0	20.5	-	
1100	1	11	0	1	0	0	0	0	0	0	0	0	13	0	2	3	3	5	0	0	0	0	0	0	0	0	0	0	22	27.4	
1200	0	8	0	1	0	0	0	0	0	0	0	0	9	0	0	2	4	1	2	0	0	0	0	0	0	0	0	0	23.9	-	
1300	1	5	0	4	0	0	0	0	0	0	0	0	10	2	1	1	1	4	0	1	0	0	0	0	0	0	0	0	21.2	-	
1400	0	7	0	1	0	0	0	0	0	0	0	0	8	0	0	0	6	2	0	0	0	0	0	0	0	0	0	0	23.5	-	
1500	0	19	0	0	0	0	0	0	0	0	0	0	19	0	1	12	3	3	0	0	0	0	0	0	0	0	0	0	19.9	25.7	
1600	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	2	1	2	0	0	0	0	0	0	0	0	0	0	21.4	-	
1700	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	3	1	0	0	0	0	0	0	0	0	0	25.2	-	
1800	1	7	0	0	0	0	0	0	0	0	0	0	8	1	0	2	3	2	0	0	0	0	0	0	0	0	0	0	21.3	-	
1900	0	6	0	2	0	0	0	0	0	0	0	0	8	0	1	0	3	2	2	0	0	0	0	0	0	0	0	0	24.6	-	
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2100	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	22.3	-	
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	30	-	
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	32.1	-	
08-09	0	11	0	0	0	0	0	0	0	0	0	0	11	0	0	3	5	3	0	0	0	0	0	0	0	0	0	0	22.9	27.7	
17-18	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	3	1	0	0	0	0	0	0	0	0	0	25.2	-	
10-16	2	57	0	8	0	0	0	0	0	0	0	0	67	3	4	20	21	16	2	1	0	0	0	0	0	0	0	0	21.6	26.8	
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
00-00	3	101	1	12	0	0	0	0	0	0	0	0	117	4	6	30	36	31	9	1	0	0	0	0	0	0	0	0	22.5	28.2	

Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													NORTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - AB																															
Wednesday, 19 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	26.4	-	
0800	0	9	0	0	0	0	0	0	0	0	0	0	9	1	0	2	6	0	0	0	0	0	0	0	0	0	0	0	20	-	
0900	0	9	0	1	0	0	0	0	0	0	0	0	10	0	0	1	5	2	2	0	0	0	0	0	0	0	0	0	24.7	-	
1000	0	9	0	1	0	0	0	0	0	0	0	0	10	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	18	-	
1100	1	5	0	1	0	0	0	0	0	0	0	0	7	1	1	1	0	2	2	0	0	0	0	0	0	0	0	0	22	-	
1200	1	9	0	0	0	0	0	0	0	0	0	0	10	1	1	3	2	2	1	0	0	0	0	0	0	0	0	0	20.6	-	
1300	1	7	0	1	0	0	0	0	0	0	0	0	9	1	1	1	3	3	0	0	0	0	0	0	0	0	0	0	21.1	-	
1400	1	5	0	4	0	0	0	0	0	0	0	0	10	0	2	5	3	0	0	0	0	0	0	0	0	0	0	0	17.7	-	
1500	0	5	0	1	0	0	0	0	0	0	0	0	6	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	17.6	-	
1600	0	7	0	1	0	0	0	1	0	0	0	0	9	0	2	1	3	3	0	0	0	0	0	0	0	0	0	0	21.3	-	
1700	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	20.4	-	
1800	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	2	5	2	0	0	0	0	0	0	0	0	0	0	22	-	
1900	0	2	0	1	0	0	0	0	0	0	0	0	3	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	20.8	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	20.9	-	
2100	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	18.3	-	
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	21.6	-	
2300	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	26.4	-	
08-09	0	9	0	0	0	0	0	0	0	0	0	0	9	1	0	2	6	0	0	0	0	0	0	0	0	0	0	0	20	-	
17-18	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	20.4	-	
10-16	4	40	0	8	0	0	0	0	0	0	0	0	52	4	8	17	13	7	3	0	0	0	0	0	0	0	0	0	19.4	27.2	
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
00-00	4	95	0	11	0	0	0	1	0	0	0	0	111	5	11	29	42	17	7	0	0	0	0	0	0	0	0	0	20.8	26.6	



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Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													NORTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - AB																															
Thursday, 20 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	17.5	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	21.9	-	
0800	0	11	0	1	0	0	0	0	0	0	0	0	12	0	0	4	7	1	0	0	0	0	0	0	0	0	0	0	21.2	23.8	
0900	0	9	0	4	0	0	0	0	0	0	0	0	13	0	0	9	2	2	0	0	0	0	0	0	0	0	0	0	20.2	26.6	
1000	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	1	0	0	0	0	0	0	0	0	0	23.8	-		
1100	1	11	0	5	0	0	0	0	0	0	0	0	17	1	2	6	6	2	0	0	0	0	0	0	0	0	0	0	19.1	24.8	
1200	1	8	0	0	1	0	0	0	0	0	0	0	10	1	1	1	4	3	0	0	0	0	0	0	0	0	0	0	21.5	-	
1300	2	3	0	2	0	1	0	0	0	0	0	0	8	1	2	4	1	0	0	0	0	0	0	0	0	0	0	0	15.4	-	
1400	2	10	0	1	0	0	0	0	0	0	0	0	13	1	5	1	5	1	0	0	0	0	0	0	0	0	0	0	17.4	24.4	
1500	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	6	2	0	1	0	0	0	0	0	0	0	0	0	20.4	-	
1600	0	10	0	0	0	0	0	0	0	0	0	0	10	0	2	3	1	4	0	0	0	0	0	0	0	0	0	0	21.1	-	
1700	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	26.3	-	
1800	0	8	0	1	0	0	0	0	0	0	0	0	9	0	1	1	4	3	0	0	0	0	0	0	0	0	0	0	22.3	-	
1900	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	23	-	
2000	0	3	0	0	0	0	0	0	0	0	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	20.3	-	
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24.8	-	
2300	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	22.9	-	
08-09	0	11	0	1	0	0	0	0	0	0	0	0	12	0	0	4	7	1	0	0	0	0	0	0	0	0	0	0	21.2	23.8	
17-18	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	26.3	-	
10-16	6	44	0	8	1	1	0	0	0	0	0	0	60	4	10	18	20	7	1	0	0	0	0	0	0	0	0	0	19.1	24.9	
00-05	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17.5	-	
00-00	6	99	0	14	1	1	0	0	0	0	0	0	121	4	14	39	39	24	1	0	0	0	0	0	0	0	0	0	20.4	26.2	



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Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE

NORTHBOUND

Report Id - CustomList-74
 Site Name - School Lane Bentley
 Description - Northern site
 Direction - AB



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Grand Total

Time	Cls	Total	Vbin	Mean	Vpp																									
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	85	
--	27	592	1	66	2	5	0	1	0	1	0	0	695	26	62	189	215	160	40	2	0	0	0	1	0	0	0	0	21.6	27.4

Appendix B



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SCHOOL LANE, BENTLEY - NORTH SITE SOUTHBOUND

Globals

Report Id	CustomList-74
Descriptor	Modal Dir2
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2022-01-25T11:49:38
Legal	Copyright (c)1997 - 2019 MetroCount
Graphic	
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	5.0.7.0
Metric	Part metric
Speed Unit	mph
Length Unit	metre
Mass Unit	tonne

Dataset

Site Name	School Lane Bentley
Site Attribute	ATC 10
File Name	C:\Users\richardmoore\Desktop\North Site - School Lane, Bentley 0 2022-01-25 1131.EC0
File Type	Plus
Algorithm	Factory default axle
Description	Northern site
Lane	0
Direction	7
Direction Text	7 - North bound A)B, South bound B)A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2022-01-11T12:48:20
Start Time	2022-01-11T12:48:20
Finish Time	2022-01-25T11:31:20
Operator	RM
Configuration	80 00 14 6a 6a 00 00 00 00 00

Profile

Name	Default Profile
Title	MetroCount Traffic Executive
Graphic Logo	
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	10
Filter Start	2022-01-14T00:00:00
Filter End	2022-01-21T00:00:00
Class Scheme	ARX
F	Cls(1-12) Dir(BA) Sp(6,99) Headway(0) Span(0 - 100) Lane(0-16)
Low Speed	6
High Speed	99
Posted Limit	30
Speed Limits	
Separation	0.000
Separation Type	Headway
Direction	BA
Encoded Direction	15

Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													SOUTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - BA																												modaldata.com			
Friday, 14 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24.3	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	4	0	0	0	0	0	0	0	0	0	0	4	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	20.3	-	
0700	0	8	0	0	0	0	0	0	0	0	0	0	8	0	0	3	3	2	0	0	0	0	0	0	0	0	0	0	21.3	-	
0800	0	14	0	1	0	0	0	0	0	0	0	0	15	1	4	6	4	0	0	0	0	0	0	0	0	0	0	0	16.6	21.2	
0900	1	10	0	1	0	0	0	0	0	0	0	0	12	0	2	5	4	1	0	0	0	0	0	0	0	0	0	19	24.8		
1000	0	7	0	0	0	0	0	0	0	0	0	0	7	0	1	4	1	1	0	0	0	0	0	0	0	0	0	19.2	-		
1100	0	12	0	1	0	0	0	0	0	0	0	0	13	1	3	1	7	1	0	0	0	0	0	0	0	0	0	18.3	23.4		
1200	1	5	0	0	0	0	0	0	0	0	0	0	6	0	1	0	4	1	0	0	0	0	0	0	0	0	0	21.4	-		
1300	0	9	0	1	0	0	0	0	0	0	0	0	10	0	0	4	5	1	0	0	0	0	0	0	0	0	0	20.5	-		
1400	0	7	0	0	0	0	0	0	0	0	1	0	8	0	1	0	6	1	0	0	0	0	0	0	0	0	0	22	-		
1500	2	19	0	0	0	0	0	0	0	0	0	0	21	1	3	7	6	4	0	0	0	0	0	0	0	0	0	19.7	27		
1600	0	10	0	1	0	0	0	0	0	0	0	0	11	0	2	5	3	1	0	0	0	0	0	0	0	0	0	19.4	24.1		
1700	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	1	2	1	0	0	0	0	0	0	0	0	0	20.8	-		
1800	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	1	3	1	1	0	0	0	0	0	0	0	0	24.9	-		
1900	0	1	0	2	0	0	0	0	0	0	0	0	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	13.5	-		
2000	1	3	0	0	0	0	0	0	0	0	0	0	4	0	1	2	1	0	0	0	0	0	0	0	0	0	0	18.3	-		
2100	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	26.9	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	23.5	-		
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	28.9	-		
08-09	0	14	0	1	0	0	0	0	0	0	0	0	15	1	4	6	4	0	0	0	0	0	0	0	0	0	0	16.6	21.2		
17-18	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	1	2	1	0	0	0	0	0	0	0	0	0	20.8	-		
10-16	3	59	0	2	0	0	0	0	0	0	1	0	65	2	9	16	29	9	0	0	0	0	0	0	0	0	0	19.9	25		
00-05	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	24.3	-		
00-00	5	125	0	7	0	0	0	0	0	0	1	0	138	4	21	41	53	18	1	0	0	0	0	0	0	0	0	19.8	24.8		

Appendix B

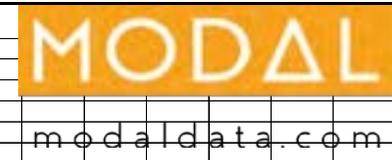
SCHOOL LANE, BENTLEY - NORTH SITE													SOUTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - BA																															
Saturday, 15 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.6	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.5	-		
0600	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	20.7	-		
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	20.3	-		
0800	0	11	0	0	0	0	0	0	0	0	0	0	11	0	1	5	4	1	0	0	0	0	0	0	0	0	0	19.5	23.8		
0900	1	6	0	0	0	0	0	0	0	0	0	0	7	0	2	2	2	1	0	0	0	0	0	0	0	0	0	17.8	-		
1000	0	9	0	0	0	0	0	0	0	0	0	0	9	0	1	5	3	0	0	0	0	0	0	0	0	0	0	19.4	-		
1100	0	11	0	0	0	1	0	0	0	0	0	0	12	0	5	4	2	1	0	0	0	0	0	0	0	0	0	18	24.7		
1200	1	9	0	0	0	0	0	0	0	0	0	0	10	1	3	3	3	0	0	0	0	0	0	0	0	0	0	17	-		
1300	0	12	0	0	0	0	0	0	0	0	0	0	12	0	1	2	7	2	0	0	0	0	0	0	0	0	0	20.8	25.5		
1400	0	9	0	0	0	0	0	0	0	0	0	0	9	1	1	4	2	1	0	0	0	0	0	0	0	0	0	18	-		
1500	1	5	0	2	0	0	0	0	0	0	0	0	8	0	1	5	1	1	0	0	0	0	0	0	0	0	0	19.1	-		
1600	0	9	0	1	0	0	0	0	0	0	0	0	10	0	1	4	3	1	1	0	0	0	0	0	0	0	0	21.7	-		
1700	0	7	0	0	0	0	0	0	0	0	0	0	7	0	0	2	4	1	0	0	0	0	0	0	0	0	0	21.5	-		
1800	0	4	0	1	0	0	0	0	0	0	0	0	5	0	0	1	1	2	1	0	0	0	0	0	0	0	0	25.2	-		
1900	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	20	-		
2000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	19.6	-		
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
08-09	0	11	0	0	0	0	0	0	0	0	0	0	11	0	1	5	4	1	0	0	0	0	0	0	0	0	0	19.5	23.8		
17-18	0	7	0	0	0	0	0	0	0	0	0	0	7	0	0	2	4	1	0	0	0	0	0	0	0	0	0	21.5	-		
10-16	2	55	0	2	0	1	0	0	0	0	0	0	60	2	12	23	18	5	0	0	0	0	0	0	0	0	0	18.7	24.1		
00-05	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	23.6	-		
00-00	3	101	0	4	0	1	0	0	0	0	0	0	109	2	18	40	35	12	2	0	0	0	0	0	0	0	0	19.6	24.8		



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Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													SOUTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - BA																															
Sunday, 16 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.8	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	1	1	0	1	0	0	0	0	0	0	0	0	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	17.8	-	
0800	1	2	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	2	0	0	0	0	0	0	0	0	0	21	-		
0900	1	9	0	1	0	0	0	0	0	0	0	0	11	0	1	5	5	0	0	0	0	0	0	0	0	0	0	19.8	24.5		
1000	3	14	0	0	0	0	0	0	0	0	0	0	17	0	4	7	4	2	0	0	0	0	0	0	0	0	0	18.8	24.1		
1100	1	12	0	1	0	0	0	0	0	0	0	0	14	0	2	7	3	2	0	0	0	0	0	0	0	0	0	19.2	26.2		
1200	0	7	0	0	0	1	0	0	0	0	0	0	8	0	2	4	2	0	0	0	0	0	0	0	0	0	0	17	-		
1300	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	3	0	1	0	0	0	0	0	0	0	0	0	20.9	-		
1400	1	6	0	0	0	0	0	0	0	0	0	0	7	0	1	2	3	0	1	0	0	0	0	0	0	0	0	20.8	-		
1500	0	7	0	0	0	0	0	0	0	0	0	0	7	0	2	3	2	0	0	0	0	0	0	0	0	0	0	17.4	-		
1600	0	7	0	0	0	0	0	0	0	0	0	0	7	0	0	4	3	0	0	0	0	0	0	0	0	0	0	19.7	-		
1700	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	17.9	-		
1800	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	20.1	-		
1900	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	2	1	0	0	0	0	0	0	0	0	0	0	19	-		
2000	0	1	0	2	0	0	0	0	0	0	0	0	3	0	0	0	1	2	0	0	0	0	0	0	0	0	0	24.7	-		
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	27.3	-		
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
08-09	1	2	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	2	0	0	0	0	0	0	0	0	0	21	-		
17-18	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	17.9	-		
10-16	5	50	0	1	0	1	0	0	0	0	0	0	57	0	11	26	14	5	1	0	0	0	0	0	0	0	0	18.9	23.9		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	8	78	0	5	0	1	0	0	0	0	0	0	92	1	14	40	26	10	1	0	0	0	0	0	0	0	0	19.3	24.5		

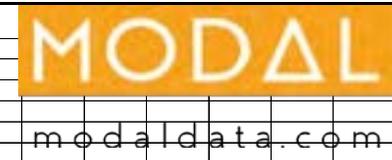


Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													SOUTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - BA																												modaldata.com			
Monday, 17 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.4	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	19.5	-	
0700	0	10	0	0	0	0	0	0	0	0	0	0	10	0	2	2	6	0	0	0	0	0	0	0	0	0	0	0	21.8	-	
0800	0	15	0	0	0	0	0	0	0	0	0	0	15	1	0	5	3	5	1	0	0	0	0	0	0	0	0	0	20	27.9	
0900	0	5	0	2	0	0	0	0	0	0	0	0	7	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0	16.7	-	
1000	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	23.9	-	
1100	0	6	0	2	0	0	0	0	0	0	0	0	8	0	2	0	4	2	0	0	0	0	0	0	0	0	0	0	20.9	-	
1200	1	7	0	0	1	0	0	0	0	0	0	0	9	1	2	2	4	0	0	0	0	0	0	0	0	0	0	0	17	-	
1300	1	6	0	0	0	0	0	0	0	0	0	0	7	0	1	4	2	0	0	0	0	0	0	0	0	0	0	0	17.8	-	
1400	0	7	0	0	0	1	0	0	0	0	0	0	8	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	14.6	-	
1500	0	21	0	1	0	0	0	0	0	0	0	0	22	0	5	12	3	2	0	0	0	0	0	0	0	0	0	0	18.5	23.1	
1600	0	6	0	2	0	0	0	0	0	0	0	0	8	1	2	4	0	1	0	0	0	0	0	0	0	0	0	0	17.1	-	
1700	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	4	3	2	0	0	0	0	0	0	0	0	0	0	21.2	-	
1800	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	23.2	-	
1900	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	13.7	-	
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	24.9	-	
2100	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	23.2	-	
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
08-09	0	15	0	0	0	0	0	0	0	0	0	0	15	1	0	5	3	5	1	0	0	0	0	0	0	0	0	0	21.8	27.9	
17-18	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	4	3	2	0	0	0	0	0	0	0	0	0	0	21.2	-	
10-16	2	52	0	3	1	1	0	0	0	0	0	0	59	2	13	22	17	5	0	0	0	0	0	0	0	0	0	0	18.5	24	
00-05	0	2	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15.9	-	
00-00	3	113	0	7	1	1	0	0	0	0	0	0	125	5	20	43	41	15	1	0	0	0	0	0	0	0	0	0	19.4	24.5	

Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													SOUTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - BA																															
Tuesday, 18 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10.8	-	
0600	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	21.5	-	
0700	1	10	0	0	0	0	0	0	0	0	0	0	11	0	3	4	3	1	0	0	0	0	0	0	0	0	0	0	18.3	24.4	
0800	0	14	0	0	0	0	0	0	0	0	0	0	14	0	1	6	5	2	0	0	0	0	0	0	0	0	0	0	20.1	25.5	
0900	0	8	0	1	0	0	0	0	0	0	0	0	9	0	1	2	4	2	0	0	0	0	0	0	0	0	0	0	21	-	
1000	0	9	0	1	0	0	0	0	0	0	0	0	10	0	2	4	4	0	0	0	0	0	0	0	0	0	0	0	18.5	-	
1100	0	12	0	2	0	0	0	0	0	0	0	0	14	1	1	3	7	1	1	0	0	0	0	0	0	0	0	0	20.6	25	
1200	1	8	0	0	0	0	0	0	0	0	0	0	9	0	1	1	5	2	0	0	0	0	0	0	0	0	0	0	22.1	-	
1300	0	5	0	2	0	0	0	0	0	0	0	0	7	0	1	2	4	0	0	0	0	0	0	0	0	0	0	0	19.1	-	
1400	0	11	0	2	0	0	0	0	0	0	0	0	13	0	2	5	5	1	0	0	0	0	0	0	0	0	0	0	19.1	24.5	
1500	0	13	0	0	0	0	0	0	0	0	0	0	13	0	3	7	2	1	0	0	0	0	0	0	0	0	0	0	17.9	24.2	
1600	0	11	0	0	0	0	0	0	0	0	0	0	11	0	0	4	5	2	0	0	0	0	0	0	0	0	0	0	21	26.8	
1700	0	12	1	0	0	0	0	0	0	0	0	0	13	0	1	5	3	4	0	0	0	0	0	0	0	0	0	0	21.5	26.4	
1800	0	6	0	0	0	0	0	0	0	0	0	0	6	0	1	0	2	2	1	0	0	0	0	0	0	0	0	0	24.4	-	
1900	0	4	0	0	0	0	0	0	0	0	0	0	4	0	1	0	2	1	0	0	0	0	0	0	0	0	0	0	20.7	-	
2000	1	2	0	1	0	0	0	0	0	0	0	0	4	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	17.5	-	
2100	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	20.2	-	
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	29.5	-	
08-09	0	14	0	0	0	0	0	0	0	0	0	0	14	0	1	6	5	2	0	0	0	0	0	0	0	0	0	0	20.1	25.5	
17-18	0	12	1	0	0	0	0	0	0	0	0	0	13	0	1	5	3	4	0	0	0	0	0	0	0	0	0	0	21.5	26.4	
10-16	1	58	0	7	0	0	0	0	0	0	0	0	66	1	10	22	27	5	1	0	0	0	0	0	0	0	0	0	19.5	24.3	
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
00-00	4	134	1	9	0	0	0	0	0	0	0	0	148	1	20	47	58	20	2	0	0	0	0	0	0	0	0	0	20.1	25.1	



Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE													SOUTHBOUND																		
Report Id - CustomList-74																															
Site Name - School Lane Bentley																															
Description - Northern site																															
Direction - BA																															
Wednesday, 19 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0200	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32.4	-		
0300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.6	-		
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0500	1	1	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	12.5	-		
0600	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	22.5	-		
0700	0	13	0	0	0	0	0	0	0	0	0	0	13	0	1	3	6	3	0	0	0	0	0	0	0	0	0	22.6	27.4		
0800	1	13	1	0	0	0	0	0	0	0	0	0	15	0	1	4	7	3	0	0	0	0	0	0	0	0	0	21.4	26.4		
0900	2	9	0	2	0	0	0	0	0	0	0	0	13	0	3	4	4	2	0	0	0	0	0	0	0	0	0	19.2	24.9		
1000	0	11	0	1	0	0	0	0	0	0	0	0	12	0	2	6	3	1	0	0	0	0	0	0	0	0	0	18.7	21.7		
1100	0	7	0	0	0	0	0	0	0	0	0	0	7	0	5	1	0	1	0	0	0	0	0	0	0	0	0	16	-		
1200	0	10	0	0	0	0	0	0	0	0	0	0	10	0	3	2	3	2	0	0	0	0	0	0	0	0	0	19.9	-		
1300	0	12	0	2	0	0	0	0	0	0	0	0	14	0	1	4	5	3	1	0	0	0	0	0	0	0	0	22.4	27.6		
1400	1	7	0	1	0	0	0	0	0	0	0	0	9	1	0	3	4	1	0	0	0	0	0	0	0	0	0	19.9	-		
1500	0	16	0	0	0	0	0	0	0	0	0	0	16	3	3	4	4	2	0	0	0	0	0	0	0	0	0	17.5	25.2		
1600	1	9	0	0	0	0	0	0	0	0	0	0	10	0	1	4	5	0	0	0	0	0	0	0	0	0	0	18.9	-		
1700	0	5	0	0	0	0	1	0	0	0	0	0	6	0	2	2	2	0	0	0	0	0	0	0	0	0	0	17.7	-		
1800	0	5	0	0	0	0	0	0	0	0	0	0	5	0	2	1	1	1	0	0	0	0	0	0	0	0	0	19.6	-		
1900	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	2	0	0	0	0	0	0	0	0	0	24.1	-		
2000	1	1	0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	15.3	-		
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	17.8	-		
2300	0	1	0	1	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	13.3	-		
08-09	1	13	1	0	0	0	0	0	0	0	0	0	15	0	1	4	7	3	0	0	0	0	0	0	0	0	0	21.4	26.4		
17-18	0	5	0	0	0	0	1	0	0	0	0	0	6	0	2	2	2	0	0	0	0	0	0	0	0	0	0	17.7	-		
10-16	1	63	0	4	0	0	0	0	0	0	0	0	68	4	14	20	19	10	1	0	0	0	0	0	0	0	0	19.2	25.2		
00-05	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	29	-		
00-00	7	128	1	8	0	0	1	0	0	0	0	0	145	4	28	42	46	23	2	0	0	0	0	0	0	0	0	19.8	25.3		



Appendix B

SCHOOL LANE, BENTLEY - NORTH SITE

SOUTHBOUND

Report Id - CustomList-74
 Site Name - School Lane Bentley
 Description - Northern site
 Direction - BA



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Grand Total

Time	Cls	Total	Vbin	Mean	Vpp																									
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75		85
--	38	826	2	55	1	3	1	0	0	1	0	0	927	21	150	317	317	112	10	0	0	0	0	0	0	0	0	0	19.6	24.7

Appendix B



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SCHOOL LANE, BENTLEY - SOUTH SITE NORTHBOUND

Globals

Report Id	CustomList-73
Descriptor	Modal Dir2
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2022-01-25T11:42:45
Legal	Copyright (c)1997 - 2019 MetroCount
Graphic	
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	5.0.7.0
Metric	Part metric
Speed Unit	mph
Length Unit	metre
Mass Unit	tonne

Dataset

Site Name	School Lane Bentley
Site Attribute	
File Name	C:\Users\richardmoore\Desktop\South Site - School Lane, Bentley 0 2022-01-25 1135.EC0
File Type	Plus
Algorithm	Factory default axle
Description	Southern site
Lane	0
Direction	7
Direction Text	7 - North bound A)B, South bound B)A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2022-01-11T12:51:34
Start Time	2022-01-11T12:51:34
Finish Time	2022-01-25T11:35:34
Operator	RM
Configuration	80 00 14 6a 6a 00 00 00 00 00

Profile

Name	Default Profile
Title	MetroCount Traffic Executive
Graphic Logo	
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	10
Filter Start	2022-01-14T00:00:00
Filter End	2022-01-21T00:00:00
Class Scheme	ARX
F	Cls(1-12) Dir(AB) Sp(6,99) Headway(0) Span(0 - 100) Lane(0-16)
Low Speed	6
High Speed	99
Posted Limit	30
Speed Limits	
Separation	0.000
Separation Type	Headway
Direction	AB
Encoded Direction	15

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													NORTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - AB																															
Friday, 14 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	-		
0800	0	13	0	1	0	0	0	0	0	0	0	0	14	0	1	8	5	0	0	0	0	0	0	0	0	0	0	18.7	23		
0900	0	7	0	4	0	0	0	0	0	0	0	0	11	1	1	2	5	2	0	0	0	0	0	0	0	0	0	19.6	25.5		
1000	1	3	0	1	0	0	0	0	0	0	0	0	5	0	2	1	2	0	0	0	0	0	0	0	0	0	0	15.6	-		
1100	1	8	0	1	0	0	0	0	0	0	0	0	10	1	0	2	5	2	0	0	0	0	0	0	0	0	0	21.5	-		
1200	1	7	0	3	0	0	0	0	0	0	0	0	11	1	2	1	6	1	0	0	0	0	0	0	0	0	0	19	25.5		
1300	0	3	0	2	0	0	0	0	0	0	0	0	5	0	1	1	2	1	0	0	0	0	0	0	0	0	0	20.2	-		
1400	1	11	0	0	0	0	0	0	0	0	0	0	12	0	3	1	5	3	0	0	0	0	0	0	0	0	0	21.1	27.3		
1500	0	11	0	0	0	0	0	0	0	0	0	0	11	0	0	7	2	2	0	0	0	0	0	0	0	0	0	20.6	26.7		
1600	1	9	0	0	0	0	0	0	0	0	0	0	10	0	1	1	8	0	0	0	0	0	0	0	0	0	0	21.2	-		
1700	0	5	0	1	0	0	0	0	0	0	0	0	6	0	0	2	4	0	0	0	0	0	0	0	0	0	0	21.6	-		
1800	0	7	0	0	0	0	0	0	0	0	0	0	7	0	1	1	4	1	0	0	0	0	0	0	0	0	0	21.6	-		
1900	0	4	0	1	0	0	0	0	0	0	0	0	5	0	0	2	3	0	0	0	0	0	0	0	0	0	0	20.1	-		
2000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	25	-		
2100	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	25.6	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	24.8	-		
2300	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	21.2	-		
08-09	0	13	0	1	0	0	0	0	0	0	0	0	14	0	1	8	5	0	0	0	0	0	0	0	0	0	0	18.7	23		
17-18	0	5	0	1	0	0	0	0	0	0	0	0	6	0	0	2	4	0	0	0	0	0	0	0	0	0	0	21.6	-		
10-16	4	43	0	7	0	0	0	0	0	0	0	0	54	2	8	13	22	9	0	0	0	0	0	0	0	0	0	20.1	26		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	5	96	0	14	0	0	0	0	0	0	0	0	115	3	12	31	56	12	1	0	0	0	0	0	0	0	0	20.4	24.8		



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Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													NORTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - AB																															
Saturday, 15 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30.5	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	-	
0800	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	21.1	-	
0900	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	19.3	-	
1000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	24.4	-	
1100	0	13	0	1	0	0	0	0	0	0	0	0	14	0	0	4	6	4	0	0	0	0	0	0	0	0	0	0	22.5	26.4	
1200	0	11	0	0	0	0	0	0	0	0	0	0	11	1	0	4	3	2	1	0	0	0	0	0	0	0	0	0	20.9	27	
1300	0	4	0	0	0	0	0	0	0	0	0	0	4	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	18.6	-	
1400	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	27.2	-	
1500	1	4	0	0	0	0	0	0	0	0	0	0	5	0	0	2	1	2	0	0	0	0	0	0	0	0	0	0	22.7	-	
1600	0	9	0	0	0	0	0	0	0	0	0	0	9	0	1	1	5	2	0	0	0	0	0	0	0	0	0	0	21.8	-	
1700	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	24.3	-	
1800	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	23.5	-	
1900	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	20.9	-	
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2100	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	32.4	-	
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
08-09	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	21.1	-	
17-18	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	24.3	-	
10-16	1	35	0	1	0	0	0	0	0	0	0	0	37	1	1	11	13	10	1	0	0	0	0	0	0	0	0	0	21.9	26.6	
00-05	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	30.5	-	
00-00	1	68	0	1	0	0	0	0	0	0	0	0	70	1	3	18	28	17	2	0	1	0	0	0	0	0	0	0	22.3	26.6	



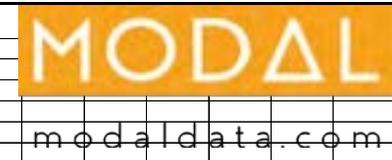
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Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													NORTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - AB																												modaldata.com			
Monday, 17 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	23.8	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	30.6	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	21.1	-	
0800	0	12	0	0	0	0	0	0	0	0	0	0	12	0	0	5	5	1	1	0	0	0	0	0	0	0	0	0	21.1	25.8	
0900	0	3	0	3	0	0	0	0	0	0	0	0	6	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	20.2	-	
1000	0	4	0	2	0	0	0	0	0	0	0	0	6	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	24.8	-	
1100	1	9	0	1	0	1	0	0	0	0	0	0	12	0	2	3	3	4	0	0	0	0	0	0	0	0	0	0	20.9	26.6	
1200	1	8	0	0	1	0	0	0	0	0	0	0	10	0	1	1	6	2	0	0	0	0	0	0	0	0	0	0	21.5	-	
1300	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	1	2	0	1	0	0	0	0	0	0	0	0	0	21.3	-	
1400	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	20.8	-	
1500	0	10	0	0	0	0	0	0	0	0	0	0	10	1	0	1	6	2	0	0	0	0	0	0	0	0	0	0	20.6	-	
1600	0	11	0	0	0	0	0	0	0	0	0	0	11	0	1	4	5	1	0	0	0	0	0	0	0	0	0	0	20.7	24.4	
1700	1	2	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	23.8	-	
1800	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	21.4	-	
1900	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	24.7	-	
2000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	28.4	-	
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2200	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	23.1	-	
2300	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	17.2	-	
08-09	0	12	0	0	0	0	0	0	0	0	0	0	12	0	0	5	5	1	1	0	0	0	0	0	0	0	0	0	21.1	25.8	
17-18	1	2	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	23.8	-	
10-16	2	41	0	3	1	1	0	0	0	0	0	0	48	1	4	8	23	10	2	0	0	0	0	0	0	0	0	0	21.5	26.5	
00-05	0	2	0	1	0	0	0	0	0	0	0	0	3	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	26.1	-	
00-00	3	87	0	7	1	1	0	0	0	0	0	0	99	1	7	22	48	17	4	0	0	0	0	0	0	0	0	0	21.6	26.5	

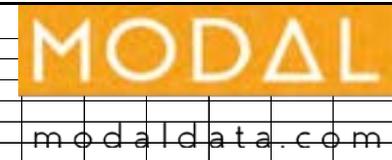
Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													NORTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - AB																															
Tuesday, 18 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.6	-		
0800	0	11	0	0	0	0	0	0	0	0	0	0	11	0	1	4	5	1	0	0	0	0	0	0	0	0	0	20.2	23.7		
0900	0	4	1	2	0	0	0	0	0	0	0	0	7	0	1	1	4	1	0	0	0	0	0	0	0	0	0	22.7	-		
1000	0	11	0	0	0	0	0	0	0	0	0	0	11	2	2	1	4	2	0	0	0	0	0	0	0	0	0	18.1	25.5		
1100	0	13	0	0	0	0	0	0	0	0	0	0	13	0	0	0	10	3	0	0	0	0	0	0	0	0	0	23.2	25.4		
1200	0	8	0	1	0	0	0	0	0	0	0	0	9	0	1	0	4	3	1	0	0	0	0	0	0	0	0	23.2	-		
1300	1	6	0	4	0	0	0	0	0	0	0	0	11	2	1	3	2	3	0	0	0	0	0	0	0	0	0	18.1	25.9		
1400	0	8	0	1	0	0	0	0	0	0	0	0	9	0	1	2	6	0	0	0	0	0	0	0	0	0	0	20.4	-		
1500	0	20	0	0	0	0	0	0	0	0	0	0	20	1	3	10	4	2	0	0	0	0	0	0	0	0	0	18.5	24.2		
1600	0	8	0	0	0	0	0	0	0	0	0	0	8	0	3	2	2	1	0	0	0	0	0	0	0	0	0	18	-		
1700	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	1	1	2	0	0	0	0	0	0	0	0	0	23.1	-		
1800	1	7	0	0	0	0	0	0	0	0	0	0	8	1	1	1	4	1	0	0	0	0	0	0	0	0	0	19.7	-		
1900	0	6	0	2	0	0	0	0	0	0	0	0	8	0	0	2	4	2	0	0	0	0	0	0	0	0	0	23.5	-		
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2100	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	21.8	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	26.8	-		
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	28.2	-		
08-09	0	11	0	0	0	0	0	0	0	0	0	0	11	0	1	4	5	1	0	0	0	0	0	0	0	0	0	20.2	23.7		
17-18	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	1	1	2	0	0	0	0	0	0	0	0	0	23.1	-		
10-16	1	66	0	6	0	0	0	0	0	0	0	0	73	5	8	16	30	13	1	0	0	0	0	0	0	0	0	20	25.3		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	2	112	1	10	0	0	0	0	0	0	0	0	125	6	14	27	54	23	1	0	0	0	0	0	0	0	0	20.6	25.4		



Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													NORTHBOUND																	
Report Id - CustomList-73																														
Site Name - School Lane Bentley																														
Description - Southern site																														
Direction - AB																														
Wednesday, 19 January 2022																														
Time	Cls	Total	Vbin	Mean	Vpp																									
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	85	
														10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	23.7	-
0800	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	2	6	1	0	0	0	0	0	0	0	0	0	0	21.2	-
0900	0	9	0	1	0	0	0	0	0	0	0	0	10	0	0	2	6	2	0	0	0	0	0	0	0	0	0	0	22.3	-
1000	0	7	0	2	0	0	0	0	0	0	0	0	9	0	2	3	4	0	0	0	0	0	0	0	0	0	0	0	19.1	-
1100	1	7	0	0	0	0	0	0	0	0	0	0	8	0	2	1	1	3	1	0	0	0	0	0	0	0	0	0	21.8	-
1200	1	12	0	0	0	0	0	0	0	0	0	0	13	0	3	4	5	0	1	0	0	0	0	0	0	0	0	0	19.5	24.5
1300	1	7	0	1	0	0	0	0	0	0	0	0	9	1	0	3	3	2	0	0	0	0	0	0	0	0	0	0	20.1	-
1400	1	5	0	4	0	0	0	0	0	0	0	0	10	0	3	1	4	0	2	0	0	0	0	0	0	0	0	0	21.1	-
1500	0	7	0	0	0	0	0	0	0	0	0	0	7	1	1	4	1	0	0	0	0	0	0	0	0	0	0	0	16.7	-
1600	0	7	0	1	0	0	0	1	0	0	0	0	9	0	1	4	3	1	0	0	0	0	0	0	0	0	0	0	19.1	-
1700	0	11	0	0	0	0	0	0	0	0	0	0	11	0	0	4	5	2	0	0	0	0	0	0	0	0	0	0	21.3	25.2
1800	0	10	0	0	0	0	0	0	0	0	0	0	10	0	1	2	5	2	0	0	0	0	0	0	0	0	0	0	20.5	-
1900	0	2	0	1	0	0	0	0	0	0	0	0	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	19.4	-
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	17.1	-
2100	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	20.7	-
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	21.1	-
2300	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	23.7	-
08-09	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	2	6	1	0	0	0	0	0	0	0	0	0	0	21.2	-
17-18	0	11	0	0	0	0	0	0	0	0	0	0	11	0	0	4	5	2	0	0	0	0	0	0	0	0	0	0	21.3	25.2
10-16	4	45	0	7	0	0	0	0	0	0	0	0	56	2	11	16	18	5	4	0	0	0	0	0	0	0	0	0	19.8	25.2
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
00-00	4	104	0	10	0	0	0	1	0	0	0	0	119	2	14	36	46	17	4	0	0	0	0	0	0	0	0	0	20.4	25.3



Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													NORTHBOUND																	
Report Id - CustomList-73																														
Site Name - School Lane Bentley																														
Description - Southern site																														
Direction - AB																														
Thursday, 20 January 2022																														
Time	Cls	Total	Vbin	Mean	Vpp																									
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	85	
														10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		
0000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	20.7	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0700	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	23.9	-
0800	0	11	0	1	0	0	0	0	0	0	0	0	12	1	1	4	6	0	0	0	0	0	0	0	0	0	0	0	19	23.3
0900	0	9	0	4	0	0	0	0	0	0	0	0	13	0	1	6	5	1	0	0	0	0	0	0	0	0	0	0	19.9	22.9
1000	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	22	-	
1100	1	10	0	5	0	0	0	0	0	0	0	0	16	0	3	3	7	3	0	0	0	0	0	0	0	0	0	20.4	25.5	
1200	2	9	0	0	1	0	0	0	0	0	0	0	12	1	4	2	4	1	0	0	0	0	0	0	0	0	0	17.8	24.5	
1300	2	4	0	3	0	1	0	0	0	0	0	0	10	1	3	3	3	0	0	0	0	0	0	0	0	0	0	16.6	-	
1400	2	10	0	1	0	0	0	0	0	0	0	0	13	0	3	1	6	3	0	0	0	0	0	0	0	0	0	20.7	25.8	
1500	0	10	0	0	0	0	0	0	0	0	0	0	10	1	0	5	2	2	0	0	0	0	0	0	0	0	0	20.4	-	
1600	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	4	3	3	0	0	0	0	0	0	0	0	0	22.1	-	
1700	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	0	3	2	1	0	0	0	0	0	0	0	0	26.4	-	
1800	0	8	0	1	0	0	0	0	0	0	0	0	9	0	1	3	4	1	0	0	0	0	0	0	0	0	0	20.7	-	
1900	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	21.8	-	
2000	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	23.6	-	
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	23.5	-	
2300	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	20.6	-	
08-09	0	11	0	1	0	0	0	0	0	0	0	0	12	1	1	4	6	0	0	0	0	0	0	0	0	0	0	19	23.3	
17-18	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	0	3	2	1	0	0	0	0	0	0	0	0	26.4	-	
10-16	7	46	0	9	1	1	0	0	0	0	0	0	64	3	13	15	24	9	0	0	0	0	0	0	0	0	0	19.5	24.8	
00-05	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	20.7	-	
00-00	7	101	0	15	1	1	0	0	0	0	0	0	125	4	16	34	52	18	1	0	0	0	0	0	0	0	0	20.4	25.1	



modaldata.com

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE

NORTHBOUND

Report Id - CustomList-73
 Site Name - School Lane Bentley
 Description - Southern site
 Direction - AB



modaldata.com

Grand Total

Time	Cls	Total	Vbin	Mean	Vpp																									
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	85	
--	30	628	1	62	2	4	0	1	0	1	0	0	729	21	76	191	308	118	14	0	1	0	0	0	0	0	0	0	20.7	25.4

Appendix B



modaldata.com

SCHOOL LANE, BENTLEY - SOUTH SITE SOUTHBOUND

Globals

Report Id	CustomList-73
Descriptor	Modal Dir2
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2022-01-25T11:45:25
Legal	Copyright (c)1997 - 2019 MetroCount
Graphic	
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Version	5.0.7.0
Metric	Part metric
Speed Unit	mph
Length Unit	metre
Mass Unit	tonne

Dataset

Site Name	School Lane Bentley
Site Attribute	
File Name	C:\Users\richardmoore\Desktop\South Site - School Lane, Bentley 0 2022-01-25 1135.EC0
File Type	Plus
Algorithm	Factory default axle
Description	Southern site
Lane	0
Direction	7
Direction Text	7 - North bound A)B, South bound B)A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2022-01-11T12:51:34
Start Time	2022-01-11T12:51:34
Finish Time	2022-01-25T11:35:34
Operator	RM
Configuration	80 00 14 6a 6a 00 00 00 00 00

Profile

Name	Default Profile
Title	MetroCount Traffic Executive
Graphic Logo	
Header	
Footer	
Percentile 1	85
Percentile 2	95
Pace	10
Filter Start	2022-01-14T00:00:00
Filter End	2022-01-21T00:00:00
Class Scheme	ARX
F	Cls(1-12) Dir(BA) Sp(6,99) Headway(0) Span(0 - 100) Lane(0-16)
Low Speed	6
High Speed	99
Posted Limit	30
Speed Limits	
Separation	0.000
Separation Type	Headway
Direction	BA
Encoded Direction	15

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													SOUTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - BA																												modaldata.com			
Friday, 14 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24.8	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0600	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	2	1	1	0	0	0	0	0	0	0	0	0	20.5	-		
0700	0	8	0	0	0	0	0	0	0	0	0	0	8	0	1	3	3	1	0	0	0	0	0	0	0	0	0	20.4	-		
0800	0	14	0	2	0	0	0	0	0	0	0	0	16	2	4	8	2	0	0	0	0	0	0	0	0	0	0	15.7	19.7		
0900	0	9	0	2	0	0	0	0	0	0	0	0	11	0	1	8	1	1	0	0	0	0	0	0	0	0	0	18.5	25		
1000	0	8	0	0	0	0	0	0	0	0	0	0	8	0	1	4	2	1	0	0	0	0	0	0	0	0	0	19.1	-		
1100	0	12	0	1	0	0	0	0	0	0	0	0	13	0	1	6	6	0	0	0	0	0	0	0	0	0	0	19.5	22.1		
1200	1	6	0	3	0	0	0	0	0	0	0	0	10	4	1	2	3	0	0	0	0	0	0	0	0	0	0	15.2	-		
1300	0	8	0	1	0	0	0	0	0	0	0	0	9	0	0	5	4	0	0	0	0	0	0	0	0	0	0	19.8	-		
1400	0	7	0	0	0	1	0	0	0	0	0	0	8	0	1	2	3	2	0	0	0	0	0	0	0	0	0	21.3	-		
1500	2	18	0	0	0	0	0	0	0	0	0	0	20	0	3	12	4	1	0	0	0	0	0	0	0	0	0	18.9	24.4		
1600	0	10	0	2	0	0	0	0	0	0	0	0	12	0	1	6	3	2	0	0	0	0	0	0	0	0	0	19.5	25.1		
1700	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	4	1	1	0	0	0	0	0	0	0	0	0	20.8	-		
1800	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	1	3	1	1	0	0	0	0	0	0	0	0	25.4	-		
1900	0	1	0	2	0	0	0	0	0	0	0	0	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0	17.4	-		
2000	1	2	0	0	0	0	0	0	0	0	0	0	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	17.2	-		
2100	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	26.4	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	23.9	-		
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	27.8	-		
08-09	0	14	0	2	0	0	0	0	0	0	0	0	16	2	4	8	2	0	0	0	0	0	0	0	0	0	0	15.7	19.7		
17-18	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	4	1	1	0	0	0	0	0	0	0	0	0	20.8	-		
10-16	3	59	0	5	0	1	0	0	0	0	0	0	68	4	7	31	22	4	0	0	0	0	0	0	0	0	0	18.9	24.1		
00-05	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	24.8	-		
00-00	4	124	0	13	0	1	0	0	0	0	0	0	142	6	16	66	39	14	1	0	0	0	0	0	0	0	0	19.2	24.5		

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													SOUTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - BA																												modaldata.com			
Sunday, 16 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11.4	-	
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	1	1	0	1	0	0	0	0	0	0	0	0	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	17.5	-	
0800	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	23.6	-		
0900	1	9	0	1	0	0	0	0	0	0	0	0	11	0	1	5	3	2	0	0	0	0	0	0	0	0	0	20.3	25.5		
1000	1	15	0	0	0	0	0	1	0	0	0	0	17	0	3	9	4	1	0	0	0	0	0	0	0	0	0	18.8	22.1		
1100	0	11	0	2	0	0	0	0	0	0	0	0	13	0	2	6	2	3	0	0	0	0	0	0	0	0	0	19.7	26.4		
1200	0	7	0	0	0	1	0	0	0	0	0	0	8	0	1	4	2	1	0	0	0	0	0	0	0	0	0	19.1	-		
1300	0	4	0	0	0	0	0	0	0	0	0	0	4	0	1	2	0	1	0	0	0	0	0	0	0	0	0	18.8	-		
1400	0	7	0	0	0	0	0	0	0	0	0	0	7	0	1	3	2	1	0	0	0	0	0	0	0	0	0	19.8	-		
1500	0	7	0	0	0	0	0	0	0	0	0	0	7	0	2	3	2	0	0	0	0	0	0	0	0	0	0	17.9	-		
1600	0	7	0	0	0	0	0	0	0	0	0	0	7	0	1	2	3	1	0	0	0	0	0	0	0	0	0	20.7	-		
1700	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	14.8	-		
1800	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	20.2	-		
1900	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	20.5	-		
2000	0	1	0	2	0	0	0	0	0	0	0	0	3	0	0	0	2	1	0	0	0	0	0	0	0	0	0	23.1	-		
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	24.2	-		
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
08-09	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	23.6	-		
17-18	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	14.8	-		
10-16	1	51	0	2	0	1	0	1	0	0	0	0	56	0	10	27	12	7	0	0	0	0	0	0	0	0	0	19	24.4		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	3	79	0	6	0	1	0	1	0	0	0	0	90	0	15	37	27	11	0	0	0	0	0	0	0	0	0	19.5	24.5		

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													SOUTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - BA																												modaldata.com			
Monday, 17 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	23.3	-		
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0600	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	20.5	-		
0700	0	10	0	0	0	0	0	0	0	0	0	0	10	0	1	2	6	1	0	0	0	0	0	0	0	0	0	21	-		
0800	0	15	0	0	0	0	0	0	0	0	0	0	15	0	0	8	6	1	0	0	0	0	0	0	0	0	0	20.3	24.7		
0900	0	5	0	2	0	0	0	0	0	0	0	0	7	0	2	3	1	1	0	0	0	0	0	0	0	0	0	18.2	-		
1000	0	5	0	1	0	0	0	0	0	0	0	0	6	0	0	2	3	1	0	0	0	0	0	0	0	0	0	21.1	-		
1100	0	7	0	2	0	0	0	0	0	0	0	0	9	0	2	2	4	1	0	0	0	0	0	0	0	0	0	20	-		
1200	1	7	0	0	1	0	0	0	0	0	0	0	9	1	1	3	4	0	0	0	0	0	0	0	0	0	0	18.5	-		
1300	1	6	0	0	0	0	0	0	0	0	0	0	7	0	1	3	3	0	0	0	0	0	0	0	0	0	0	19.3	-		
1400	0	6	0	0	0	1	0	0	0	0	0	0	7	0	2	2	3	0	0	0	0	0	0	0	0	0	0	18.7	-		
1500	0	18	0	1	0	0	0	0	0	0	0	0	19	1	3	8	4	3	0	0	0	0	0	0	0	0	0	18.5	25.2		
1600	0	8	0	2	0	0	0	0	0	0	0	0	10	0	0	7	2	1	0	0	0	0	0	0	0	0	0	19.8	-		
1700	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	4	4	1	0	0	0	0	0	0	0	0	0	21.2	-		
1800	0	7	0	0	0	0	0	0	0	0	0	0	7	0	0	3	2	2	0	0	0	0	0	0	0	0	0	22.2	-		
1900	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	13.6	-		
2000	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	23.7	-		
2100	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	22.3	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
08-09	0	15	0	0	0	0	0	0	0	0	0	0	15	0	0	8	6	1	0	0	0	0	0	0	0	0	0	20.3	24.7		
17-18	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	4	4	1	0	0	0	0	0	0	0	0	0	21.2	-		
10-16	2	49	0	4	1	1	0	0	0	0	0	0	57	2	9	20	21	5	0	0	0	0	0	0	0	0	0	19.1	24.2		
00-05	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	21.7	-		
00-00	3	113	0	8	1	1	0	0	0	0	0	0	126	2	13	49	49	13	0	0	0	0	0	0	0	0	0	19.9	24.3		

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													SOUTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - BA																												modaldata.com			
Tuesday, 18 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	22.1	-	
0700	1	9	0	0	0	0	0	0	0	0	0	0	10	0	1	7	2	0	0	0	0	0	0	0	0	0	0	18.2	-		
0800	0	14	0	0	0	0	0	0	0	0	0	0	14	1	2	5	6	0	0	0	0	0	0	0	0	0	0	18.1	23.1		
0900	0	8	0	1	0	0	0	0	0	0	0	0	9	0	1	3	3	2	0	0	0	0	0	0	0	0	0	20.3	-		
1000	0	11	0	1	0	0	0	0	0	0	0	0	12	0	4	6	1	1	0	0	0	0	0	0	0	0	0	17.3	21.3		
1100	0	13	0	2	0	0	0	0	0	0	0	0	15	1	1	5	7	1	0	0	0	0	0	0	0	0	0	19.6	23.2		
1200	0	8	0	0	0	0	0	0	0	0	0	0	8	0	0	4	1	3	0	0	0	0	0	0	0	0	0	21.5	-		
1300	0	6	0	2	0	0	0	0	0	0	0	0	8	0	0	2	6	0	0	0	0	0	0	0	0	0	0	20	-		
1400	0	12	0	2	0	0	0	0	0	0	0	0	14	0	3	5	6	0	0	0	0	0	0	0	0	0	0	18.2	23		
1500	0	15	0	0	0	0	0	0	0	0	0	0	15	0	5	5	5	0	0	0	0	0	0	0	0	0	0	17.1	22.6		
1600	0	12	0	0	0	0	0	0	0	0	0	0	12	0	2	4	4	2	0	0	0	0	0	0	0	0	0	19.4	25.2		
1700	0	12	1	0	0	0	0	0	0	0	0	0	13	0	1	4	5	3	0	0	0	0	0	0	0	0	0	21.1	26.3		
1800	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	2	1	3	0	0	0	0	0	0	0	0	0	23.6	-		
1900	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	20.4	-		
2000	1	2	0	1	0	0	0	0	0	0	0	0	4	0	1	2	1	0	0	0	0	0	0	0	0	0	0	17.8	-		
2100	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	19.6	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	29.9	-		
08-09	0	14	0	0	0	0	0	0	0	0	0	0	14	1	2	5	6	0	0	0	0	0	0	0	0	0	0	18.1	23.1		
17-18	0	12	1	0	0	0	0	0	0	0	0	0	13	0	1	4	5	3	0	0	0	0	0	0	0	0	0	21.1	26.3		
10-16	0	65	0	7	0	0	0	0	0	0	0	0	72	1	13	27	26	5	0	0	0	0	0	0	0	0	0	18.7	23.4		
00-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
00-00	2	141	1	9	0	0	0	0	0	0	0	0	153	2	21	59	55	16	0	0	0	0	0	0	0	0	0	19.4	23.6		

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													SOUTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - BA																												modaldata.com			
Wednesday, 19 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	29.8	-	
0300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	26.4	-		
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0500	1	1	0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	14.2	-		
0600	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	22.6	-		
0700	0	13	0	0	0	0	0	0	0	0	0	0	13	0	0	5	4	4	0	0	0	0	0	0	0	0	0	22.4	26.3		
0800	0	13	1	0	0	0	0	0	0	0	0	0	14	0	2	5	5	2	0	0	0	0	0	0	0	0	0	20.9	27		
0900	2	9	0	2	0	0	0	0	0	0	0	0	13	0	1	6	6	0	0	0	0	0	0	0	0	0	0	19.4	24.1		
1000	0	13	0	1	0	0	0	0	0	0	0	0	14	0	2	9	3	0	0	0	0	0	0	0	0	0	0	18	22.6		
1100	0	8	0	0	0	0	0	0	0	0	0	0	8	0	2	3	2	1	0	0	0	0	0	0	0	0	0	18.6	-		
1200	0	9	0	0	0	0	0	0	0	0	0	0	9	0	2	2	4	1	0	0	0	0	0	0	0	0	0	19	-		
1300	0	12	0	2	0	0	0	0	0	0	0	0	14	0	0	5	5	3	1	0	0	0	0	0	0	0	0	22.1	26		
1400	1	7	0	1	0	0	0	0	0	0	0	0	9	1	1	4	2	1	0	0	0	0	0	0	0	0	0	18.2	-		
1500	0	17	0	1	0	0	0	0	0	0	0	0	18	0	9	4	3	2	0	0	0	0	0	0	0	0	0	16.6	24.4		
1600	1	10	0	0	0	0	0	0	0	0	0	0	11	1	1	5	4	0	0	0	0	0	0	0	0	0	0	17.8	21.2		
1700	0	6	0	0	0	0	0	1	0	0	0	0	7	0	0	2	5	0	0	0	0	0	0	0	0	0	0	20.5	-		
1800	0	5	0	0	0	0	0	0	0	0	0	0	5	0	1	2	0	2	0	0	0	0	0	0	0	0	0	20.9	-		
1900	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	4	1	0	0	0	0	0	0	0	0	0	0	20.2	-		
2000	1	1	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	14.4	-		
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	19.5	-		
2300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	17	-		
08-09	0	13	1	0	0	0	0	0	0	0	0	0	14	0	2	5	5	2	0	0	0	0	0	0	0	0	0	20.9	27		
17-18	0	6	0	0	0	0	0	1	0	0	0	0	7	0	0	2	5	0	0	0	0	0	0	0	0	0	0	20.5	-		
10-16	1	66	0	5	0	0	0	0	0	0	0	0	72	1	16	27	19	8	1	0	0	0	0	0	0	0	0	18.7	24		
00-05	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	28.1	-		
00-00	6	134	1	8	0	0	0	1	0	0	0	0	150	2	24	60	44	19	1	0	0	0	0	0	0	0	0	19.5	24.4		

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE													SOUTHBOUND																		
Report Id - CustomList-73																															
Site Name - School Lane Bentley																															
Description - Southern site																															
Direction - BA																												modaldata.com			
Thursday, 20 January 2022																															
Time	Cls	Total	Vbin	Mean	Vpp																										
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80		85
0000	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	21.9	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0300	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	26	-		
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0500	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	18.2	-		
0600	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	20.7	-		
0700	0	8	0	1	0	0	0	0	0	0	0	0	9	0	2	5	2	0	0	0	0	0	0	0	0	0	0	18.3	-		
0800	0	17	0	0	0	0	0	0	0	0	0	0	17	0	4	6	5	2	0	0	0	0	0	0	0	0	0	19.3	25.1		
0900	0	10	0	4	0	0	0	0	0	0	0	0	14	0	1	11	2	0	0	0	0	0	0	0	0	0	0	18.4	20.1		
1000	0	14	0	1	0	0	0	0	0	0	0	0	15	0	4	8	3	0	0	0	0	0	0	0	0	0	0	17.9	21		
1100	0	12	1	2	0	0	0	0	0	0	0	0	15	0	5	7	2	1	0	0	0	0	0	0	0	0	0	17.5	22.7		
1200	1	15	0	2	0	0	0	0	0	0	0	0	18	0	1	8	9	0	0	0	0	0	0	0	0	0	0	19.7	23.2		
1300	3	6	0	3	0	1	0	0	0	0	0	0	13	2	3	4	3	1	0	0	0	0	0	0	0	0	0	17.8	24.4		
1400	0	11	0	1	0	0	0	0	0	0	0	0	12	0	2	4	5	1	0	0	0	0	0	0	0	0	0	19.7	24.2		
1500	0	12	0	1	0	0	0	0	0	0	0	0	13	0	3	5	2	2	1	0	0	0	0	0	0	0	0	19.7	27.1		
1600	0	18	0	0	0	0	0	0	0	0	0	0	18	0	0	9	6	3	0	0	0	0	0	0	0	0	0	20.7	26.5		
1700	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	2	2	1	0	0	0	0	0	0	0	0	0	22.5	-		
1800	0	3	0	1	0	0	0	0	0	0	0	0	4	0	1	2	1	0	0	0	0	0	0	0	0	0	0	17.8	-		
1900	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	1	3	2	0	0	0	0	0	0	0	0	0	23	-		
2000	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15.3	-		
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2300	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	24	-		
08-09	0	17	0	0	0	0	0	0	0	0	0	0	17	0	4	6	5	2	0	0	0	0	0	0	0	0	0	19.3	25.1		
17-18	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	2	2	1	0	0	0	0	0	0	0	0	0	22.5	-		
10-16	4	70	1	10	0	1	0	0	0	0	0	0	86	2	18	36	24	5	1	0	0	0	0	0	0	0	0	18.7	23.1		
00-05	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	24	-			
00-00	5	146	1	16	0	1	0	0	0	0	0	0	169	2	26	77	48	15	1	0	0	0	0	0	0	0	0	19.3	23.7		

Appendix B

SCHOOL LANE, BENTLEY - SOUTH SITE

SOUTHBOUND

Report Id - CustomList-73
 Site Name - School Lane Bentley
 Description - Southern site
 Direction - BA



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Grand Total

Time	Cls	Total	Vbin	Mean	Vpp																									
[--	1	2	3	4	5	6	7	8	9	10	11	12		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	85	
--	27	840	3	64	1	4	0	2	0	0	0	0	941	15	128	389	307	98	4	0	0	0	0	0	0	0	0	0	19.5	24.2

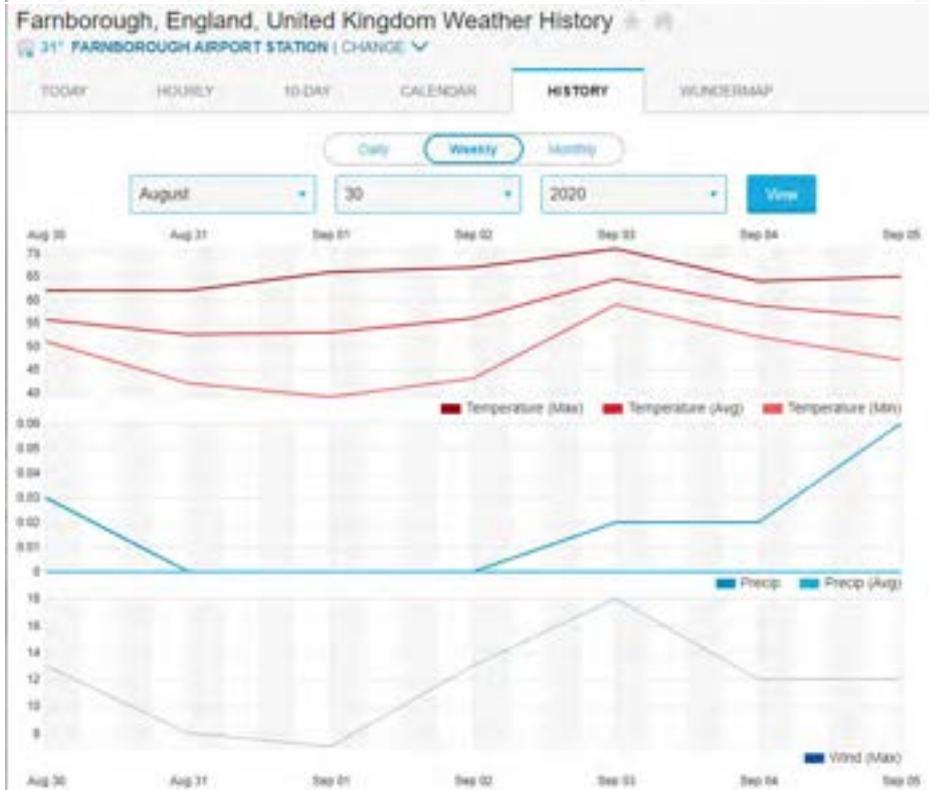
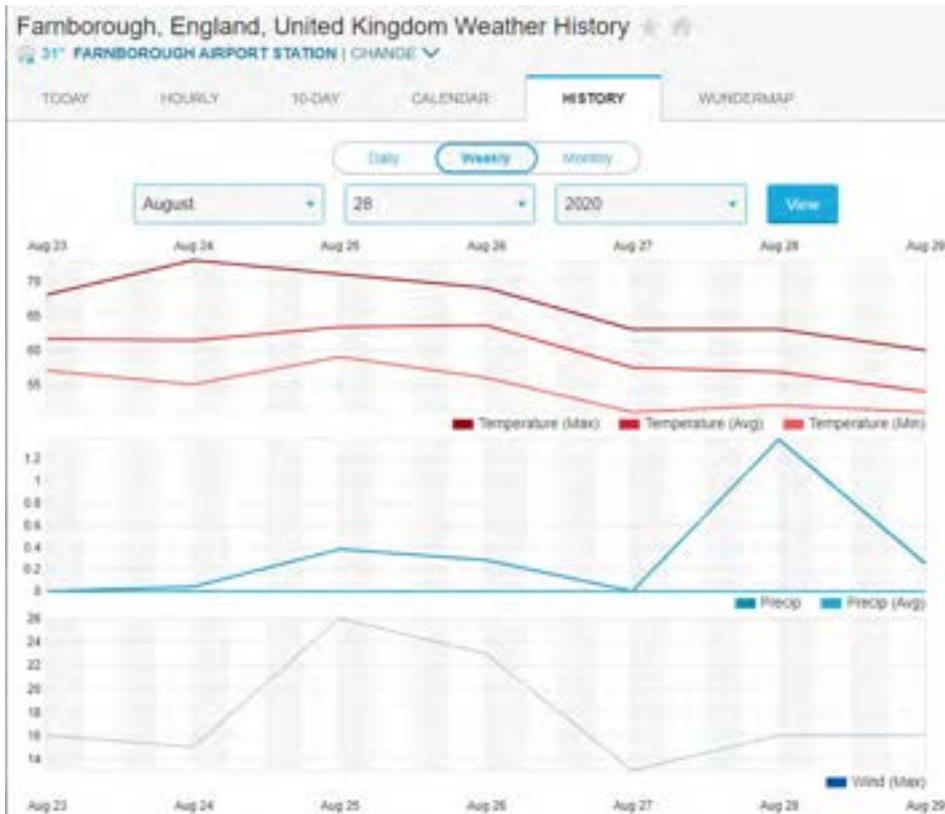
Appendix B



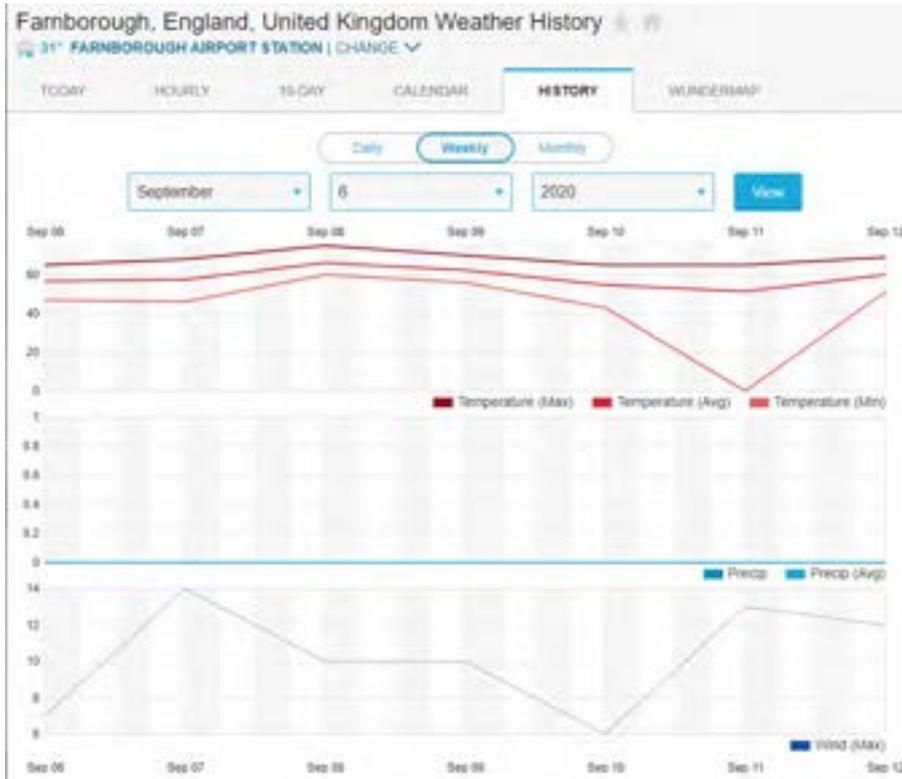
APPENDIX 6 HISTORICAL WEATHER DATA

Appendix B

Farnborough Weather: August 23rd – September 12th 2020



Appendix B



Bentley (Farnham) Weather: 14th to 20th January 2022



Appendix B



Appendix B



Appendix B



APPENDIX 7 ATC DATA SUMMARY

Appendix B

School Lane, Bentley - ATC Speed Survey Results Summary

		Daytime Rainfall	85th Percentile Vehicle Speeds (North Site Southbound) (mph)	Southbound Movements recorded in 24 hours	85th Percentile Vehicle Speeds (South Site Northbound) (mph)	Northbound Movements recorded in 24 hours
Friday	14th Jan 2022	0.0mm	24.8	138	24.8	115
Saturday	15th Jan 2022	0.0mm	24.8	109	26.6	70
Sunday	16th Jan 2022	<0.1mm	24.5	92	26	76
Monday	17th Jan 2022	0.0mm	24.5	125	26.5	99
Tuesday	18th Jan 2022	0.0mm	25.1	148	25.4	125
Wednesday	19th Jan 2022	0.3mm	25.3	145	25.3	119
Thursday	20th Jan 2022	0.0mm	24.3	170	25.1	125
Total Observations during dry weekdays				581		464
85th percentile across entire sample (dry and weekday) Design Speed (mph)			24.666		25.405	
85th percentile across entire sample (dry and weekday) Design Speed (kph)			39.7		40.9	

		Daytime Rainfall	85th Percentile Vehicle Speeds (Southbound) (mph)	Southbound Movements recorded in 24 hours	85th Percentile Vehicle Speeds (Northbound) (mph)	Northbound Movements recorded in 24 hours
Wednesday	26th August 2020	Rain				
Thursday	27th August 2020	0.0mm	25.8	122	24.3	101
Friday	28th August 2020	Rain				
Saturday	29th August 2020	Rain				
Sunday	30th August 2020	Rain				
Monday	31st August 2020	0.0mm				
Tuesday	1st September 2020	0.0mm	24.4	114	25.7	99
Wednesday	2nd September 2020	0.0mm	24.8	128	24.7	120
Thursday	3rd September 2020	Rain				
Friday	4th September 2020	Rain				
Saturday	5th September 2020	Rain				
Sunday	6th September 2020	0.0mm				
Monday	7th September 2020	0.0mm	24.6	142	23.7	111
Total Observations during dry weekdays				506		431
85th percentile across entire sample (dry and weekday) Design Speed (mph)			24.895		24.578	
85th percentile across entire sample (dry and weekday) Design Speed (kph)			40.1		39.5	

APPENDIX 8 SSD CALCULATOR

Appendix B

Stopping Sight Distance Calculator

Formula for calculating SSD (from Manual for Streets 2): $SSD = vt + v^2/2(d+0.1a)$

v = Speed of vehicle (m/s)

d = deceleration rate (m/s)

t = driver perception-reaction time (seconds)

a = longitudinal gradient (%)

Fill in the white boxes only

Enter the vehicle 85%ile speed below

kph

11.361 m/s

v = m/s

t = taken from MfS2 table 10.1

d = Vehicle type

a = +ve for upgrades and -ve for downgrades

SSD =

m

SSD adjusted for bonnet

length (MfS only) =

m (SSD + 2.4m)

Conversions

mph

to kph

kph

to mph

Based on Table 10.1 MfS2

Design speed	Vehicle Type	Reaction Time t (s)	Deceleration rate d (m/s) (ie factor x 9.81)	Standard
60kph and below	Light vehicles only	1.5	0.450 g	MfS2
	Buses and/or HGV's greater than 5% of the traffic	1.5	0.375 g	MfS2
Above 60kph	All vehicles (≤64kph)	2	0.375 g (Absolute minimum)	CD 109
	All vehicles (>64kph)	2	0.250 g (Desirable minimum)	CD 109

NOTE: The adjustment for the bonnet length is only required on the MfS SSD as the MfS formula is calculated from drivers eye. To avoid a collision, the bonnet length must be added.

Appendix B

Stopping Sight Distance Calculator

Formula for calculating SSD (from Manual for Streets 2): $SSD = vt + v^2/2(d+0.1a)$

v = Speed of vehicle (m/s)

d = deceleration rate (m/s)

t = driver perception-reaction time (seconds)

a = longitudinal gradient (%)

Fill in the white boxes only

Enter the vehicle 85%ile speed below

kph

11.139 m/s

v = m/s

t = taken from MfS2 table 10.1

d = Vehicle type

a = +ve for upgrades and -ve for downgrades

SSD =

m

SSD adjusted for bonnet

length (MfS only) =

m (SSD + 2.4m)

Conversions

mph

to kph

kph

to mph

Based on Table 10.1 MfS2

Design speed	Vehicle Type	Reaction Time t (s)	Deceleration rate d (m/s) (ie factor x 9.81)	Standard
60kph and below	Light vehicles only	1.5	0.450 g	MfS2
	Buses and/or HGV's greater than 5% of the traffic	1.5	0.375 g	MfS2
Above 60kph	All vehicles (≤64kph)	2	0.375 g (Absolute minimum)	CD 109
	All vehicles (>64kph)	2	0.250 g (Desirable minimum)	CD 109

NOTE: The adjustment for the bonnet length is only required on the MfS SSD as the MfS formula is calculated from drivers eye. To avoid a collision, the bonnet length must be added.

APPENDIX 9 TRICS OUTPUT REPORT

Appendix B

Calculation Reference: AUDIT-728001-220913-0946

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
	KC KENT	2 days
03	SOUTH WEST	
	DV DEVON	3 days
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days
09	NORTH	
	DH DURHAM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
 Actual Range: 10 to 363 (units:)
 Range Selected by User: 6 to 4334 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 23/11/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	2 days
Tuesday	2 days
Wednesday	4 days
Thursday	4 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre) 13

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Appendix B

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Appendix B

LIST OF SITES relevant to selection parameters

1	CA-03-A-05 EASTFIELD ROAD PETERBOROUGH	DETACHED HOUSES		CAMBRI DGESHI RE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 28 <i>Survey date: MONDAY 17/10/16</i>			
2	CH-03-A-11 LONDON ROAD NORTHWICH LEFTWICH	TOWN HOUSES		CHESHI RE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 24 <i>Survey date: THURSDAY 06/06/19</i>			
3	DH-03-A-01 GREENFIELDS ROAD BISHOP AUCKLAND	SEMI DETACHED		DURHAM
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 50 <i>Survey date: TUESDAY 28/03/17</i>			
4	DV-03-A-01 BRONSHILL ROAD TORQUAY	TERRACED HOUSES		DEVON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 37 <i>Survey date: WEDNESDAY 30/09/15</i>			
5	DV-03-A-02 MILLHEAD ROAD HONITON	HOUSES & BUNGALOWS		DEVON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 116 <i>Survey date: FRIDAY 25/09/15</i>			
6	DV-03-A-03 LOWER BRAND LANE HONITON	TERRACED & SEMI DETACHED		DEVON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 70 <i>Survey date: MONDAY 28/09/15</i>			
7	HC-03-A-23 CANADA WAY LIPHOOK	HOUSES & FLATS		HAMPSHI RE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 62 <i>Survey date: TUESDAY 19/11/19</i>			

Appendix B

LIST OF SITES relevant to selection parameters (Cont.)

8	KC-03-A-03 HYTHE ROAD ASHFORD WILLESBOROUGH Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 51 <i>Survey date: THURSDAY 14/07/16</i>	MIXED HOUSES & FLATS	KENT	<i>Survey Type: MANUAL</i>
9	KC-03-A-06 MARGATE ROAD HERNE BAY Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 363 <i>Survey date: WEDNESDAY 27/09/17</i>	MIXED HOUSES & FLATS	KENT	<i>Survey Type: MANUAL</i>
10	NY-03-A-13 CATTERICK ROAD CATTERICK GARRISON OLD HOSPITAL COMPOUND Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 10 <i>Survey date: WEDNESDAY 10/05/17</i>	TERRACED HOUSES	NORTH YORKSHIRE	<i>Survey Type: MANUAL</i>
11	SF-03-A-09 FOXHALL ROAD IPSWICH Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 179 <i>Survey date: THURSDAY 24/06/21</i>	MIXED HOUSES & FLATS	SUFFOLK	<i>Survey Type: MANUAL</i>
12	WK-03-A-03 BRESE AVENUE WARWICK GUYS CLIFFE Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 23 <i>Survey date: WEDNESDAY 25/09/19</i>	DETACHED HOUSES	WARWICKSHIRE	<i>Survey Type: MANUAL</i>
13	WL-03-A-02 HEADLANDS GROVE SWINDON Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 27 <i>Survey date: THURSDAY 22/09/16</i>	SEMI DETACHED	WILTSHIRE	<i>Survey Type: MANUAL</i>

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Appendix B

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	80	0.077	13	80	0.292	13	80	0.369
08:00 - 09:00	13	80	0.117	13	80	0.385	13	80	0.502
09:00 - 10:00	13	80	0.151	13	80	0.161	13	80	0.312
10:00 - 11:00	13	80	0.137	13	80	0.192	13	80	0.329
11:00 - 12:00	13	80	0.151	13	80	0.138	13	80	0.289
12:00 - 13:00	13	80	0.181	13	80	0.170	13	80	0.351
13:00 - 14:00	13	80	0.184	13	80	0.178	13	80	0.362
14:00 - 15:00	13	80	0.156	13	80	0.195	13	80	0.351
15:00 - 16:00	13	80	0.268	13	80	0.177	13	80	0.445
16:00 - 17:00	13	80	0.312	13	80	0.183	13	80	0.495
17:00 - 18:00	13	80	0.379	13	80	0.206	13	80	0.585
18:00 - 19:00	13	80	0.286	13	80	0.196	13	80	0.482
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.399			2.473			4.872

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	10 - 363 (units:)
Survey date range:	01/01/14 - 23/11/21
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	5
Surveys manually removed from selection:	0

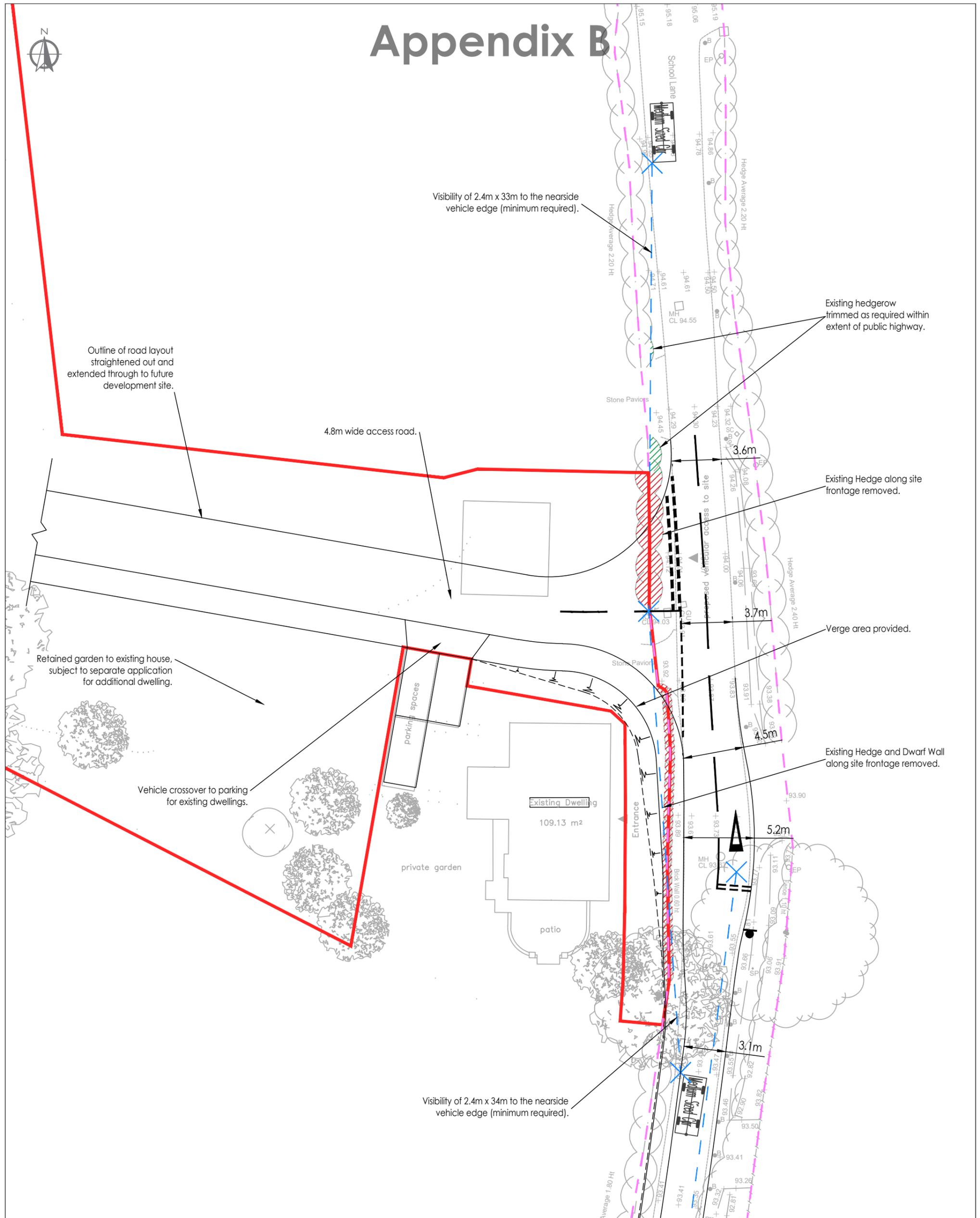
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix B



APPENDIX 10 DRAWINGS

Appendix B



NOTES

This drawing has been prepared for the purpose of planning discussions and does not constitute a detailed design drawing, or construction drawing. A Design Hazard Inventory has been prepared by RGP setting out the hazards which have been designed out. This is available upon request.

- Site boundary
- - - - - Highway boundary
- x - - - - - x Visibility splays

RGP

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 1-2 Paris Garden, London, SE1 8ND
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RESIDUAL HAZARDS

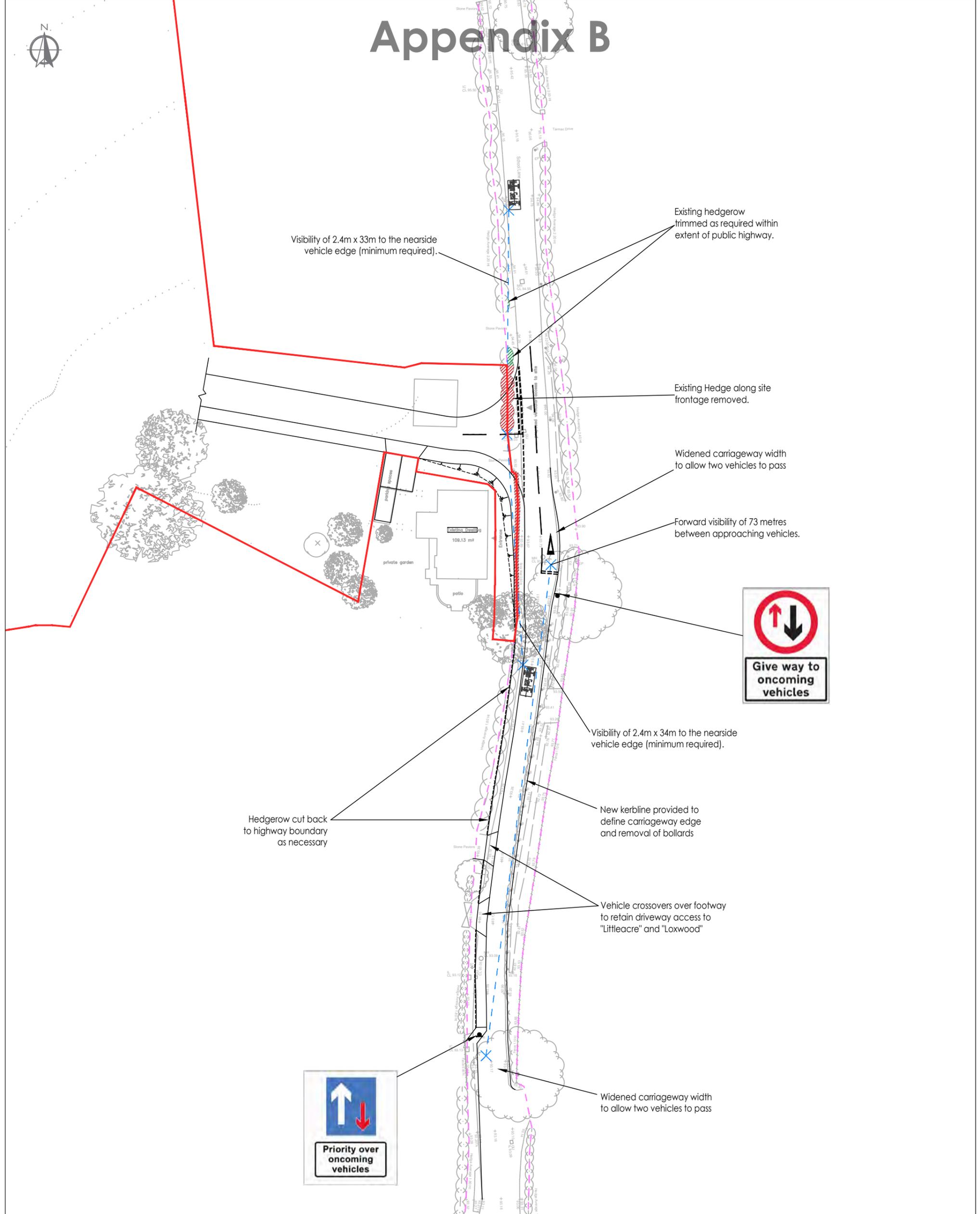
In addition to the hazards/risks normally associated with the type of work detailed on this drawing, please note the following residual hazards:

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement.

Rev.	Drawn	Comments	Date
P2	GE	SITE BOUNDARY AND VERGE AREA UPDATED	14/10/22
P1	GE	FIRST ISSUE	14/09/22

Client	Camping Property		
Project	Land at Hole Lane and School Lane, Bentley		
Drawing Title	Access Arrangement and Visibility Splays		
Drawing No.	2022/6673/001	Rev.	P2
Scale	1:250	Drawn By	GE
		Checked By	CB
			A3

Appendix B



NOTES

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- Site boundary
- - - - - Highway boundary
- X - - - - - X Visibility splays

RGP

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RESIDUAL HAZARDS

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, please note the following residual hazards:

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement.

Rev.	Drawn	Comments	Date
P2	GE	SITE BOUNDARY AND VERGE AREA UPDATED	14/10/22
P1	GE	FIRST ISSUE	14/09/22

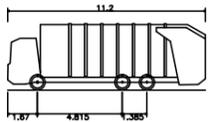
Client	Camping Property		
Project	Land at Hole Lane and School Lane, Bentley		
Drawing Title	Access Arrangement and Visibility Splays		
Drawing No.	2022/6673/001	Rev.	P2
Scale	1:500	Drawn By	GE
		Checked By	CB
			A3

Appendix B



NOTES

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Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
 Overall Length 11.200m
 Overall Width 2.530m
 Overall Body Height 3.751m
 Min Body Ground Clearance 0.304m
 Track Width 2.500m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 9.500m

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It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement.

Rev.	Drawn	Comments	Date
P3	GE	SITE LAYOUT AND SWEEP PATHS UPDATED	14/10/22
P2	GE	SITE LAYOUT AND SWEEP PATHS UPDATED	13/09/22
P1	GE	FIRST ISSUE	25/08/22



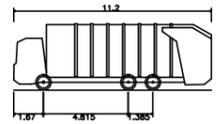
Client	Camping Property		
Project	Land at Hole Lane and School Lane, Bentley		
Drawing Title	Swept Path Analysis Refuse Vehicle (Access)		
Drawing No.	2022/6673/003	Rev.	P3
Scale	1:500	Drawn By	GE
		Checked By	CB
			A3

Appendix B



NOTES

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Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
 Overall Length 11.200m
 Overall Width 2.530m
 Overall Body Height 3.751m
 Min Body Ground Clearance 0.504m
 Track Width 2.500m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 9.500m

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RESIDUAL HAZARDS

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, please note the following residual hazards:

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement.

Rev.	Drawn	Comments	Date
P3	GE	SITE LAYOUT AND SWEEP PATHS UPDATED	14/10/22
P2	GE	SITE LAYOUT AND SWEEP PATHS UPDATED	13/09/22
P1	GE	FIRST ISSUE	25/08/22



Client	Camping Property		
Project	Land at Hole Lane and School Lane, Bentley		
Drawing Title	Swept Path Analysis Refuse Vehicle (Egress)		
Drawing No.	2022/6673/004	Rev.	P3
Scale	1:500	Drawn By	GE
		Checked By	CB
			A3

Appendix B



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Appendix B

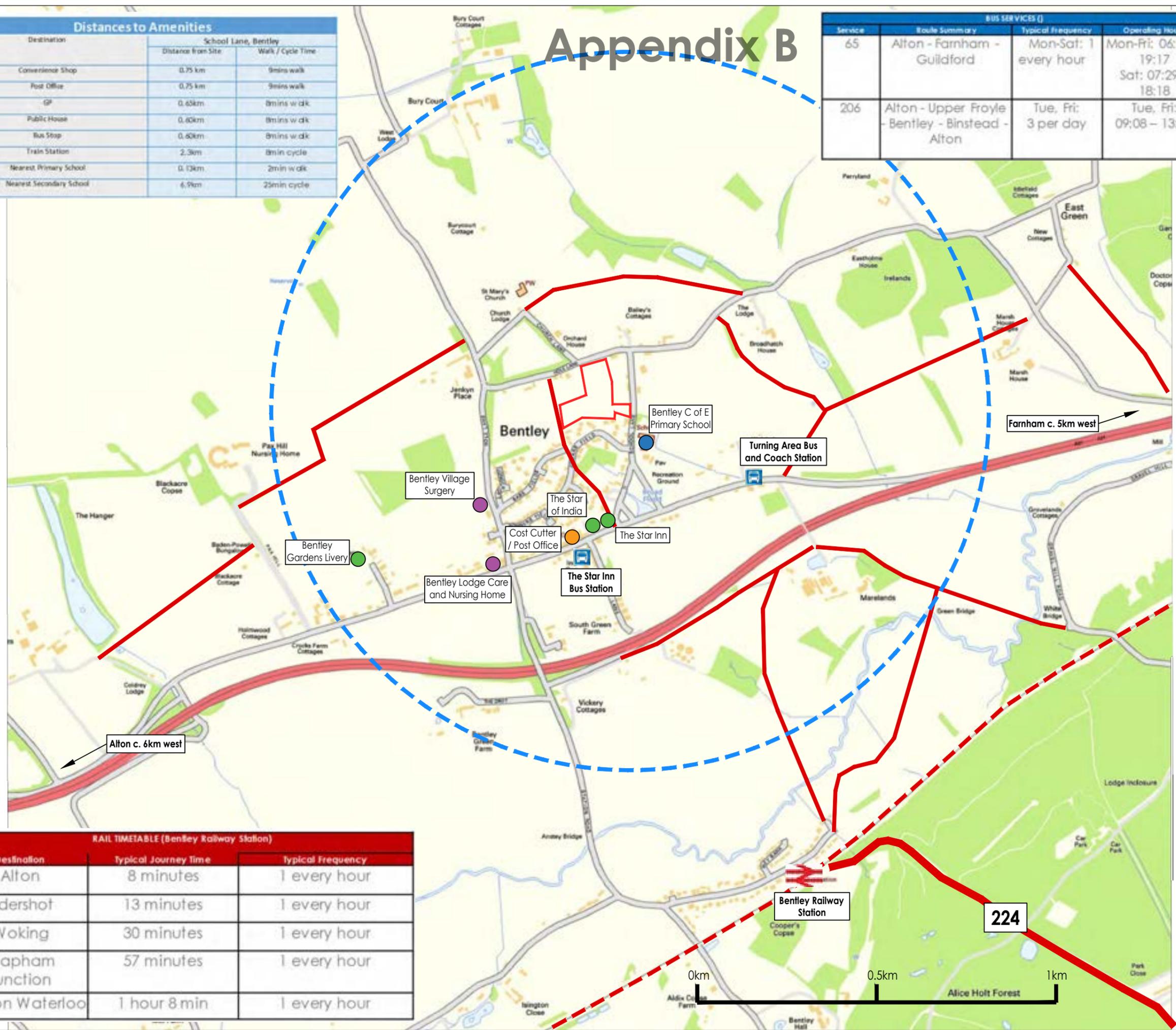
Distances to Amenities

Destination	School Lane, Bentley	
	Distance from Site	Walk / Cycle Time
Convenience Shop	0.75 km	9mins walk
Post Office	0.75 km	9mins walk
GP	0.65km	8mins w/dk
Public House	0.60km	8mins w/dk
Bus Stop	0.60km	8mins w/dk
Train Station	2.3km	8min cycle
Nearest Primary School	0.13km	2min w/dk
Nearest Secondary School	6.9km	25min cycle

BUS SERVICES (1)			
Service	Route Summary	Typical Frequency	Operating Hours
65	Alton - Farnham - Guildford	Mon-Sat: 1 every hour	Mon-Fri: 06:16 - 19:17 Sat: 07:29 - 18:18
206	Alton - Upper Froyle - Bentley - Binstead - Alton	Tue, Fri: 3 per day	Tue, Fri: 09:08 - 13:08

LEGEND

- SITE LOCATION
- RAIL STATION
- RAILWAY
- BUS STOPS
- PEDESTRIAN ROUTES
- NATIONAL CYCLE ROUTE
- 1KM ISOCHRONE
- RETAIL
- EDUCATION
- LEISURE
- HEALTH CARE



Alton c. 6km west

224

RAIL TIMETABLE (Bentley Railway Station)		
Destination	Typical Journey Time	Typical Frequency
Alton	8 minutes	1 every hour
Aldershot	13 minutes	1 every hour
Woking	30 minutes	1 every hour
Clapham Junction	57 minutes	1 every hour
London Waterloo	1 hour 8 min	1 every hour



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Client	Camping Property
Project	School Lane, Bentley
Drawing Title	Site Location & Accessibility Plan
Drawing No.	Plan 01
Scale	1:10000 @ A3
Drawn By	GE
Checked By	CB
Rev.	A
	A3

Appendix B

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rev.	date	changes description	Status	issued by
P02	21/12/2022	Planning issue	S4	AD
P01	21/11/2022		S4	KM



RE-FORM AT

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project title
School Lane, Bentley

document title
Masterplan with Visibility Splays

date created: Nov 2022 | drawn by: KM | checked by: NA | approved by: NA

scale at A1: 1:500 | 0 5 10 20 25m | N

project: P22049 - RFT - 00 - 00 - DR - A - 0102

status: S4 | suitability description: Suitable for Stage Approvale | revision: P02

Appendix B

HOLE LANE, BENTLEY

**Landscape and Visual Appraisal for a Potential
Residential Development**

Prepared for: Camping Property Limited

SLR Ref: 403.064414.00001
Version No: 1
September 2022



BASIS OF REPORT

This document has been prepared by SLR Consulting Limited with reasonable skill, care and diligence, and taking account of the manpower, timescales and resources devoted to it by agreement with Camping Property Limited (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

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CONTENTS.....

1.0	INTRODUCTION	4
1.1	Methodology.....	4
1.2	Study Area.....	4
2.0	PLANNING CONTEXT.....	5
2.1	National Policy: the National Planning Policy Framework (NPPF)	5
2.2	Designations.....	5
2.3	The Development Plan.....	6
2.3.1	Joint Core Strategy (2014).....	6
2.3.2	Housing and Employment Allocations (2016).....	6
2.3.3	Local Plan Second Review (2006)	7
2.3.4	Draft local plan 2017-2036 (regulation 18).....	7
2.3.5	Bentley Neighbourhood Plan 2015-2028 (February 2016).....	7
2.4	Supplementary planning documents	8
2.5	Planning History	8
2.6	Summary of Planning Context.....	8
3.0	ASPECTS OF THE DEVELOPMENT WHICH HAVE THE POTENTIAL TO CAUSE LANDSCAPE AND VISUAL EFFECTS.....	9
3.1	Location	9
3.2	Height and Density.....	9
3.3	Loss of Landscape Elements.....	9
3.4	Proposed Mitigation	9
4.0	LANDSCAPE BASELINE.....	11
4.1	Introduction	11
4.2	Existing Landscape Character Assessments	11
4.2.1	National Landscape Character	11
4.2.2	County and District Landscape Character	11
4.3	The Landscape of the Site and its Context	15
4.3.1	Individual Elements and Features.....	15
4.3.2	Aesthetic and Perceptual Aspects	15
4.3.3	Overall Character.....	16
4.3.4	The Changing Landscape.....	16
4.4	Summary of Landscape Receptors.....	16

4.5	Sensitivity of Landscape Receptors	17
4.5.1	Value of the Landscape	17
4.5.2	Susceptibility of Landscape	17
4.5.3	Sensitivity of Landscape	18
4.6	Potential Magnitude of Landscape Change	18
4.6.1	Size and Scale of Change for Landscape Receptors.....	18
4.6.2	Geographical Extent of Change for Landscape Receptors	19
4.6.3	Duration/Reversibility of Change for Landscape Receptors.....	19
4.6.4	Potential Magnitude of Change for Landscape Receptors.....	19
4.7	Assessment of Landscape Effects	19
5.0	POTENTIAL VISUAL EFFECTS.....	21
5.1	Introduction	21
5.2	Overall Visibility.....	21
5.3	Potential Visual Receptors	21
5.4	Assessment of Sensitivity of Visual Receptors, and the Magnitude of Change, at each Viewpoint	21
5.5	Assessment of Visual Effects.....	21
5.5.1	Residential Receptors.....	22
5.5.2	Walkers/Pedestrians	23
5.5.3	Visitors to the South Downs National Park	23
5.5.4	Vehicle Users	24
5.6	Summary of Visual Effects.....	24
6.0	SUMMARY AND CONCLUSIONS.....	25
APPENDIX A	27
	Introduction	28
	Landscape Effects	29
	Landscape Sensitivity.....	29
	Magnitude of Landscape Change	32
	Assessment of Landscape Effects and Significance	34
	Visual Effects.....	36
	Visual Sensitivity	36
	Magnitude of Visual Change	38
	Assessment of Visual Effect and Significance.....	41
APPENDIX B.....		42
APPENDIX C.....		50

DRAWINGS.....60

DRAWINGS

B-01:	Landscape Designation Plan
B-02A/B/C:	Landscape Character Plan
B-03:	Viewpoint Plan
B-04 – B-020:	Viewpoint Sheets

1.0 INTRODUCTION

SLR Consulting Ltd (SLR) was instructed by Camping Property Limited (the Client) to undertake a Landscape and Visual Appraisal (LVA) for an Outline application for up to 34 new homes on land at Hole Lane, Bentley.

Landscape, as defined in the European Landscape Convention, is “*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*”, (Council of Europe, 2000). Landscape does not apply only to special or designated places, nor is it limited to countryside. Visual effects are the effects of change and development on the views available to people and their visual amenity. Visual receptors are the people whose views may be affected by the proposed development.

The findings of this assessment have been based upon a framework plan prepared by Re-Format (drawing ref: 22049_SL002 Rev B). SLR commented on this as it evolved and helped to shape the layout.

The main objectives of this report are to identify potential landscape and visual effects, and to advise on the overall design of the development and any mitigation measures.

1.1 Methodology

This assessment has been carried out by experienced Chartered Landscape Architects in accordance with the Guidelines for Landscape and Visual Impact Assessment (3rd Edition, 2013, also known as GLVIA3, produced by the Landscape Institute and Institute of Environmental Management and Assessment), and also Landscape Institute Technical Guidance Note 02/21 “*Assessing Landscape Value Outside National Designations*”. A full method statement is included at Appendix A. Judgements have been discussed and agreed with other experienced Landscape Architects in accordance with best practice.

The assessment is based upon a desk top assessment of relevant plans, guidance and character assessments, as well as a thorough site assessments carried out in August 2022.

It is important to note that it is best practice in landscape and visual appraisal to conclude that the introduction of built form to a green field site will result in negative landscape and visual effects. However, notwithstanding this, it is possible that good design of the proposed building and landscaping could still create successful places with attractive scenic qualities. It is therefore important to consider placemaking and design alongside the conclusions of the LVA.

1.2 Study Area

The study area is defined on Drawing B-01. This was defined initially by desk top analysis of plans and aerial photographs and was then further refined by site assessment.

This does not imply that all this area is likely to experience landscape and visual effects as a result of the proposed development, but instead shows the wider context for the site that has been considered when identifying the potential for landscape and visual effects.

2.0 PLANNING CONTEXT

2.1 National Policy: the National Planning Policy Framework (NPPF)

Paragraph 10 states that there is a *“presumption in favour of sustainable development”*.

Paragraph 126 also states that *“the creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve”*.

Paragraph 130 states that developments should (at point b) be *“visually attractive as a result of good architecture, layout and appropriate and effective landscaping”* and at (c), be *“sympathetic to local character and history, including the surrounding built environment and landscape setting”*, whilst also at (d) *“establish or maintain a strong sense of place”*.

Paragraph 131 states that *“Trees make an important contribution to the character and quality of urban environments”* and notes that *“Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible”*.

Paragraph 174 states that *“planning policies and decisions should contribute to and enhance the natural and local environment by (a) protecting and enhancing valued landscapes...”* and *“(b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services”*.

Paragraph 175 states that plans should *“distinguish between the hierarchy of international, national and locally designated sites”*, and paragraph 176 states that *“great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty”* and notes that *“development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas”*.

2.2 Designations

The site is not within any national designations for valued landscapes, such as AONBs or National Parks. However, the South Downs National Park is located within 1.4km of the southern boundary of the site.

Other landscape-related designations near to the site are summarised below and illustrated on Figure B-01:

- The South Downs National Park (SDNP) is approximately 1.4km to the south of the site;
- The Bentley Conservation Area (and associated Listed Buildings) is located approximately 120m to the south of the site;
- The closest Listed buildings (Grade II Listed) are located at a distance of approximately 20m and 80m to the north-west of the site (Jenkyn Place and its boundary wall fronting Hole Lane). St Mary’s Church, at a distance of approximately 250m to the north of the site, is a Grade II* listed building, and several tombstones in the churchyard are Grade II listed;
- The closest scheduled monument is located approximately 1.5km to the north;
- There are a number of areas of Ancient Woodland within the vicinity of the site, the closest being located approximately ; and
- Footpath 30 (017/30/2) extends along the western boundary of the site. St Swithun’s Way Long Distance Route extends along the northern boundary of the site. Footpath 25 (017/25/1) extends along Hole Lane

to the west of the site at a distance of approximately 190m. Footpath 8 (017/8/2) extends north-south from the northern end of Church Lane, to the north of the site, at a distance of approximately 210m. Footpath 10 (017/10/1) extends, parallel to School Lane, to the west of the site at a distance of approximately 140m.

2.3 The Development Plan

The Development Plan for East Hampshire District Council (EHDC) includes the Joint Core Strategy (2014), Housing and Employment Allocations (2016), the Local Plan Second Review (2006), and the Bentley Neighbourhood Plan 2015-2028 (February 2016).

These documents will be replaced by the emerging plan (apart from the Neighbourhood Plan), which will apply to areas of East Hampshire outside of the boundaries of the South Downs National Park, once adopted. Regulation 18 consultation took place in February and September 2019. The publication of a Submission Draft Local Plan (Regulation 19) is planned for November 2022.

In the Local Plan the site is outside settlement boundary and not allocated for development. This is unchanged in the current version of the emerging Local Plan.

2.3.1 Joint Core Strategy (2014)

Policy CP20: Landscape states that *“The special characteristics of the district’s natural environment will be conserved and enhanced. New development will be required to:*

- a. *conserve and enhance the natural beauty, tranquillity, wildlife and cultural heritage of the South Downs National Park and its setting, and promote the opportunities for the understanding and enjoyment of its special qualities, and be in accordance with the ambitions within the emerging South Downs Management Plan;*
- b. *protect and enhance local distinctiveness sense of place and tranquillity by applying the principles set out in the district’s Landscape Character Assessments, including the Community/Parish Landscape Character Assessments;*
- c. *protect and enhance settlements in the wider landscape, land at the urban edge and green corridors extending into settlements;*
- d. *protect and enhance natural and historic features which contribute to the distinctive character of the district’s landscape, such as trees, woodlands, hedgerows, soils, rivers, river corridors, ditches, ponds, ancient sunken lanes, ancient tracks, rural buildings and open areas;*
- e. *incorporate appropriate new planting to enhance the landscape setting of the new development which uses local materials, native species and enhances biodiversity;*
- f. *maintain, manage and enhance the green infrastructure networks”.*

Policy CP28: Green Infrastructure states that *“Development will be permitted provided that it maintains, manages and enhances the network of new and existing green infrastructure”.*

Policy CP29: Design states that *“The District’s built environment must be of an exemplary standard and highly appealing in terms of visual appearance. All new development will be required to respect the character, identity and context of the district’s towns, villages and countryside and must help to create places where people want to live, work and visit”.*

2.3.2 Housing and Employment Allocations (2016)

There are no policies of relevance to this assessment, rather this document focuses on sites allocated for housing or employment.

2.3.3 Local Plan Second Review (2006)

This document comprises policies which remain from the Local Plan: Second review. Up to date policies of relevance to this assessment are included in the Joint Core Strategy (2014) as outlined above.

2.3.4 Draft local plan 2017-2036 (regulation 18)

The following emerging policies are of relevance to this assessment:

Policy DM5: Amenity states that *“Development will not be permitted that:*

- g. has an unacceptable adverse impact on the amenity of nearby uses and residents during construction and after completion; or*
- h. does not provide acceptable standards of amenity for future users and occupiers of the development;*

Regard must be had to the following considerations:

- a. privacy;*
- b. outlook;*
- c. overbearing”.*

Policy S17: Development in the countryside states that *“The countryside will be protected for its landscape, natural resources and ecological value as well as its intrinsic character and beauty”* and *“The individual identity of settlements and the integrity of predominantly open and undeveloped land between settlements will not be undermined”.*

Policy S18: Landscape states that *“Development proposals must conserve and wherever possible enhance the special characteristics, value and visual amenity of the Area’s landscapes”* and *“Development proposals will be supported where there will be no adverse impact to:*

- a. the qualities and principles identified within the relevant landscape character assessments, capacity study³⁴ and relevant guidance;*
- b. the visual amenity and scenic quality of the landscape;*
- c. Important local, natural and historic landscapes and features; and*
- d. the setting of the South Downs National Park.”*

Policy S23: Green infrastructure states that *“Development will be supported provided that: a. it protects and enhances the integrity, quality, connectivity and multi-functionality of the existing green infrastructure network and individual sites”.*

Policy S27: Design and local character states that *“New development will be permitted where it would help to establish a strong sense of place, by reinforcing or enhancing local character, and would function well with its surroundings”* and references qualities such as *“landscape setting”, “siting, scale, height, massing, roof design and density”,* and would *“take particular account of the setting and context of the South Downs National Park, and its special qualities, where relevant”.*

2.3.5 Bentley Neighbourhood Plan 2015-2028 (February 2016)

The Bentley Neighbourhood Plan was 'made' (adopted) in February 2016 and it notes that this was one of the first Neighbourhood Development Plans prepared in England after the 2011 Localism Act. The plan now forms part of the statutory development plan for the area and will be used to help determine planning applications within the parishes. Policies 1 and 2 are of most relevance to this assessment:

Policy 1: Spatial Plan identifies the settlement boundary for Bentley (BSB) and states that *“Development proposals within the BSB will be permitted provided it complies with the provisions relevant policies”.* It notes that *“The effect of the policy is to confine housing and other development proposals to within the BSB, unless they*

are appropriate to a countryside location”.

Policy 2: Design and Development Principles seeks to require the design of new development to reflect the local character of Bentley and *“especially of the significance of its designated heritage assets i.e. the Conservation Area and listed buildings”.*

2.4 Supplementary planning documents

As part of the evidence base for the emerging Local Plan, various studies have been commissioned by EHDC, including a ‘Neighbourhood Character Study’ and a ‘Landscape Capacity Study’. Relevant details of these are described in Section 4.2 below.

2.5 Planning History

The western part of the site was the subject of an outline application for 15 dwellings, reference 55711/001, which was refused on 27th February 2015. Reason for Refusal 1 related to the location of the site outside the Settlement Policy Boundary for Bentley and noted that the application was *“not supported by any justification to demonstrate that there [was] a genuine and proven need for a countryside location for the proposed housing”.* The application was taken to appeal, reference APP/M1710/W/15/3008871, which was dismissed on 4th August 2015.

The site and a field to the west were subject to an outline application for 93 dwellings, reference 55711/001, which was refused on 12 November 2020. The Reasons for Refusal related to landscape were as follows:

“The proposal, by virtue of the extent and scale of urban development encroaching onto open countryside, would represent a substantial change in the appearance and intensity in the use of the land. This would result in a development failing to respect the low key tranquil nature of the rural area and the landscape character objectives for the Northern Wey Valley. As a result, there would be a significantly adverse effect on the character and appearance of the site which would fail to conserve the rural character of the local area and the amenity of users of the public footpath across the site”.

2.6 Summary of Planning Context

The site is not within any national landscape or landscape-related designation but is approximately 1.4km to the north of the SDNP. A Footpath 30 extends along the western boundary of the site and St Swithun’s Way Long Distance Route extends along the northern boundary of the site.

There have been two previous outline applications (and an appeal) for housing on the site, both of which have been refused on the grounds of the *“extent and scale of urban development encroaching onto open countryside”* which would *“represent a substantial change in the appearance and intensity in the use of the land”* and fail to *“respect the low key tranquil nature of the rural area and the landscape character objectives for the Northern Wey Valley”* as well as *“the amenity of users of the public footpath”* (Footpath 30).

3.0 Aspects of the Development Which Have the Potential to Cause Landscape and Visual Effects

The following attributes of both the site and the proposed development are those which are the most likely to result in landscape and visual effects.

3.1 Location

The application site occupies approximately 2.012ha pastoral field set within an area of low-density housing.

The site is not designated for landscape or landscape-related reasons but it is within approximately 1.4km of the SDNP and Footpaths extend along part of its western and its northern boundary (Footpaths 30 and St Swithun's Long Distance Route). Unlike the previous, refused, application there is no public access to the site with the field to the west of Footpath 30 left as an open paddock.

3.2 Height and Density

Dwellings would be 2 storey. The net density of development would be approximately 19.2 dwellings per hectare, with a gross density of 14.9 dwellings per hectare. The proposed development is reduced in extent, scale and density when compared to the previous, refused, application

3.3 Loss of Landscape Elements

The development of the site for new homes would require the loss of a single pastoral field. Existing vegetation, which is all along the boundaries of the site, could be retained aside from a short length of hedgerow along a back garden which would be removed to enable access from School Lane. The level of retained vegetation is greater than the previous, refused, application to reduce the level of effect on the character and appearance of the site and to conserve the rural character of the local area.

3.4 Proposed Mitigation

The masterplan incorporates the following elements in order to respect local character and protect views:

- Development has been set back from Hole Lane, and St Swithun's Long Distance Route which extends along the lane, by a distance of approximately 30.6m, to minimise potential visual effects. An area of open space with scattered tree planting has been proposed at this northern end of the site to maintain the character of views across open grassland. The area of open space forms a softer, green edge to the settlement in line with the Bentley Plan and which conserves the rural character of the local area;
- Proposed new homes have been set back behind wide verges, which extend north to south from the area of open space adjacent to Hole Lane and, which connect through to a second area of open space at the south-eastern corner of the site. The second area of open space forms a village green with trees and SuDS along the access road. These measures ensure that the appearance and intensity of use of the land is reduced in comparison to the previous, refused application and help to conserve the rural character;
- The access has been taken from School Lane to minimise potential effects Hole Lane and the Listed wall as well as potential effects on walkers along St Swithun's Long Distance Route;
- New tree planting has been proposed along the east-west and north-south axis to break up and filter proposed built form;

- Proposed new homes have laid out in a meandering pattern to reflect the character of existing development within surrounding streets rather than as a denser, linear pattern; and
- Mixed native shrub planting has been proposed along the western boundary of the site adjacent to Footpath 30 to reduce potential visual effects on walkers along this route. and preserve their amenity. A connection has been proposed from the site onto the Footpath.

4.0 Landscape Baseline

4.1 Introduction

The following landscape assessment is based upon both a desk top assessment of existing character assessments and plans as well as a site-based survey. In accordance with GLVIA3 the main landscape receptors, (individual landscape elements, aesthetic characteristics, overall character), which have the potential to be affected by the proposed development have been identified and their sensitivity to the proposed development has been assessed by considering their value and susceptibility. The magnitude of change which would be experienced by each of these receptors has then been assessed by determining the size and scale of change, the geographical extent of that change, and the duration and reversibility of that change.

By combining the sensitivity of receptors and the magnitude of effect the potential for significant landscape effects has been assessed.

Detailed aspects of the landscape impact assessment are included in Appendix C, but the key themes and overall results are explained within this section of the report.

4.2 Existing Landscape Character Assessments

There is a nested series of existing character assessments which provide a useful context to the character of the site. Drawings B-02a to B-02c illustrate the boundaries of landscape character areas, but further details of each are set out below.

4.2.1 National Landscape Character

At a national scale the site is included at the southern edge of Natural England's Natural Character Area (NCA) 130: Hampshire Downs (2014). The key characteristics of NCA 130, of relevance to the application site, include the following:

- *"The rolling, elevated, chalk arable downland has an open, exposed character that provides open skies and long-distance views.*
- *Elevated plateaux and upper valley slopes are characterised by extensive open tracts of large, low-hedged fields with thin chalky soils, shelterbelts, and ancient semi-natural woodland blocks on clay-withflint caps on some of the steeper slopes.*
- *In contrast, within the sheltered valleys and to the east of the area, the network of hedgerows, interspersed by numerous areas of oak/ash or hazel woodland coppice and smaller meadow fields, gives a strong sense of enclosure.*
- *The rivers and streams of the Test and Itchen catchments are internationally significant, and distinctive chalk rivers, running in deep valleys, cut into the Chalk.*
- *The settlement pattern varies between the relatively dense strings of villages along the lower river valleys and the very low-density, nucleated settlements in the upper reaches of the rivers and on the Downs."*

4.2.2 County and District Landscape Character

Hampshire County Integrated Character Assessment (HCICA) (2012)

At a County scale the site is identified within HCICA (2012) as part of landscape character area (LCA) 3f Wey Valley within landscape character type (LCT) Greensand Terrace.

Key characteristics of LCA 3f Wey Valley of relevance to the proposed development include:

- *“Broad valley with smooth undulating valley sides through which the River Wey flows.*
- *Distinct flat valley floor with permanent pasture, wet woodland, water meadows and open water.*
- *Woodland in the upper valley slopes form wooded skylines in places.*
- *Valley is and has historically been an important routeway and transport corridor containing the A31 and main rail line.*
- *St Swithun’s Way long distance route, part of the Pilgrim’s way which connected Winchester with the North Downs.*
- *Nucleated settlement pattern of a string of villages on the gravel terrace on the north side of the valley floor less development on the slightly steeper southern valley side”.*

The assessment also notes that *“The villages of Bentley and Upper Froyle have churches which provide a focus and are key features in views from the valley floor”.*

Key characteristics of LCT Greensand Terrace or relevance to the proposed development include:

- *“A distinct terrace formed from the Upper greensand - an indistinct dip slope of the escarpment.*
- *Dominated by large regular formal field pattern where the terrace is widest and easily accessible from adjoining chalk and gault clay based landscapes – early informal enclosures and assarts where the terrace is narrow and less accessible.*
- *Frequently a sense of enclosure induced from the adjoining hangers and steep topography.*
- *Distinctive traditional building material distribution of cream stone known as malmstone or clunch. Small springline settlements located on the boundary with the chalk scarp and dammed streams which form mill ponds.*
- *Generally undeveloped rural farmed landscapes with high degree of tranquillity and visually isolated from surrounding larger settlements and busier main and trunk roads”.*

The assessment also notes in relation to the Prominency of the landscape that *“Low lying with high proportion of woodland cover makes this LCT of low visibility from within the type. However being lower than much of the surrounding land, the adjoining fringes are often very visible from external vantage points”* and in relation to Enclosure that *“Views and horizon distances shortened by presence of woodland and thick hedgerows”.*

East Hampshire Landscape Character Assessment (EHLCA) (2006)

At a district scale the site is identified within EHLCA (2006) as part of LCA 4b Northern Wey Valley within LCT 4: Chalk Valley Systems.

Key characteristics of the LCT 4: Chalk Valley Systems of relevance to this assessment include:

- *“Broad, branching valleys carved from the chalk downs and indented by dry valleys and coombes to produce smoothly rounded valley sides.*
- *On the valley sides the chalk soils support intensive arable cultivation on shallower slopes, with pasture, calcareous grassland, scrub and woodland on steeper slopes.*
- *Lower valley floors contain clear, chalk rivers that flow within a flat, narrow floodplain characterised by permanent pasture, wet woodland, water meadows, and open water, all of which are of great ecological interest.*

- *Away from transport corridors the valleys retain an unspoilt and tranquil pastoral character”.*

Key characteristics of LCA 4b Northern Wey Valley include the following of relevance to this assessment:

- *“A broad valley, cutting through and enclosed by the Chalk, Upper Greensand and Gault Mudstone geology.*
- *The northern chalk valley sides are indented by short coombe valleys and form bold bluffs overlooking the valley. To the south the valley sides are more varied and include the wooded backdrop of Alice Holt, as well as the lower land of the Greensand Terrace.*
- *The valley floodplain is predominantly pastoral with arable cultivation on the valley sides.*
- *A string of nucleated settlements of medieval origin exist on the gravel terrace forming the lower valley slopes (e.g. Bentley, Holybourne and Upper Froyle). These are surrounded by a mix of early and recent field enclosures. The upper part of the valley is centered around the market town of Alton*
- *An important route way since prehistory formerly part of the Pilgrim’s Way linking Winchester to the North Downs; this route today, is represented by St. Swithun’s Way*
- *Main transport routes (A31 and railway) cut across the flat open valley floor, interrupting the otherwise tranquil character.”.*

The assessment notes that:

“The village of Bentley features in the radio programme ‘The Village’ which looks at the rural village and profiles its inhabitants. Lord Baden Powell lived in the village. The ‘Bentley Book’ which can be found on the Alton Road, was designed by Lord Baden Powell for the Daily Mail competition for village signs 1923”.

Neighbourhood Character Study for East Hampshire District Council, Final Report: Classification and Description (December 2018)

The Neighbourhood Character Study seeks to provide detailed landscape/townscape character studies of a number of study areas, identifying their key characteristics, pressures for change and their sensitivity to change.

The site is classified as part of Site Specific Character Area (SSCA) 8: Northern Bentley. The study identifies key characteristics which give Northern Bentley its ‘sense of place’ as follows:

- *“Strong village character amongst the older parts of the village;*
- *Plenty of public open space and good access to the countryside including St. Swithun’s Way and the SDNP to the south; and*
- *Historic houses and farmsteads scattered north of the area of interest add ‘time depth’ to the landscape setting”.*

It also identifies sensitivities:

- *“Some historic buildings unlisted/unprotected as outside Conservation Area, for example the school.*
- *Edge of settlement currently buffered/screened by vegetation.*
- *Countryside extends into study area between village and the northern section of Hole Lane, loss of rural village feel if all green /open space developed”.*

And broad policy objectives/ neighbourhood management considerations:

- *“Retain important vegetation/trees especially on the edge of the settlement and along PRoWs*
- *Protect views out to countryside beyond and retain gaps and pockets of greenspace.*

- *Avoid ‘urbanising’ highway treatments to existing rural lanes.*
- *New development should be orientated with front facades facing the road where possible, to avoid long stretches of blank rear/side wall/fences.*
- *Improvements or new links in footpath and cycling routes should be designed to be legible, signposted, well-connected and overlooked by surrounding residential properties, and connect the local residents to the facilities on and just behind main road, and to the Local Bentley Primary School and Playing Fields”.*

Landscape Capacity Study (EHDC, September 2018)

The Landscape Capacity Study was prepared by Terra Firma Consultancy Limited on behalf of EHDC to inform the evidence base for the emerging East Hampshire Local Plan. The Study assesses, at a strategic scale, the relative capacity of the landscape to accommodate housing development in the areas of the District, outside the South Downs National Park (SDNP), and outside of the established settlement boundaries, without causing significant and detrimental damage.

The site is classified as part of Local Area 4b.1: Alton to Bentley, north of A31 which is described as:

“a linear area stretching along the side of the Wey Valley from the eastern edge of Alton north-east to the district boundary. The A31 forms the southern edge, with the valley bottom beyond – local area 4b.2. The area is predominantly rural and unsettled with the historic villages of Bentley and the Froyles maintaining their distinct identities. The western edge of the local area wraps around and between eastern Alton and Holybourne and forms the lower slopes of the lower south-facing valley slope of the River Wey, with higher ground rising to the north”.

The capacity study notes that Local Area 4b.1 is *“in the setting of the SDNP as there is some limited intervisibility and potential for affecting perceptual character”.*

The study assesses the Local Area as having a Medium/High Landscape Character Sensitivity, a Medium/High Overall Landscape Sensitivity, a Medium Landscape Value and a resulting Medium/Low Landscape Capacity. It identifies a series of potential effects resulting from development those of relevance to the site are listed below:

- *“Impact on sensitive view receptors on St Swithun’s Way, in conservation areas and in setting of SDNP;*
- *Erosion of tranquillity;*
- *Loss of rural, predominantly unsettled character; and*
- *Loss or further erosion of historic settlement pattern of villages.”*

The study also suggests a number of potential mitigation measures. Those of relevance to the site are as follows:

- *“Retention of woodland and all good and moderate quality tree cover and locally distinctive boundary treatments and features;*
- *Retention of other vegetated areas where they contribute to landscape and biodiversity value;*
- *Restoring lost field boundaries and connecting woodland;*
- *Retaining legibility and setting of PROW network and creating additional links;*
- *Conserve rural character of lanes; and*
- *Maintain and, where appropriate, extend screening to existing intrusive features including pylons and raw settlement edges.”*

4.3 The Landscape of the Site and its Context

GLVIA3 recommends that a landscape character assessment should be carried out as part of the baseline study (paragraph 5.4). This should consider:

- The elements that make up the landscape (physical, land cover and the influence of human activity);
- Aesthetic and perceptual aspects; and
- The overall character of the area.

An assessment of the landscape baseline is set out in the following paragraphs.

4.3.1 Individual Elements and Features

The site is formed by a single L-shaped field currently used for grazing. It is bounded by post and rail and post and wire fencing along its northern boundary with some remnants of a hedgerow; by garden vegetation, including established tree and hedgerows, and fencing along its eastern, southern and part of its western boundaries (Hole Lane, School Lane, Longcroft, Babs Fields and Eggars Field) and with established hedgerow along the stretch of the western boundary which forms part of Footpath 30.

The site gently slopes from an elevation of approximately 100m AOD at Hole Lane and to the west to an elevation of approximately 95m AOD in the south-eastern part of the site. Land to the south falls into a valley landscape at an elevation of approximately 90m AOD before rising up within the SDNP to an elevation of approximately 149m AOD at Binsted. The landform similarly rises up to the north to elevations of between approximately 145 and 170m AOD.

4.3.2 Aesthetic and Perceptual Aspects

The site has a rural but settled character, being agricultural land surrounded by low density housing on three sides which creates a sense of enclosure.

The network of rural lanes through the village are narrow and often sunken and lined by verges with hedgerows and trees. Traffic noise from the A31 to the south, despite it being 600m away and separated from the site by the rest of the village is still audible within the site reducing the sense of tranquillity.

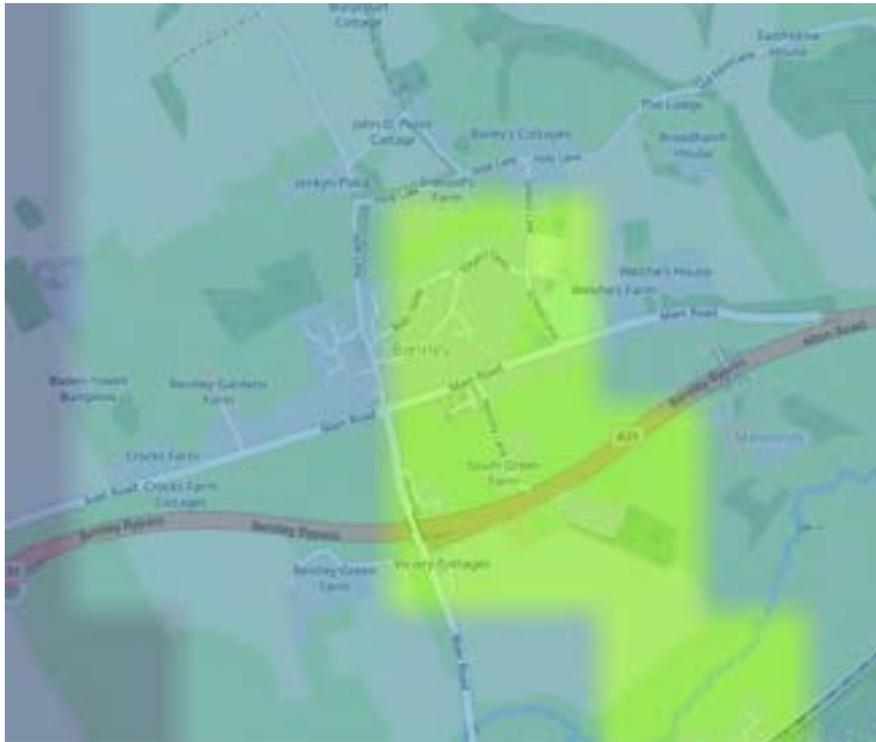
Due to the site's agricultural use, the range of colours and textures is generally simple, with some diversity introduced by surrounding residential properties and telegraph poles which extend through the site.

A review of the interactive *"England's Light Pollution and Dark Skies"* map provided by the CPRE has been undertaken to understand baseline lighting levels within and around the site. The interactive maps were produced with satellite images captured at 1.30 am throughout September 2015.

The detailed map illustrates the level of lighting across 9 colour bands: blues indicate dark skies, with yellows, greens, oranges and reds indicating high levels of existing lighting.

The map indicates that the baseline level of light across the site is, at most, 1-2 NanoWatts/cm²/sr (green) and adjacent to an area of 0.5-1 NanoWatts/cm²/sr (blue) which indicates that the site is at the darker end of the spectrum, but that it is influenced by some existing light sources.

Figure 1: Snapshot of England's Light Pollution and Dark Skies (CPRE)



4.3.3 Overall Character

The overall character of the site is broadly in line with LCA 4b Northern Wey Valley within the EHLCA (2006) but this is a more settled part of the character area with areas of more recent housing, with SSCA 8: Northern Bentley within the Neighbourhood Character Study for East Hampshire District Council (December 2018) and Local Area 4b.1 within EHDC Landscape Capacity Study (September 2018). Whilst Local Area 4b.1 is described within a capacity study, rather than a landscape character assessment, it provides a helpful level of local detail.

None of the surrounding LCA have been assessed since the limited visibility of the site indicates that it is very unlikely that there would be effects on other LCAs.

4.3.4 The Changing Landscape

In the absence of the proposed development it is assumed that the site would remain agricultural.

4.4 Summary of Landscape Receptors

The main elements and features of the landscape can be summarised as follows:

- Gently sloping, semi-enclosed pastoral fields; and
- Hedgerow network with trees.

As well as the following aesthetic and perceptual aspects:

- Visually enclosed (existing vegetation and housing on three sides);
- Generally still with some noise apparent from adjacent settlement; and
- Generally simple colours and forms with some diversity from adjacent development.

The following character areas will be assessed for the site itself and its locality:

- LCA 4b Northern Wey Valley;
- SSCA 8: Northern Bentley; and
- Local Area 4b.1.

Whilst these character areas overlap and are essentially cover the same area they define boundaries and attributes of the landscape in different ways.

4.5 Sensitivity of Landscape Receptors

In accordance with GLVIA3 the sensitivity of landscape receptors is determined by combining their value with their susceptibility to the type of development proposed.

4.5.1 Value of the Landscape

In determining the value of landscapes it is helpful to start with landscape and landscape-related designations. In this context it is important to note that the site is not included within a statutory or non-statutory landscape designation, and nor is it within a landscape-related designation.

GLVIA3 states that the value of undesignated sites should also be considered, and TGN 02/21. Table 1, (Landscape Institute, 2021) provides a helpful guide for assessing these sites. Using these criteria (see Table B1 in the Appendix B) it has been concluded that the value of the site and its immediate context is of Community importance: whilst the site's open, pastoral character will be appreciated by some existing residents, walkers and passers-by, it is not part of a designated landscape.

4.5.2 Susceptibility of Landscape

In relation to susceptibility, each of the landscape receptors has been assessed to determine its susceptibility to the proposed development. The detailed assessment is included at table B2 of Appendix B, and the assessment is summarised below:

- **Gently sloping, semi-enclosed pastoral fields** would have a high susceptibility to development. The scale, shape and structure of the site would remain but it would be split into residential parcels.
- **Hedgerow, trees and woodland network** would have a low susceptibility to the development. The layout is being designed to largely retain existing established vegetation within the site, although a short section of boundary vegetation would be lost to enable access to Footpath 30. New street trees would be planted and a new length of hedgerow with trees has been proposed to along the northern boundary where hedgerow has been lost.
- **Visually enclosed (existing vegetation and housing on three sides)** would have a medium susceptibility to the development. The level of visual enclosure provided by existing boundary vegetation and low density housing would remain.
- **Generally still with some noise apparent from adjacent settlement** would have a medium susceptibility to the proposed development. The sense of tranquillity would be affected by the introduction of new residential development, people and cars.
- **Generally simple colours and forms with some diversity from adjacent development** would have a medium susceptibility to development. The generally simple forms and colours of the site would be changed by the introduction of new residential development adjacent to the settlement edge and with some housing to each of three sides.

LCA 4b Northern Wey Valley, SSCA 8: Northern Bentley and Local Area 4b.1 would have a high susceptibility. The landscape is relatively intact and rural and the influences of the settlement edge is relatively limited.

4.5.3 Sensitivity of Landscape

The overall sensitivity of landscape receptors is assessed in Table B2 of Appendix B and reflects the combination of value with susceptibility.

- **Gently sloping, semi-enclosed pastoral fields** would have a medium/ low sensitivity.
- **Hedgerow, trees and woodland network** would have a low sensitivity.
- **Visually enclosed (existing vegetation and housing on three sides)** would have a medium/ low sensitivity.
- **Generally still with some noise apparent from adjacent settlement** would have a medium/ low sensitivity.
- **Generally simple colours and forms with some diversity from adjacent development** would have a medium/ low sensitivity.
- **LCA 4b Northern Wey Valley, SSCA 8: Northern Bentley and Local Area 4b.1** would have a medium sensitivity.

4.6 Potential Magnitude of Landscape Change

In accordance with GLVIA3 potential changes to the individual landscape receptors have been assessed in relation to:

- The Size and Scale of Change;
- The Geographical Extent of Change; and
- The Duration and Reversibility of Change.

4.6.1 Size and Scale of Change for Landscape Receptors

- **Gently sloping, semi-enclosed pastoral fields** would experience a large scale of change. The proposed development would introduce new built form into an agricultural field currently used for grazing. Connected areas of open space have been identified within the layout, setting development back from the northern boundary (and St Swithun's Way Long Distance Route) to retain some of the open character of the northern part of the site.
- **Hedgerow, trees and woodland network** would experience a small scale of change. The layout has been designed to largely retain existing established boundary vegetation within the site. New tree and hedgerow planting would be introduced around and permeate through the built area of the site.
- **Visually enclosed (existing vegetation and housing on three sides)** would experience a small scale of change. The level of visual enclosure provided by existing well-established hedgerows with trees would remain and proposed hedgerow and tree planting would reinforce this characteristic.
- **Generally still with some noise apparent from adjacent settlement** would experience a medium scale of change. The site is generally still, affected to a degree by noise from adjacent roads and settlement. The introduction of new residential development people and cars would create a medium scale of change.

- **Generally simple colours and forms with some diversity from adjacent development** would experience a medium scale of change. Diversity would be introduced into a landscape which is generally simple. The change would be generally contained within the site itself due to the level of visual enclosure provided by existing and proposed boundary vegetation over time.
- **LCA 4b Northern Wey Valley** would experience a small scale of change. The site is on the edge of the settlement within an area of settled character. The perception of landscape change would be localised as a result of the existing level of enclosure which would increase over time as proposed planting establishes.
- **SSCA 8: Northern Bentley** would experience a small scale of change. The Neighbourhood character assessment recommends that *“important vegetation/trees especially on the edge of the settlement and along PRowS”* is retained, and that *“urbanising’ highway treatments to existing rural lanes”* are avoided to reduce the effects of development. The perception of landscape change would be localised as a result of the existing level of enclosure which would increase over time as proposed planting establishes.
- **Local Area 4b.1** would experience a medium scale of change. Local Area 4b.1 is described as predominantly rural. The capacity study identifies a series of potential effects resulting from development including the *“erosion of tranquillity”* and the *“loss of rural, predominantly unsettled character”* as well as *“Impact on sensitive view receptors on St Swithun’s Way”*. The perception of landscape change would be localised as a result of the existing level of enclosure which would increase over time as proposed planting establishes.

4.6.2 Geographical Extent of Change for Landscape Receptors

The geographical extent of landscape change to landscape receptors would be small, since the changes would be largely limited to the site due to the level of enclosure provided by existing vegetation.

4.6.3 Duration/Reversibility of Change for Landscape Receptors

The development would be permanent.

4.6.4 Potential Magnitude of Change for Landscape Receptors

Having assessed the size and scale, geographical extent and duration of potential landscape effects it is then possible to determine the overall magnitude of landscape change which would be experienced by each of the landscape receptors (see Table B3, Appendix B).

No substantial landscape magnitudes of change have been assessed for the development proposals as the geographical extent of change is limited by the level of enclosure provided by existing vegetation which would be reinforced by proposed planting along the boundaries of the site.

There would be a Medium/ Substantial magnitude of change on the Gently sloping, semi-enclosed pastoral fields a. All other landscape receptors would experience a Medium or below magnitude of change.

In relation to overall character there would be a Medium/ Slight magnitude of change to Local Area 4b.1 and a Slight magnitude of change to LCA 4b Northern Wey Valley and SSCA 8: Northern Bentley.

4.7 Assessment of Landscape Effects

Table B4 in Appendix B draws together the sensitivity of landscape receptors and the magnitude of effects in order to determine the level of potential landscape effect.

There would be a Major /Moderate and negative level of landscape effect on the following elements of the landscape:

- Gently sloping, semi-enclosed pastoral fields.

Effects on other elements of the landscape would be as follows:

- Hedgerow, trees and woodland network: Minor and positive.
- Visually enclosed (existing vegetation and housing on three sides): Minor and negative.
- Generally still with some noise apparent from adjacent settlement: Moderate and negative.
- Generally simple colours and forms with some diversity from adjacent development: Moderate and negative.

The level of landscape effect on Local Area 4b.1 would be Minor/ Moderate and Negative within the localised area.

The level of landscape effect on LCA 4b Northern Wey Valley and SSCA 8: Northern Bentley would be Minor and Negative as a result of the level of visual enclosure which ensures that landscape effects are localised.

In overview, the potential effects on landscape character would be localised with minor levels of effect on the overall character of the area. The nature of effect on existing vegetation (hedgerow, trees and woodland network) would be positive.

5.0 POTENTIAL VISUAL EFFECTS

5.1 Introduction

In accordance with the recommendations of GLVIA3 the potential level of visual effects has been determined by assessing both the sensitivity of visual receptors and the potential magnitude of visual effect. Full details of the assessment are included in Appendix C, but the results are summarised within this chapter.

5.2 Overall Visibility

The potential visibility of the proposed development was determined by desktop assessment of topography using OS mapping data and checked by field survey.

The potential visibility of development within site would be contained by both topography and by existing vegetation as well as existing homes on the boundaries of the site. Visibility is very localised with clear views available only from Hole Lane / St Swithun's Long Distance Route, Church Lane (Footpath 8 (017/8/2)) and where the access is proposed along School Lane.

Eleven viewpoint locations have been identified to represent the range of views available around the site. The objective in selecting these locations has been to represent the range of views of the existing site which are available from publicly accessible locations.

The location of all viewpoints is illustrated on drawing B-03. For each of the viewpoints photographs of the existing views have been included (see drawings B-04 to B-020).

5.3 Potential Visual Receptors

Within the visual envelope of the proposed development the following types of visual receptors have the potential to experience changes in their views:

- Residential receptors (School Lane, Hole Lane, Babs Fields, Long Croft and Eggars Field);
- Walkers on local footpaths and pavements (Footpath 30, St Swithun's Way Long Distance Route, Footpath 25, Footpath 8);
- Visitors to the South Downs National Park; and
- Vehicle users on School Lane, Hole Lane, Babs Fields, Long Croft and Eggars Field.

It is noted that the site survey confirmed that there would be no visibility of the proposed development from Bentley Conservation Area.

5.4 Assessment of Sensitivity of Visual Receptors, and the Magnitude of Change, at each Viewpoint

Tables C1 and C2 in Appendix C summarise the sensitivity of the receptors at each of the viewpoints, and the magnitude of potential visual effects. The criteria used for this analysis are taken from GLVIA 3 paragraphs 6.31 to 6.41.

5.5 Assessment of Visual Effects

The assessment of the visual effects at each of the viewpoints is addressed in Table C3 of Appendix C, and this analysis is then applied in the assessment of effects on different receptor groups in the following paragraphs.

5.5.1 Residential Receptors

There are approximately two, detached, and two semi-detached, 2-storey, properties along Hole Lane with the potential to experience views of the proposed development from upper-storey, rear and side elevations and garden areas. Viewpoints 2 and 4 illustrate the view from Hole Lane but without the benefit of boundary vegetation which has been lost along this length of the route. All have relatively large gardens set between proposed new homes and the properties. In the short-term, views of new homes across proposed rear gardens would be available, especially in winter after leaf-drop, filtered by relatively extensive, established, garden and boundary vegetation. As noted above, proposed new homes have been set back from the northern boundary of the site with Hole Lane and consequently would be partly set back from existing properties. In the longer term proposed tree planting within the area of open space and along the boundaries of the site would increasingly filter views, breaking up the massing of proposed built form.

In the short-term there would be a Medium magnitude of change (medium scale of change, small geographical extent and permanent) and the level of visual effect is assessed as Moderate/ Major and Negative reducing to Moderate in the longer term as proposed planting along boundaries and proposed trees establish and progressively screens views.

There are approximately two, detached, and one semi-detached, 2-storey, properties along School Lane with the potential to experience views of the proposed development from upper-storey, rear elevations and garden areas (one existing property would be lost as a result of the proposed access). Viewpoint 5 illustrates the view at the proposed access point. All have relatively large gardens set between proposed new homes and the properties with extensive areas of established vegetation. In the short-term, views of new homes across proposed rear gardens would be available, especially in winter after leaf-drop, filtered by established, garden and boundary vegetation. In the longer term planting proposed to reinforce the boundaries of the site would increasingly filter views.

In the short-term there would be a Medium magnitude of change (Medium scale of change, small geographical extent and permanent) and the level of visual effect is assessed as Moderate/ Major and Negative reducing to Moderate in the longer term as planting proposed to reinforce existing boundary vegetation establishes.

There are approximately five, semi-detached, 2-storey properties along Babs Fields. Viewpoint 7 illustrates the views from Babs Fields. The proposed development is located to the north-east of Babs Lane, beyond extensive, established vegetation. Oblique glimpses, through existing vegetation, may be available from rear garden areas in winter after leaf drop but the level of visual effect would be Negligible.

Similarly, the proposed development is located to the north-east of Long Croft, beyond Babs Lane and properties along Long Croft are unlikely to experience views as a result of existing intervening built form and vegetation.

There are approximately eight detached and two semi-detached properties along Eggars Field with the potential to experience views of the proposed development from rear elevations and garden areas. Viewpoint 6 illustrates the view through a gap in boundary vegetation from Eggars Field. All have gardens set between proposed new homes and existing properties and two of the existing homes would back on to a proposed area of open space. In the short-term, views of new homes across proposed rear gardens would be available, especially in winter after leaf-drop, filtered by garden and boundary vegetation. In the longer term proposed tree planting within the area of open space and along the boundaries of the site would increasingly filter views, breaking up the massing of proposed built form.

In the short-term there would be a Medium magnitude of change (Medium scale of change, small geographical extent and permanent) and the level of visual effect is assessed as Moderate/Major and Negative reducing to Moderate in the longer term as planting proposed to reinforce existing boundary vegetation establishes.

5.5.2 Walkers/Pedestrians

Viewpoint 1 illustrates the existing view from Footpath 30. The existing view comprises an established boundary hedgerow on the eastern edge of the footpath with open paddocks to the west. The hedgerow along Footpath 30 is tall and well established screening views into the site. Proposed built form would be located behind this hedgerow and new planting would reinforce this vegetated boundary. A small access would be created, to enable a pedestrian connection from the site, through which proposed built form may be visible. The existing view of open fields to the west would remain. In the short-term there would be a Slight/ Medium magnitude of change (Small scale of change, Medium geographical extent and permanent) and the level of visual effect is assessed as Moderate and Negative. The level of effect in the long-term is unlikely to change since the visibility of the proposed development is largely dependent on the retention of existing vegetation rather than the planting of new vegetation.

Viewpoints 2, 3 and 4 illustrate existing views from St Swithun's Long Distance Route. Built form would be introduced into the existing view which currently comprises an open field with residential development around its edges. Built form would be set back from the Long Distance Route across an area of open space. Built form has also been set back from the central north/south axis to ensure that longer views through the site remain with built form to the edges. Native hedgerow with trees has been proposed along the existing boundary which over time would break up the mass of built form. Views along this route would be transient and intermittent and the three viewpoints photographed represent the worst-case views. In the short-term there would be a Medium magnitude of change (Medium scale of change, Small geographical extent and permanent) and the level of visual effect is assessed as Moderate/ Major and Negative. In the longer term proposed hedgerow and tree planting along the boundary of the site and within the area of open space would increasingly filter views, breaking up the massing of proposed built form reducing the level of visual effect to Moderate and Negative.

Footpath 25 is located to the west of the site on elevated ground along Hole Lane which is sunken at this point. than the settlement. Viewpoint 8 illustrates the potential view. Potential views of the site are contained by established, intervening, hedgerows and trees and no view of the site was available during the field survey.

Footpath 8 is located to the north of Bentley at a higher elevation than the settlement. Viewpoint 8 illustrates the potential view. Potential views of the site are contained by established, intervening, hedgerows and trees and no view of the site, or the settlement, was available during the field survey.

5.5.3 Visitors to the South Downs National Park

Viewpoints 9 and 10 were photographed along footpaths within an elevated area of the South Downs National Park to the south of the proposed development.

Potential views of the site (and the settlement of Bentley) are screened by a combination of the undulating topography and established, intervening, trees and woodland. Potential views of the site (and the settlement of Bentley) are screened by a combination of the undulating topography and established, intervening, trees and woodland.

There was no potential for visual effect on the views photographed. Other locations within the South Downs National Park were visited during the site visit and no views of the site were obtained.

Glimpsed views of the site and the proposed development may be available from some parts of the South Downs National Park, but views are largely screened by a combination of the undulating landform and established areas of woodland (including ancient woodland). Where views might be available it is unlikely that there would be more than a negligible, and neutral, level of visual effect.

5.5.4 Vehicle Users

Viewpoints 2 and 4 illustrate close range views of the proposed development from Hole Lane. As noted above for walkers, built form would be introduced into the existing view which currently comprises an open field with residential development around its edges. Built form would be set back from Hole Lane across an area of open space. Built form has also been set back from the central north/south axis to ensure that longer views through the site remain with built form to the edges. Native hedgerow with trees has been proposed along the existing boundary which over time would break up the mass of built form. In the short-term there would be a Medium magnitude of change (Medium scale of change, Small geographical extent and permanent) and the level of visual effect is assessed as Moderate and Negative. In the longer term proposed hedgerow and tree planting along the boundary of the site and within the area of open space would increasingly filter views, breaking up the massing of proposed built form reducing the level of visual effect to Minor/ Moderate and Negative.

Viewpoint 5 illustrates the existing view from School Lane, located at the proposed point of access. The views of vehicle users would be largely screened by existing properties, but the existing residential property and drive way at the proposed access would be replaced by a residential property and access route, with proposed new homes visible in the background. The existing components of the view would remain. In the short-term there would be a Slight/ Medium magnitude of change (Medium scale of change, Small geographical extent and permanent) and the level of visual effect is assessed as Minor and Negative at most reducing to Minor/ Negligible in the longer term as proposed planting within the site and at the access point establishes.

No views would be available to vehicle users along Babs Fields and Long Croft as a result of existing intervening housing.

A glimpsed view would be available to vehicle users along one section of Eggars Field, illustrated by Viewpoint 6. The existing view would remain largely unchanged. Glimpsed views of an open field are currently available and glimpsed views of an area of open space would be available as a result of the proposed development. In the short-term there would be a Slight magnitude of change (Negligible scale of change, Medium geographical extent and permanent) and the level of visual effect is assessed as Minor/ Negligible and Neutral at most.

5.6 Summary of Visual Effects

It is notable that the level of visual enclosure provided by existing vegetation and the undulating landform results in there being no views available from five of the eleven representative viewpoints photographed, including those from the South Downs National Park.

The proposed development would result in a short-term, Moderate/ Major and negative, visual effects for walkers along St Swithun's Long Distance Route / Hole Lane, for residents in the closest properties along Hole Lane, School Lane and Eggars Field (all of which back on to the proposed development). In the long-term the level of visual effect would reduce to Moderate as proposed planting becomes established.

Importantly the layout of the site has been carefully designed to exclude built form from the northern part of the site, with a proposed area of open space, reinforcing boundary vegetation in line with recommendations from the Neighbourhood Character Assessment to retain *"important vegetation/trees especially on the edge of the settlement and along PRoWs"* and to reduce the level of *"Impact on sensitive view receptors on St Swithun's Way"*.

Visual effects would be localised and concentrated within 50m of the site. In all locations the level of visual effect would reduce over time as proposed planting becomes established.

6.0 Summary and Conclusions

SLR Consulting Ltd (SLR) was instructed by Camping Property Limited (the Client) to undertake a Landscape and Visual Appraisal (LVA) for an Outline application for up to 34 new homes on land at Hole Lane, Bentley. The findings of this assessment have been based upon a framework plan prepared by Re-Format (drawing ref: 22049_SL002 Rev B). SLR commented on this as it evolved and helped to shape the layout.

The assessment follows the latest UK guidance on landscape and visual appraisal and was carried out by experienced landscape architects. The assessment is based upon a desktop assessment and a site visit in clear weather conditions.

The site is not within any national designations for valued landscapes, such as AONBs or National Parks. However, the South Downs National Park is located within 1.4km of the southern boundary of the site. Footpath 30 extends along the western boundary of the site and St Swithun's Way Long Distance Route extends along the northern boundary of the site.

The assessment of potential effects on landscape character identified a Major/ moderate and negative level of effect on the Gently sloping, semi-enclosed pastoral field. The level of landscape effect on all other landscape qualities identified would be Moderate or below.

The potential effects on landscape character would be localised with minor levels of effect on the overall character of the area. The nature of effect on existing vegetation (hedgerow, trees and woodland network) would be positive.

In relation to visual effects it is notable that the level of visual enclosure provided by existing vegetation and the undulating landform results in there being no views available from five of the eleven representative viewpoints photographed, including those from the South Downs National Park.

The proposed development would result in a short-term, Moderate/ Major and negative, visual effects for walkers along St Swithun's Long Distance Route / Hole Lane, for residents in the closest properties along Hole Lane, School Lane and Eggars Field (all of which back on to the proposed development). In the long-term the level of visual effect would reduce to Moderate as proposed planting becomes established.

Importantly the layout of the site has been carefully designed to exclude built form from the northern part of the site, with a proposed area of open space, reinforcing boundary vegetation in line with recommendations from the Neighbourhood Character Assessment to retain *"important vegetation/trees especially on the edge of the settlement and along PRoWs"* and to reduce the level of *"Impact on sensitive view receptors on St Swithun's Way"*.

Visual effects would be localised and concentrated within 50m of the site. In all locations the level of visual effect would reduce over time as proposed planting becomes established.

The site and a field to the west were subject to an outline application for 93 dwellings, reference 55711/001, which was refused on 12 November 2020. The Reasons for Refusal related to landscape were as follows:

"The proposal, by virtue of the extent and scale of urban development encroaching onto open countryside, would represent a substantial change in the appearance and intensity in the use of the land. This would result in a development failing to respect the low key tranquil nature of the rural area and the landscape character objectives for the Northern Wey Valley. As a result, there would be a significantly adverse effect on the character and appearance of the site which would fail to conserve the rural character of the local area and the amenity of users of the public footpath across the site".

The current proposal is reduced in scale, density and extent which reduces the level of change in the appearance and reduces the intensity of use. Measures incorporated into the layout such as the area of open space along

the northern boundary, the wide north-south axis through the site connecting to a further area of open space and the retention and reinforcement of existing boundary vegetation reduce the level of effect on the character and appearance of the site and help to preserve the rural character of the area. The amenity of users of Footpath 30 area also protected..

Importantly the scheme incorporates benefits such as high quality areas of open space, increased native planting including trees and increased footpath connections.

APPENDIX A

Criteria and definitions used in assessing landscape and visual effects

Introduction

Landscape and Visual Appraisal (LVA) is a tool used to identify the effects of development on “*landscape as an environmental resource in its own right and on people’s views and visual amenity*” (GLVIA3, paragraph 1.1). GLVIA3 paragraph 2.22 states, these two elements, although inter-related, should be assessed separately.

As GLVIA3 paragraph 2.23 states, professional judgement is an important part of the LVIA process: whilst there is scope for objective measurement of landscape and visual changes, much of the assessment must rely on qualitative judgements. It is critical that these judgements are based upon a clear and transparent method so that the reasoning can be followed and examined by others.

Impacts can be defined as the action being taken, whereas effects are the changes result from that action.

Landscape and visual effects can be positive, negative or neutral in nature. Positive effects are those which enhance and/or reinforce the characteristics which are valued. Negative effects are those which remove and/or undermine the characteristics which are valued. Neutral effects are changes which are consistent with the characteristics of the landscape or view.

Landscape Effects

Landscape, as defined in the European Landscape Convention, is defined as “*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*”, (Council of Europe, 2000). Landscape does not apply only to special or designated places, nor is it limited to countryside.

GLVIA3 recommends that the effect of the development on landscape receptors is assessed (paragraph 5.34). Landscape receptors are the components of the landscape that are likely to be affected by the scheme, and can include individual elements (such as hedges or buildings), aesthetic characteristics (for example tranquillity or openness), or, at a larger scale, the character of a defined character area or landscape type.

Judging landscape effects requires a methodical assessment of the sensitivity of the landscape receptors to the proposed development and the magnitude of effect which would be experienced by each receptor.

Landscape Sensitivity

Sensitivity of landscape receptors is assessed by combining the susceptibility of landscape receptors to the type of change which is proposed with the value attached to the landscape. (GLVIA3, 5.39)

Value Attached to Landscape Receptors

Landscape receptors may be valued at community, local, national or international level. Existing landscape designations provide the starting point for this assessment, as below.

The table below (A1) sets out the interpretation of landscape designations in terms of the value attached to different landscape receptors. As GLVIA3 notes (5.24) at the local scale of an LVIA study area it may be found that the landscape value of a specific area may be different to that suggested by the formal designation.

Table A1: interpretation of landscape designations

Designation	Description	Value
World Heritage Sites	Unique sites, features or areas identified as being of international importance according to UNESCO criteria. Consideration should be given to their settings especially where these contribute to the special qualities for which the landscape is valued.	International
National Parks, AONBs, NSAs	Areas of landscape identified as being of national importance for their Natural Beauty (and in the case of National Parks the opportunities they offer for outdoor recreation). Consideration should be given to their settings especially where these contribute to the special qualities for which the landscape is valued.	National
Registered Parks and Gardens of Special Historic Interest	Gardens and designed landscapes included on the Register of Parks and Gardens of Special Historic Interest as Grade I or II.	National

Local Landscape Designations (such as Special Landscape Areas, Areas of Great Landscape Value and similar) included in local planning documents	Areas of landscape identified as having importance at the local authority level.	Local Authority
Undesignated landscapes of community value	Landscapes which do not have any formal designation but which are assessed as having value to local communities on the basis of demonstrable physical attributes.	Community
Landscapes of low value	Landscapes in poor condition or fundamentally altered by presence of intrusive man-made structures. Landscapes with no demonstrable physical attributes.	Low

Many Local Planning Authorities have Landscape Character Assessments that, in the absence of a separate strategy, may be referred to in planning policies. Reference is also made where appropriate to the criteria in the Table below. This is based on Box 5.1 in GLVIA3 which in turn is based on the Landscape Character Assessment Guidance of 2002. Landscapes may be judged to be of local authority or community value on the basis of one or more of these factors. There may also be occasional circumstances where a landscape may be judged to be of national value.

An overall assessment is made for each receptor, based on an overview of the above criteria, to determine its value - whether for example it is comparable to a local authority landscape designation or similar, or whether it is of value to local people and communities. For example, an intact landscape in good condition, where scenic quality, tranquillity, and or conservation interests make a particular contribution to the landscape, or where there are important cultural or historical associations, might be of equivalent value to a local landscape designation. Conversely, a degraded landscape in poor condition, with no particular scenic qualities or natural or cultural heritage interest is likely to be considered of limited landscape value. In accordance with the judgement of Justice Ouseley (Ref: CO/4082/2014) we also review the landscape and visual attributes of the site as a whole to determine whether the site has demonstrable physical attributes which elevate it above ordinary countryside.

Table A2: Factors considered in Assessing the Value of Non-Designated Landscapes

Factor	Criteria
Landscape Quality	Intactness of the landscape demonstrated by, among others: presence of characteristic natural and man-made elements, which are generally in good condition; absence of significant incongruous elements (or having only localised or temporary effects).
Scenic Quality	General appeal of the landscape to the senses through, for example, combinations of some of the following: a clear and recognisable sense of place; striking landform or patterns of land cover; strong aesthetic qualities which appeal to the senses, such as scale, form, colour and texture, simplicity or diversity, presence of ephemeral or seasonal interest, or notable sensory stimuli such as sounds and smells, qualities of light, or weather patterns.
Rarity	Presence of landscape character areas, types or features that are relatively rare in the local area.
Representativeness	Presence of locally important examples of particular landscape character areas or types or particular characteristics/feature/element.

Conservation Interests	Presence of some of the following where they contribute positively to experience of the landscape: natural heritage features, including geological or geomorphological features, wildlife, and habitats, including those that are designated or notified as SSSIs and features such as veteran trees or trees covered by Tree Preservation Orders; cultural heritage features, including buildings, especially listed buildings, settlements including conservation areas, gardens, parkland and other designed landscapes not on the register, and historic landscape types which demonstrate the time depth of the landscape.
Recreation Value	The extent to which experience of the landscape makes an important contribution to recreational use and enjoyment of an area.
Perceptual aspects	Opportunities to experience a sense of relative wildness and/or relative tranquillity in comparison with other local landscapes in the vicinity
Associations	Evidence that the landscape is associated with locally important written descriptions of the landscape, or artistic representation of it in any media, or events in history, or notable people or important cultural traditions or beliefs.

Susceptibility of Landscape Receptors to Change

As set out in GLVIA3 this means the ability of the landscape receptor to “*accommodate the proposed development without undue adverse consequences for the baseline situation and/or the achievement of landscape planning policies and strategies*”. Judgement of susceptibility is particular to the specific characteristics of the proposed development and the ability of a particular landscape or feature to accommodate the type of change proposed. Aspects of the character of the landscape that may be affected by a particular type of development include landform, skylines, land cover, enclosure human influences including settlement pattern; and aesthetic and perceptual aspects such as the scale of the landscape, its form, line, texture, pattern and grain, complexity, and its sense of movement, remoteness, wildness or tranquillity.

For example an urban landscape which contains a number of industrial buildings will have a low susceptibility to buildings of a similar scale and character. Conversely a rural landscape containing only remote farmsteads is likely to have a high susceptibility to large scale built development.

Table A3: Landscape Receptor Susceptibility to Change

Susceptibility	Criteria
High	The landscape receptor is highly susceptible to the proposed development because the key characteristics of the landscape have no or very limited ability to accommodate it without undue adverse effects taking account of the existing character and quality of the landscape.
Medium	The landscape receptor is moderately susceptible to the proposed development because the relevant characteristics of the landscape have some ability to accommodate it without undue adverse effects, taking account of the existing character and quality of the landscape.
Low	The landscape receptor has low susceptibility to the proposed development because the relevant characteristics of the landscape are generally able to accommodate it without undue adverse effects, taking account of the existing character and quality of the landscape.

Defining Sensitivity

As has been noted above, the sensitivity of landscape receptors is defined in terms of the relationship between value and susceptibility to change. Table A4 below summarises the nature of the relationship but it is not formulaic and only indicates general categories of sensitivity. Judgements are made about each landscape receptor with the table below only serving as a guide.

Table A4: Levels of Sensitivity defined by Value and Susceptibility of Landscape Receptors

Sensitivity	Criteria
High	The landscape receptor is of national value and is considered to have high susceptibility to the effects of the Project OR The landscape receptor is of national value and is considered to have medium susceptibility to the effects of the Project
Medium	The landscape receptor is of national value and is considered to have low susceptibility to the effects of the Project OR The landscape receptor is of local authority value and is considered to have high susceptibility to the effects of the Project OR The landscape receptor is of community value and is considered to have high susceptibility to the effects of the Project OR The landscape receptor is of local authority value and is considered to have medium susceptibility to the effects of the Project
Low	The landscape receptor is of local authority value and is considered to have low susceptibility to the effects of the Project OR The landscape receptor is of community value and is considered to have medium susceptibility to the effects of the Project OR The landscape receptor is of community value and is considered to have low susceptibility to the effects of the Project

Magnitude of Landscape Change

The magnitude of landscape change is defined by assessing the size or scale of change, the geographical extent of the area influenced and the duration and reversibility of the change.

Size and Scale of Change

The size and/or scale of change in the landscape takes into consideration the following factors:

- the extent/proportion of landscape elements lost or added, and/or
- the degree to which aesthetic/perceptual aspects are altered; and
- whether this is likely to change the key characteristics of the landscape.

The criteria used to assess the size and scale of landscape change are based upon the amount of change that will occur as a result of the proposals, as described in the table below.

Table A5: Magnitude of Landscape Change: Size/Scale of Change

Category	Description
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Large level of landscape change	<p>There would be a large level of change in landscape character, and especially to the key characteristics if, for example, the proposals:</p> <ul style="list-style-type: none"> • becomes a dominant feature in the landscape, changing the balance of landscape characteristics and/or • would dominate important visual connections with other landscape types, where this is a key characteristic of the area.
Medium level of landscape change	<p>There would be a medium level of change in landscape character, and especially to the key characteristics if, for example:</p> <ul style="list-style-type: none"> • the proposals would be more prominent but would not change the overall balance or composition of the landscape and/or • key views to other landscape types may be interrupted intermittently by the proposals, but these views would not be dominated by them.
Small level of landscape change	<p>There would be a small level of change in landscape character, and especially to the key characteristics if, for example:</p> <ul style="list-style-type: none"> • there would be no introduction of new elements into the landscape and the proposals would not significantly change the composition/balance of the landscape.
No or negligible landscape change	<p>There would be no, or a negligible level of change in landscape character, and especially to the key characteristics if, for example, where the Project component would be a small element and/or would be a considerable distance from the receptor.</p>

Geographical Extent

The geographical extent of landscape change is assessed by determining the area over which the changes will influence the landscape. For example this could be at the site level, in the immediate setting of the site, or over some or all of the landscape character types or areas affected.

Table: A6: Magnitude of Landscape Change: Geographical Extent

Category	Description
Large extent of landscape change	The change will affect all of the landscape receptor under consideration.
Medium extent of landscape change	The change will affect a medium extent of the landscape receptor under consideration.
Small extent of landscape change	The change will affect a small part of the landscape receptor under consideration.
Negligible extent of landscape change	The change will affect only a negligible part of the landscape receptor under consideration.

Duration and Reversibility of Changes

The duration of the landscape change is categorised in the table below, which considers whether they will be permanent and irreversible or temporary and reversible

Table A7: Magnitude of Landscape Change: Duration and Reversibility

Category	Description
Permanent/ Irreversible	Magnitude of change that will last for 25 years or more is deemed permanent or irreversible
Long term reversible	Effects that are theoretically reversible but will endure for between 10 and 25 years
Medium term reversible	Effects that are wholly or partially reversible and will last for up to ten years
Short term reversible	As above that are reversible and will last from 0 to 5 years - includes construction effects

Deciding on Overall Magnitude of Landscape Change

The three factors that contribute to assessment of the magnitude of landscape change may combine into categories as illustrated in Table A8, below.

Table A8: The Assessment of Magnitude of Landscape Change

Category	Criteria
Substantial	Large level of change affecting all of the landscape receptor under consideration, which will last for more than 10 years / permanent.
Medium	Medium level of change affecting a medium extent of the landscape receptor under consideration and which will last for 2 to 10 years.
Slight	Small level of change affecting a small part of the landscape receptor under consideration and which will be of short duration, lasting up to 2 years.
Negligible	Negligible level of change which will affect a negligible part of the landscape receptor under consideration.

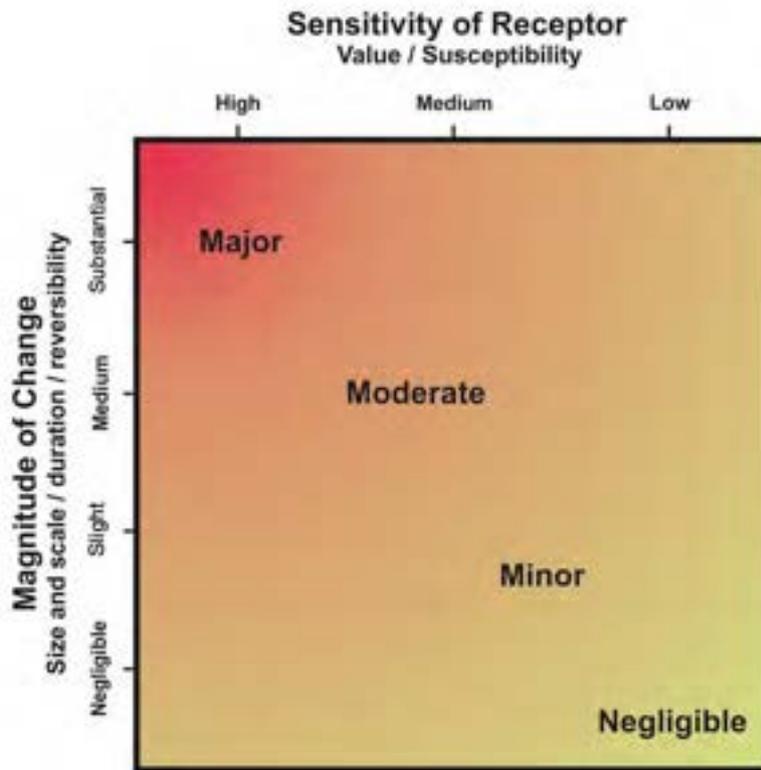
Assessment of Landscape Effects and Significance

The assessment of landscape effects is defined in terms of the relationship between the sensitivity of the landscape receptors (value and susceptibility) and the magnitude of the change. The diagram below summarises the nature of the relationship but it is not formulaic. Judgements are made about each landscape effect using this diagram as a guide.

Effects that fall in the red (darker) section of the diagram, that is those which are considered to be major and major/moderate effects by virtue of the more sensitive receptors and the greater magnitude of effects, are generally considered to be the **significant landscape effects**. Those effects falling outside the major or major/moderate categories are generally considered to be not significant.

Fig A1: Assessment of Landscape Effects and Overall Significance

Appendix B



Visual Effects

Visual receptors are the people whose views may be affected by the proposals. They generally include users of public rights of way or other recreational facilities; travellers who may pass through the study area because they are visiting, or living or working there; residents living in the study area, either as individuals or, more often, as a community; and people at their place of work.

Judging visual effects requires a methodical assessment of the sensitivity of the visual receptors to the proposed development and the magnitude of effect which would be experienced by each visual receptor.

Viewpoints are chosen, in discussion with the competent authority and other stakeholders and interested parties, for a variety of reasons but most commonly because they represent views experienced by relevant groups of people.

Visual Sensitivity

The sensitivity of visual receptors is defined in terms of the relationship between the value of views and the susceptibility of the different viewers to the proposed change. The table below summarises the nature of the relationship but it is not formulaic and only indicates general categories of sensitivity. Judgements are made on merit about each visual receptor, with the table below only serving as a guide.

Table A9: Levels of Sensitivity defined by Value and Susceptibility of Visual Receptors

Sensitivity	Criteria
High	<p>The visual receptor group is highly susceptible to changes in views and visual amenity and relevant views are of high value;</p> <p>OR</p> <p>The visual receptor group has a medium level of susceptibility to changes in views and visual amenity and relevant views are of high value.</p>
Medium	<p>The visual receptor group is highly susceptible to changes in views and visual amenity and relevant views are of value at the medium level;</p> <p>OR</p> <p>The visual receptor group is highly susceptible to changes in views and visual amenity and relevant views are of value at the low level;</p> <p>OR</p> <p>The visual receptor group has a medium level of susceptibility to changes in views and visual amenity and relevant views are of value at the medium level;</p> <p>OR</p> <p>The visual receptor group has a low level of susceptibility to changes in views and visual amenity and relevant views are of value at the high level;</p>

Sensitivity	Criteria
Low	<p>The visual receptor group has a medium level of susceptibility to changes in views and visual amenity and relevant views are of value at the low level;</p> <p>OR</p> <p>The visual receptor group has a low level of susceptibility to changes in views and visual amenity and relevant views are of value at the medium level.</p> <p>OR</p> <p>The visual receptor group has a low level of susceptibility to changes in views and visual amenity and relevant views are of value at the low level.</p>

Value Attached to Visual Receptors

Different levels of value are attached to the views experienced by particular groups of people at particular viewpoints. Assessment of value takes account of a number of factors, including:

- Recognition of the view through some form of planning designation or by its association with particular heritage assets; and
- The popularity of the viewpoint, in part denoted by its appearance in guidebooks, literature or art, or on tourist maps, by information from stakeholders and by the evidence of use including facilities provided for its enjoyment (seating, signage, parking places, etc.);
- Other evidence of the value attached to views by people.

The assessment of the value of views is summarised in the table below, in terms of high, medium and low value. These criteria are provided for guidance only and are not intended to be absolute.

Table A10: Value Attached to Views

Value	Criteria
High	<p>Views from nationally (and in some cases internationally) known viewpoints, which:</p> <ul style="list-style-type: none"> • have some form of planning designation; • are associated with internationally or nationally designated landscapes or important heritage assets; • are promoted in sources such as maps and tourist literature; • are linked with important and popular visitor attractions where the view forms a recognised part of the visitor experience; or • have important cultural associations.
Medium	<p>Views from viewpoints of some importance at regional or local levels, which:</p> <ul style="list-style-type: none"> • have some form of local planning designation associated with locally designated landscapes or areas of equivalent landscape quality; • are promoted in local sources;

	<ul style="list-style-type: none"> are linked with locally important and popular visitor attractions where the view forms a recognised part of the visitor experience; or have important local cultural associations.
Low	<p>Views from viewpoints which, although they may have value to local people:</p> <ul style="list-style-type: none"> have no formal planning status; are not associated with designated or otherwise high quality landscapes; are not linked with popular visitor attractions; or have no known cultural associations.

Susceptibility of Visual Receptors to Change

The susceptibility of different types of people to changes in views is mainly a function of:

The occupation or activity of the viewer at a given viewpoint; and

The extent to which the viewer's attention or interest may therefore be focussed on a particular view and the visual amenity experienced at a given view.

This follows the general guidance in GLVIA3 and assesses the susceptibility of different groups of viewers as in the table (A11) below. However, as noted in GLVIA3 *"this division is not black and white and in reality there will be a gradation in susceptibility to change"*. We therefore consider the susceptibility of each group of people affected on merit in each project and assessments are included in the relevant text in the report:

Table A11: Visual Receptor Susceptibility to Change

Susceptibility	Criteria
High	<p>Residents;</p> <p>People engaged in outdoor recreation where their attention is likely to be focused on the landscape and on particular views;</p> <p>Visitors to heritage assets or other attractions where views of the surroundings are an important part of the experience;</p> <p>Communities where views contribute to the landscape setting enjoyed by the residents; and</p>
Medium	<p>Travellers on scenic routes where the attention of drivers and passengers is likely to be focused on the landscape and on particular views.</p>
Low	<p>People engaged in outdoor sport or recreation, which does not involve appreciation of views;</p> <p>People at their place of work, where the setting is not important to quality of working life;</p> <p>Travellers, where the view is incidental to the journey.</p>

Magnitude of Visual Change

The magnitude of visual change is defined by assessing the size or scale of change, the geographical extent of the area influenced and the duration and reversibility of the change.

Size and Scale of Change

The criteria used to assess the size and scale of visual change are as follows:

- the scale of the change in the view with respect to the loss or addition of features in the view, changes in its composition, including the proportion of the view occupied by the proposed development and distance of view;
- the degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of factors such as form, scale and mass, line, height, colour and texture;
- the nature of the view of the proposed development, for example whether views will be full, partial or glimpses or sequential views while passing through the landscape.

The above criteria are summarised in the table below.

Table A12: Visual Magnitude of Change: Size/Scale

Category	Criteria
Large visual change	The proposals will cause a complete or very large change in the view, resulting from the loss of important features in or the addition of significant new ones, to the extent that this will substantially alter the composition of the view and the visual amenity it offers. Views often full or sequential.
Medium visual change	The proposals will cause a clearly noticeable change in the view, resulting from the loss of features or the addition of new ones, to the extent that this will alter to a moderate degree the composition of the view and the visual amenity it offers. Views may be partial/intermittent.
Small visual change	The proposals will cause a perceptible change in the view, resulting from the loss of features or the addition of new ones, to the extent that this will partially alter the composition of the view and the visual amenity it offers. Views may be partial only.
Negligible visual change	The proposals will cause a barely perceptible change in the view, resulting from the loss of features or the addition of new ones, to the extent that this will barely alter the composition of the view and the visual amenity it offers. Views may be glimpsed only.
No change	The proposals will cause no change to the view.

Geographical Extent

The geographical extent of the visual change identified at representative viewpoints is assessed by reference to a combination of the Zone of Theoretical Visibility (ZTV) and field work. The following factors are considered:

- the angle of view in relation to the main activity of the receptor;
- the distance of the viewpoint from the proposed development;
- the extent of the area over which changes would be visible.

Thus, low levels of change identified at representative viewpoints may be extensive in terms of the geographical area they are apparent from: for example, a view from Access Land may be widely visible from much or all of the accessible area, or may be confined to a small proportion of the area. Similarly, a view from a public footpath may be visible from a single isolated viewpoint, or over a prolonged stretch of the route. Community views may be experienced from a small number of dwellings, or affect numerous residential properties.

Table A13: Visual Magnitude of Change: Geographical Extent

Category	Description
Large extent of visual change	The proposal is seen by the group of receptors in many locations across the Study Area or from the majority of a linear route and/or by large numbers of viewers; or the effect on the specific view(s) is extensive.
Medium extent of visual change	The proposal is seen by the group of receptors from a medium number of locations across the Study Area or from a medium part of a linear route and/or by a medium number of viewers; or the effect on the specific view is moderately extensive.
Small extent of visual change	The proposal is seen by the group of receptors at a small number of locations across the Study Area or from only limited sections of a linear route and/or by a small number of viewers; or the effect on a specific view is small.
Negligible extent of visual change	The proposal is either not visible in the Study Area or is seen by the receptor group at only one or two locations or from a very limited section of a linear route and/or by only a very small number of receptors; or the effect on the specific view is barely discernible.

Duration and Reversibility of Change

The duration of the visual change at representative viewpoints is categorised in the table below, which considers whether views will be permanent and irreversible or temporary and reversible.

Table A14: Visual Magnitude of Change: Duration and Reversibility

Category	Description
Permanent/ Irreversible	Change that will last for over 25 years and is deemed irreversible
Long term reversible	Change that will endure for between 10 and 25 years and is potentially, or theoretically reversible.
Medium term reversible	Change that will last for up to ten years and is wholly or partially reversible.
Short term reversible	Change that will last from 0 to 5 years and is reversible- includes construction effects

Deciding on Overall Magnitude of Visual Change

The three factors that contribute to assessment of the magnitude of visual change are combined as shown in the table below (A15).

Table A15: Assessment of Magnitude of Visual Change

Category	Criteria
Substantial	Large level of change with a large geographical extent which will last for more than 10 years;
Medium	Medium level of change with a medium scale of geographical extent which will last for 2 to 10 years;
Slight	Small level of change with a small geographical extent which will be of short duration, lasting up to 2 years;
Negligible	Negligible level of change with a negligible geographical extent which will last for up to 2 years;

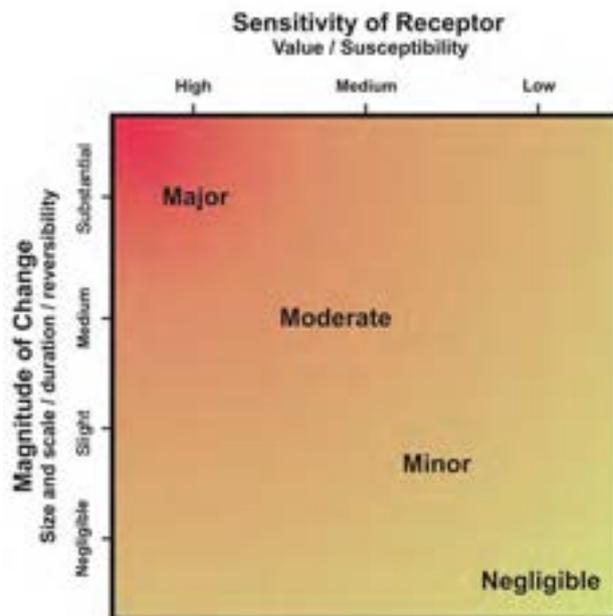
Assessment of Visual Effect and Significance

The assessment of visual effects is defined in terms of the relationship between the sensitivity of the visual receptors (value and susceptibility) (as in A14 to A18) and the magnitude of the change (as in A19 to A21). The diagram below (figure A6) summarises the nature of the relationship but it is not formulaic and only indicates broad levels of effect. Judgements are made about each visual effect using this diagram as a guide.

Effects that fall in the red (darker) section of the diagram, that is those which are considered to be major and major/moderate effects by virtue of the more sensitive receptors and the greater magnitude of change, are generally considered to be the **significant visual effects**. Those effects falling outside the area of major, or major/moderate significance are considered to be **less than significant**.

Our methodology acknowledges that where, for example, several moderate effects occur for the same receptor, e.g. a sequential route within the study area, the overall effect on that receptor may be assessed as significant.

Figure A2: Assessment of Visual Effects and Overall Significance



APPENDIX B

Assessment of Potential Landscape Effects

The following tables set out the sensitivity of the landscape receptors to the proposed development, and the magnitude of landscape effects that those receptors would experience as a result of the proposed development. A commentary on the significance of landscape effects is also included in this section.

These tables should be read in conjunction with section 4.0 of the report, which provides a full explanation of the potential landscape effects of the development.

Table B1: EVALUATION OF THE VALUE OF THE SITE AND ITS IMMEDIATE CONTEXT IN ACCORDANCE WITH TABLE 1 OF LANDSCAPE INSTITUTE GUIDANCE NOTE TGN/02/21

Factor	Assessment	Notes
Natural Heritage	Low	The site does not contain any designated ecological assets, it comprises rough grazing. Existing hedgerows and trees are in good condition, in part, with post and rail fencing where hedgerows have been lost.
Cultural Heritage	Low	The site has no designated heritage assets, with the closest designated features being the Bentley Conservation Area (and associated Listed Buildings) located approximately 120m to the south of the site and the Grade II Listed Jenkyn Place and its boundary wall fronting Hole Lane, located at a distance of approximately 20m and 80m to the north-west of the site.
Landscape Condition	Community	Predominantly rough grassland with partly good quality hedgerows and trees
Associations	Community	The village of Bentley features in the radio programme 'The Village' which looks at the rural village and profiles its inhabitants. Lord Baden Powell lived in the village. The 'Bentley Book' which can be found on the Alton Road, was designed by Lord Baden Powell for the Daily Mail competition for village signs 1923
Distinctiveness	Community	The site is typical of settlement edge grazing land, with influence from low density settlement on three sides.
Recreational	Community	The site is not publicly accessible but Footpath 30 (017/30/2) extends along the western boundary of the site. St Swithun's Way Long Distance Route extends along the northern boundary of the site.
Perceptual (Scenic)	Community	The open, pastoral nature of the site may be appreciated by walkers on St Swithun's Long Distance Route. Potential views from Footpath 30 are largely screened by existing vegetation.
Perceptual (Wildness and Tranquillity)	Community	Openness will be valued by walkers but, noise and lighting associated with the settlement edge and the road network means that this is not entirely a tranquil place to enjoy.
Functional	Community	Established vegetation along the boundaries is, in part, in good condition and connects with hedgerows beyond the site. PRow are present along two boundaries of the site which connect with the wider footpath network.

There are no landscape related designations within the site, recreational opportunities or demonstrable physical attributes that elevate this landscape above an ordinary landscape. The site is not considered to be a “*valued landscape*” for the purposes of NPPF paragraph 174.

The overall value of the application site is therefore assessed as being of **Community** level.

Appendix B

Table B2: Assessment of Sensitivity of Landscape Receptors on the Application Site and its Context

Landscape Receptors	Value	Susceptibility	Sensitivity	Notes
Individual Elements and Features				
Gently sloping, semi-enclosed pastoral fields	Community	Medium	Medium/ Low	The scale, shape and structure of the site would remain but it would be split into residential parcels.
Hedgerow, trees and woodland network	Community	Low	Low	The layout is being designed to largely retain existing established vegetation within the site, although a short section of boundary vegetation would be lost to enable access to Footpath 30. New street trees would be planted and a new length of hedgerow with trees has been proposed to along the northern boundary where hedgerow has been lost.
Aesthetic and Perceptual Aspects				
Visually enclosed (existing vegetation and housing on three sides)	Community	Medium	Medium/ Low	The level of visual enclosure provided by existing boundary vegetation and low density housing would remain
Generally still with some noise apparent from adjacent settlement	Community	Medium	Medium/ Low	The sense of stillness would be affected by the introduction of new residential development, people and cars.
Generally simple colours and forms with some diversity from adjacent development	Community	Medium	Medium/ Low	The generally simple forms and colours of the site would be changed by the introduction of new residential development adjacent to the settlement edge and with some housing to each of three sides.
Overall Character				
LCA 4b Northern Wey Valley	Community	High	Medium	The landscape does not contain any formal landscape designations and is of community value when assessed against Table 1 criteria. However, the landscape is relatively intact and rural and the influences of the settlement edge is relatively limited.
SSCA 8: Northern Bentley	Community	High	Medium	The landscape does not contain any formal landscape designations and is of community value when assessed against Table 1 criteria. However, the landscape is relatively intact and rural and the influences of the settlement edge is relatively limited.

Appendix B

Landscape Receptors	Value	Susceptibility	Sensitivity	Notes
Local Area 4b.1	Community	High	Medium	The landscape does not contain any formal landscape designations and is of community value when assessed against Table 1 criteria. However, the landscape is relatively intact and rural and the influences of the settlement edge is relatively limited.

Appendix B

Table B3: Assessment of Magnitude of Landscape Change

Landscape Receptors	Size and Scale	Geographical Extent	Duration/ Reversibility	Magnitude	Notes
Individual Elements and Features					
Gently sloping, semi-enclosed pastoral fields	Large	Small	Permanent	Medium/ Substantial	The proposed development would introduce new built form into an agricultural field currently used for grazing. Connected areas of open space have been identified within the layout, setting development back from the northern boundary (and St Swithun's Way Long Distance Route) to retain some of the open character of the northern part of the site. The geographical extent of change would affect only the landscape within the site itself and potential perceptual changes on the surrounding landscape would be limited by the visual enclosure provided by existing boundary vegetation and low density development on the edges of the site.
Hedgerow, trees and woodland network	Small	Small	Permanent	Slight	The layout has been designed to largely retain existing established boundary vegetation within the site, although a short section of vegetation on the western boundary would be lost to provide access to Footpath 30 and a short length of hedgerow would be removed at the access point along School Lane. New tree and hedgerow planting would be introduced around and permeate through the built area of the site.
Aesthetic and Perceptual Aspects					
Visually enclosed (existing vegetation and housing on three sides)	Small	Small	Permanent	Slight	The level of visual enclosure provided by existing well-established hedgerows with trees would remain and proposed hedgerow and tree planting would reinforce this characteristic.
Generally still with some noise apparent from adjacent settlement	Medium	Small	Permanent	Medium	The site is generally still, affected to a small degree by noise from adjacent roads and settlement. The introduction of new residential development people and cars would create a large scale of change.

Appendix B

Landscape Receptors	Size and Scale	Geographical Extent	Duration/ Reversibility	Magnitude	Notes
Generally simple colours and forms with some diversity from adjacent development	Medium	Small	Permanent	Medium	Diversity would be introduced into a landscape which is generally simple. The change would be generally contained within the site itself due to the level of visual enclosure provided by existing and proposed boundary vegetation over time.
Overall Character					
LCA 4b Northern Wey Valley	Small	Small	Permanent	Slight	The site is on the edge of the settlement within an area of settled character. The perception of landscape change would be localised as a result of the existing level of enclosure which would increase over time as proposed planting establishes.
SSCA 8: Northern Bentley	Small	Small	Permanent	Slight	The Neighbourhood character assessment recommends that <i>“important vegetation/trees especially on the edge of the settlement and along PRowS”</i> is retained, and that <i>“urbanising’ highway treatments to existing rural lanes”</i> are avoided to reduce the effects of development. The perception of landscape change would be localised as a result of the existing level of enclosure which would increase over time as proposed planting establishes.
Local Area 4b.1	Medium	Small	Permanent	Medium/ Slight	Local Area 4b.1 is described as predominantly rural. The capacity study identifies a series of potential effects resulting from development including the <i>“erosion of tranquillity”</i> and the <i>“loss of rural, predominantly unsettled character”</i> as well as <i>“Impact on sensitive view receptors on St Swithun’s Way”</i> . The geographical extent of change would be low as a result of the level of enclosure.

Appendix B

Table B4: Assessment of Landscape Effects

Landscape Receptors	Sensitivity	Magnitude	Landscape Effects	Nature of Effect (Positive, Neutral or Negative)
Individual Elements and Features				
Gently sloping, semi-enclosed pastoral fields	Medium/ Low	Medium/ Substantial	Moderate/ Major	Negative
Hedgerow, trees and woodland network	Low	Slight	Minor	Positive
Aesthetic and Perceptual Aspects				
Visually enclosed (existing vegetation and housing on three sides)	Medium/ Low	Slight	Minor	Negative
Generally still with some noise apparent from adjacent settlement	Medium/ Low	Medium	Moderate	Negative
Generally simple colours and forms with some diversity from adjacent development	Medium/ Low	Medium	Moderate	Negative
Overall Character				
LCA 4b Northern Wey Valley	Medium	Slight	Minor	Negative
SSCA 8: Northern Bentley	Medium	Slight	Minor	Negative
Local Area 4b.1	Medium	Medium/ Slight	Minor/ Moderate	Negative

APPENDIX C

Assessment of Potential Visual Effects

The following tables set out the sensitivity of visual receptors to the proposed development and the magnitude of visual effects that those receptors would experience as a result of the proposed development

In assessing the magnitude, the effects immediately following completion of construction have been assessed, as well as the effects 15 years after completion, once the proposed new mitigation planting has established and is semi-mature. In many cases only one magnitude is shown in the assessment tables as this would not change significantly between years 1 and 15.

These tables should be read in conjunction with section 5.0 of this report, which provides a full explanation of the potential visual effects of the development.

Appendix B

Table C1: Analysis of Sensitivity of Viewpoints/Visual Receptors

Viewpoint	Value Attached to View	Potential Receptors	Susceptibility of Receptors	Overall Sensitivity	Notes
1. Footpath 30 (017/30/2)	Medium	Walkers	High	High/ Medium	Walkers are more likely to be focused on views of the countryside
2. St Swithun's Long Distance Route / Hole Lane	High	Walkers/ Cyclists Residents Vehicle Users	High High Medium	High High High/ Medium	Narrow, rural lane and long distance route. Walkers are more likely to be focused on views of the countryside. Residents are susceptible to changes in the view. Vehicle users are less susceptible but this is a rural road.
3. St Swithun's Long Distance Route / Church Lane	High	Walkers/ Cyclists Residents Vehicle Users	High High Medium	High High High/ Medium	Narrow, rural lane and long distance route. Walkers are more likely to be focused on views of the countryside. Residents are susceptible to changes in the view. Vehicle users are less susceptible but this is a rural road.
4. St Swithun's Long Distance Route / Hole Lane	High	Walkers/ Cyclists Residents Vehicle Users	High High Medium	High High High/ Medium	Narrow, rural lane and long distance route. Walkers are more likely to be focused on views of the countryside. Residents are susceptible to changes in the view. Vehicle users are less susceptible but this is a rural road.
5. School Lane	Low	Pedestrians/ Cyclists Residents Vehicle Users	High High Medium	High/ Medium High/ Medium Medium	Walkers and cyclists are more likely to be focused on views of the countryside. Residents are susceptible to changes in the view. Vehicle Users are less susceptible to change and experience transient views.

Appendix B

Viewpoint	Value Attached to View	Potential Receptors	Susceptibility of Receptors	Overall Sensitivity	Notes
6. Eggars Field	Low	Pedestrians/ Cyclists Residents Vehicle Users	High High Medium	High/ Medium High/ Medium Medium	Walkers and cyclists are more likely to be focused on views of the countryside. Residents are susceptible to changes in the view. Vehicle Users are less susceptible to change and experience transient views.
7. Babs Fields	Low	Pedestrians/ Cyclists Residents Vehicle Users	High High Medium	High/ Medium High/ Medium Medium	Walkers and cyclists are more likely to be focused on views of the countryside. Residents are susceptible to changes in the view. Vehicle Users are less susceptible to change and experience transient views.
8. Footpath 25 (017/2/51) / Hole Lane	Medium	Walkers/ Cyclists Residents Vehicle Users	High High Medium	High/ Medium High/ Medium Medium	Narrow, rural lane and long distance route. Walkers are more likely to be focused on views of the countryside. Residents are susceptible to changes in the view. Vehicle users are less susceptible but this is a rural road.
9. Conjunction of Footpath 33 (020/33/1) and 32 (020/32/4) (South Downs National Park)	High	Walkers	High	High	Walkers in the National Park are more likely to be focused on views of the countryside.
10. Conjunction of Footpath 31 (020/31/1) and 32 (020/32/4) (South Downs National Park)	High	Walkers	High	High	Walkers in the National Park are more likely to be focused on views of the countryside.
11. Conjunction of Footpath 8 (017/8/1) and Hole Lane	Medium	Walkers/ Cyclists Vehicle Users	High Medium	High/ Medium Medium	Narrow, rural lane and long distance route. Walkers are more likely to be focused on views of the countryside. Vehicle users are less susceptible but this is a rural road.

Appendix B

Table C2: Analysis of Magnitude of Visual Change

Viewpoint	Size and Scale of Change (after Construction)	Size and Scale of Change (after 10 years)	Geographical Extent	Duration and Reversibility	Magnitude (after construction)	Magnitude (after 10 to 15 years)	Notes
1. Footpath 30 (017/30/2)	Small	Small	Medium	Permanent	Slight/ Medium	Slight/ Medium	The hedgerow along Footpath 30 is tall and well established screening views into the site. Proposed built form would be located behind this hedgerow and new planting would reinforce this vegetated boundary. A small access would be created to enable a pedestrian connection from the site through which proposed built form may be visible. The existing view of open fields to the west would remain.
2. St Swithun's Long Distance Route / Hole Lane	Medium	Small	Small	Permanent	Medium	Slight/ Medium	Built form would be introduced into the existing view which currently comprises an open field with residential development around its edges. Built form would be set back from the Long Distance Route across an area of open space. Built form has also been set back from the central north/south axis to ensure that longer views through the site remain with built form to the edges. Native hedgerow with trees has been proposed along the existing boundary which over time would break up the mass of built form.

Appendix B

Viewpoint	Size and Scale of Change (after Construction)	Size and Scale of Change (after 10 years)	Geographical Extent	Duration and Reversibility	Magnitude (after construction)	Magnitude (after 10 to 15 years)	Notes
3. St Swithun's Long Distance Route / Church Lane	Small	Negligible	Small	Permanent	Slight/ Medium	Slight	The site is currently seen in the distance with residential development visible across an open field. Built form would be introduced at closer range across an area of open space. Built form has been set back from the central north/south axis to ensure that longer views through the site remain with built form to the edges. Native hedgerow with trees has been proposed along the existing boundary which over time would break up the mass of built form.
4. St Swithun's Long Distance Route / Hole Lane	Medium	Small	Small	Permanent	Medium	Slight/ Medium	Built form would be introduced into the existing view which currently comprises an open field with residential development around its edges. Built form would be set back from the Long Distance Route across an area of open space. Built form has also been set back from the central north/south axis to ensure that longer views through the site remain with built form to the edges. Native hedgerow with trees has been proposed along the existing boundary which over time would break up the mass of built form.

Appendix B

Viewpoint	Size and Scale of Change (after Construction)	Size and Scale of Change (after 10 years)	Geographical Extent	Duration and Reversibility	Magnitude (after construction)	Magnitude (after 10 to 15 years)	Notes
5. School Lane	Small	Negligible	Small	Permanent	Slight/ Medium	Slight	The existing residential property and drive way would be replaced by a residential property and access route, proposed new homes would also be visible in the background but the existing components of the view would remain.
6. Eggars Field	Negligible	Negligible	Medium	Permanent	Slight	Slight	The existing view would remain largely unchanged. Glimpsed views of an open field are currently available and glimpsed views of an area of open space would be available as a result of the proposed development.
7. Babs Fields	No View	No View	No View	No View	No View	No View	The existing view would remain unchanged. The site is located to the east of Babs Fields and no views from this location would be available as a result of established vegetation and built form.
8. Footpath 25 (017/2/51) / Hole Lane	No View	No View	No View	No View	No View	No View	Potential views of the site (from elevated Footpath) are contained by established, intervening, hedgerows and trees.
9. Conjunction of Footpath 33 (020/33/1) and 32 (020/32/4) (South Downs National Park)	No View	No View	No View	No View	No View	No View	Potential views of the site (and the settlement of Bentley) are screened by a combination of the undulating topography and established, intervening, trees and woodland.

Appendix B

Viewpoint	Size and Scale of Change (after Construction)	Size and Scale of Change (after 10 years)	Geographical Extent	Duration and Reversibility	Magnitude (after construction)	Magnitude (after 10 to 15 years)	Notes
10. Conjunction of Footpath 31 (020/31/1) and 32 (020/32/4) (South Downs National Park)	No View	No View	No View	No View	No View	No View	Potential views of the site (and the settlement of Bentley) are screened by a combination of the undulating topography and established, intervening, trees and woodland.
11. Conjunction of Footpath 8 (017/8/1) and Hole Lane	No View	No View	No View	No View	No View	No View	Potential views of the site (and the settlement of Bentley) are screened by a combination of the undulating topography and established, intervening, trees and woodland.

Appendix B

Table C3: Assessment of Visual Effects

Viewpoint	Sensitivity	Magnitude (after Construction)	Magnitude (after 10 years)	Visual Effects (after Construction)	Visual Effects (after 10 to 15 years)	Nature of Effect (Negative, Positive, Neutral)
1. Footpath 30 (017/30/2)	High/ Medium	Slight/ Medium	Slight/ Medium	Moderate for walkers	Moderate for walkers	Negative
2. St Swithun's Long Distance Route / Hole Lane	High High High/ Medium	Medium	Slight/ Medium	Moderate/Major for walker/cyclists Moderate/Major for residents Moderate for vehicle users	Moderate for walker/cyclists Moderate for residents Minor/ Moderate for vehicle users	Negative
3. St Swithun's Long Distance Route / Church Lane	High High High/ Medium	Slight/ Medium	Slight	Minor/ Moderate for walker/cyclists Minor/ Moderate for residents Minor for vehicle users	Minor for walker/cyclists Minor for residents Minor/ Negligible for vehicle users	Negative
4. St Swithun's Long Distance Route / Hole Lane	High High High/ Medium	Medium	Slight/ Medium	Moderate/Major for walker/cyclists Moderate/Major for residents Moderate for vehicle users	Moderate for walker/cyclists Moderate for residents Minor/ Moderate for vehicle users	Negative
5. School Lane	High/ Medium High/ Medium Medium	Slight/ Medium	Slight	Minor/ Moderate for walker/cyclists Minor/ Moderate for residents	Minor for walker/cyclists Minor for residents Minor/ Negligible for vehicle users	Negative

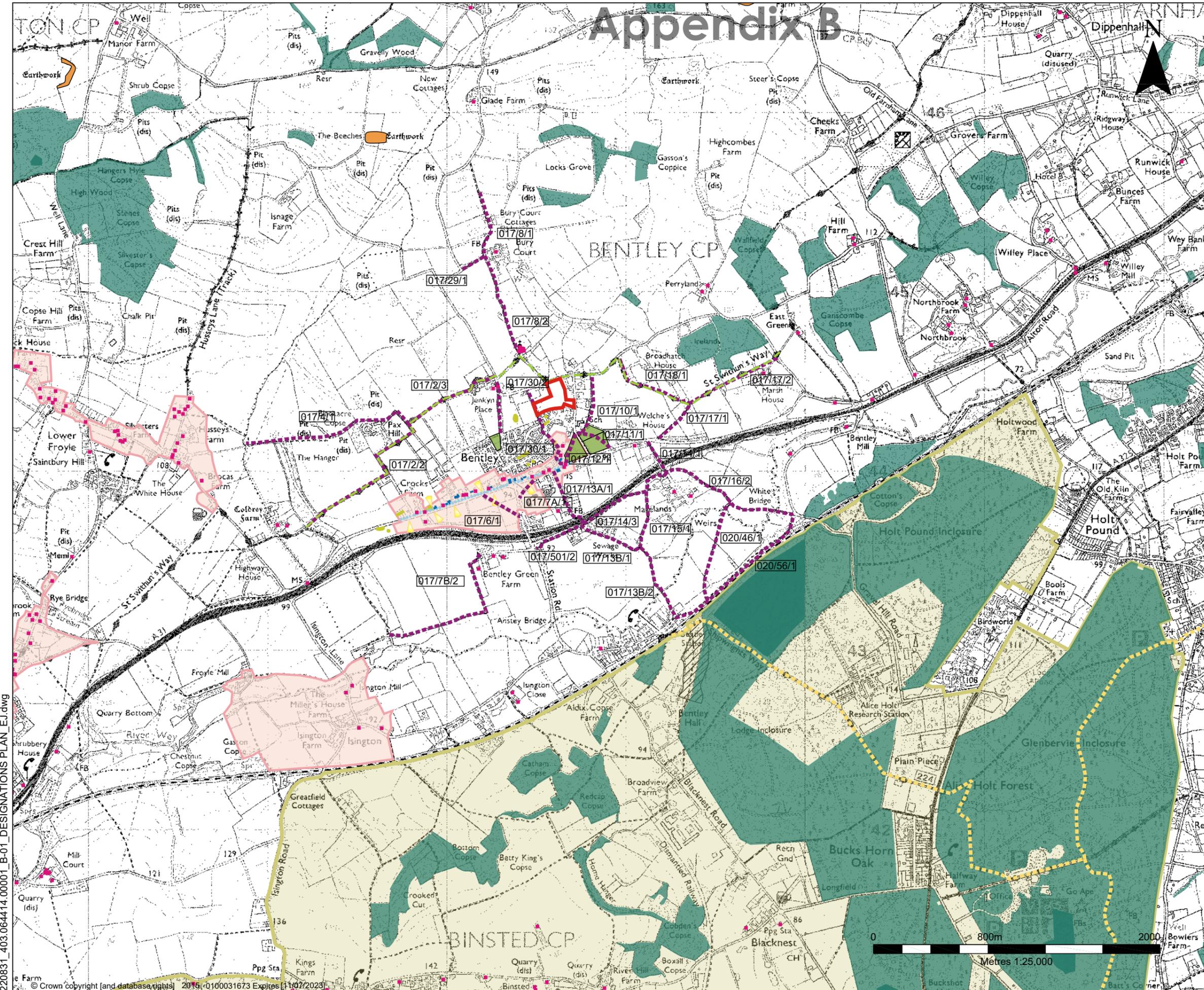
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Viewpoint	Sensitivity	Magnitude (after Construction)	Magnitude (after 10 years)	Visual Effects (after Construction)	Visual Effects (after 10 to 15 years)	Nature of Effect (Negative, Positive, Neutral)
				Minor for vehicle users		
6. Eggars Field	High/ Medium High/ Medium Medium	Slight	Slight	Minor for Pedestrians/ Cyclists Minor for Residents Minor/ Negligible for vehicle users	Minor for Pedestrians/ Cyclists Minor for Residents Minor/ Negligible for vehicle users	Neutral
7. Babs Fields	High/ Medium High/ Medium Medium	No View	No View	None	None	None
8. Footpath 25 (017/2/51) / Hole Lane	High/ Medium High/ Medium Medium	No View	No View	None	None	None
9. Conjunction of Footpath 33 (020/33/1) and 32 (020/32/4) (South Downs National Park)	High	No View	No View	None	None	None
10. Conjunction of Footpath 31 (020/31/1) and 32 (020/32/4) (South Downs National Park)	High	No View	No View	None	None	None
11. Conjunction of Footpath 8 (017/8/1) and Hole Lane	High/ Medium Medium	No View	No View	None	None	None

DRAWINGS

Appendix B

Appendix B



LEGEND

- SITE BOUNDARY
- PUBLIC FOOTPATH WITHIN 1KM OF SITE
- NATIONAL CYCLE NETWORK
- LONG DISTANT ROUTE WITHIN 1KM OF SITE
- ANCIENT WOODLANDS
- LISTED BUILDINGS
- NATIONAL PARKS
- SCHEDULED MONUMENTS
- SITES OF SPECIAL SCIENTIFIC INTEREST

EAST HAMPSHIRE LOCAL PLAN

- CONSERVATION AREAS

BENTLEY NEIGHBOURHOOD PLAN (2015-2028)

- POLICY 6: OPEN SPACES
- BUILDINGS OF LOCAL IMPORTANCE
- TREE PRESERVATION ORDER
- BOUNDARY TREATMENTS OF SIGNIFICANCE
- SIGNIFICANT VIEWS



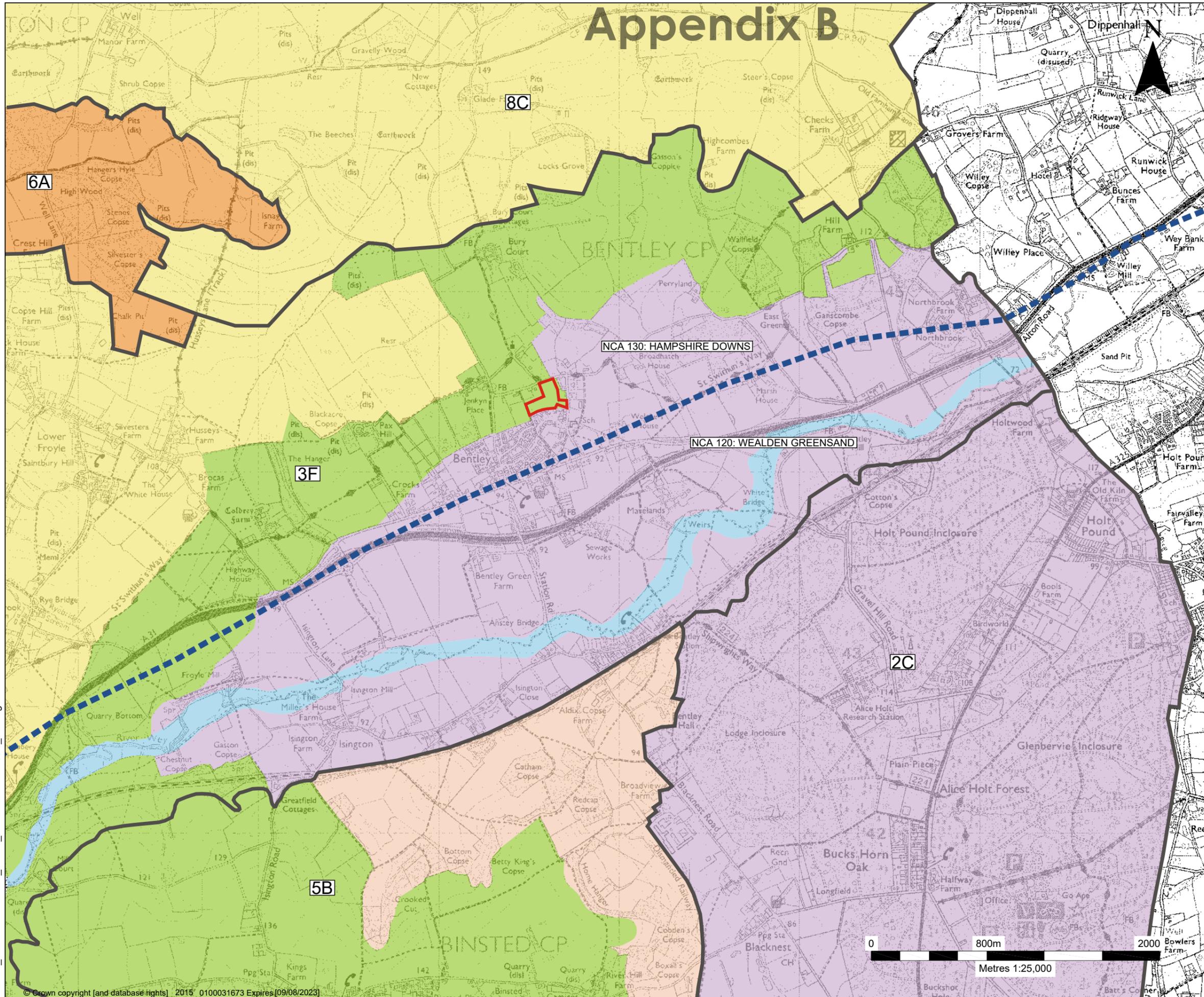
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DESIGNATIONS PLAN**

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Appendix B



- LEGEND**
-  SITE BOUNDARY
 -  NATIONAL CHARACTER AREAS
 - HAMPSHIRE COUNTY INTEGRATED CHARACTER ASSESSMENT (HCICA, 2012)**
 -  LANDSCAPE CHARACTER AREAS
 -  LOWLAND MOSAIC MEDIUM SCALE
 -  GREENSAND TERRACE
 -  DOWNLAND MOSAIC LARGE SCALE
 -  LOWLAND MOSAIC SMALL SCALE
 -  WOODED DOWNLAND PLATEAU
 -  HARBOUR CHANNELS
- 2C - EAST HAMPSHIRE LOWLAND MOSAIC
 - 3F - WEY VALLEY
 - 5B - EAST HAMPSHIRE HANGERS AND GREENSAND TERRACE
 - 6A - EAST HAMPSHIRE WOODED DOWNLAND PLATEAUX
 - 8C - NORTH EAST HAMPSHIRE OPEN DOWNS



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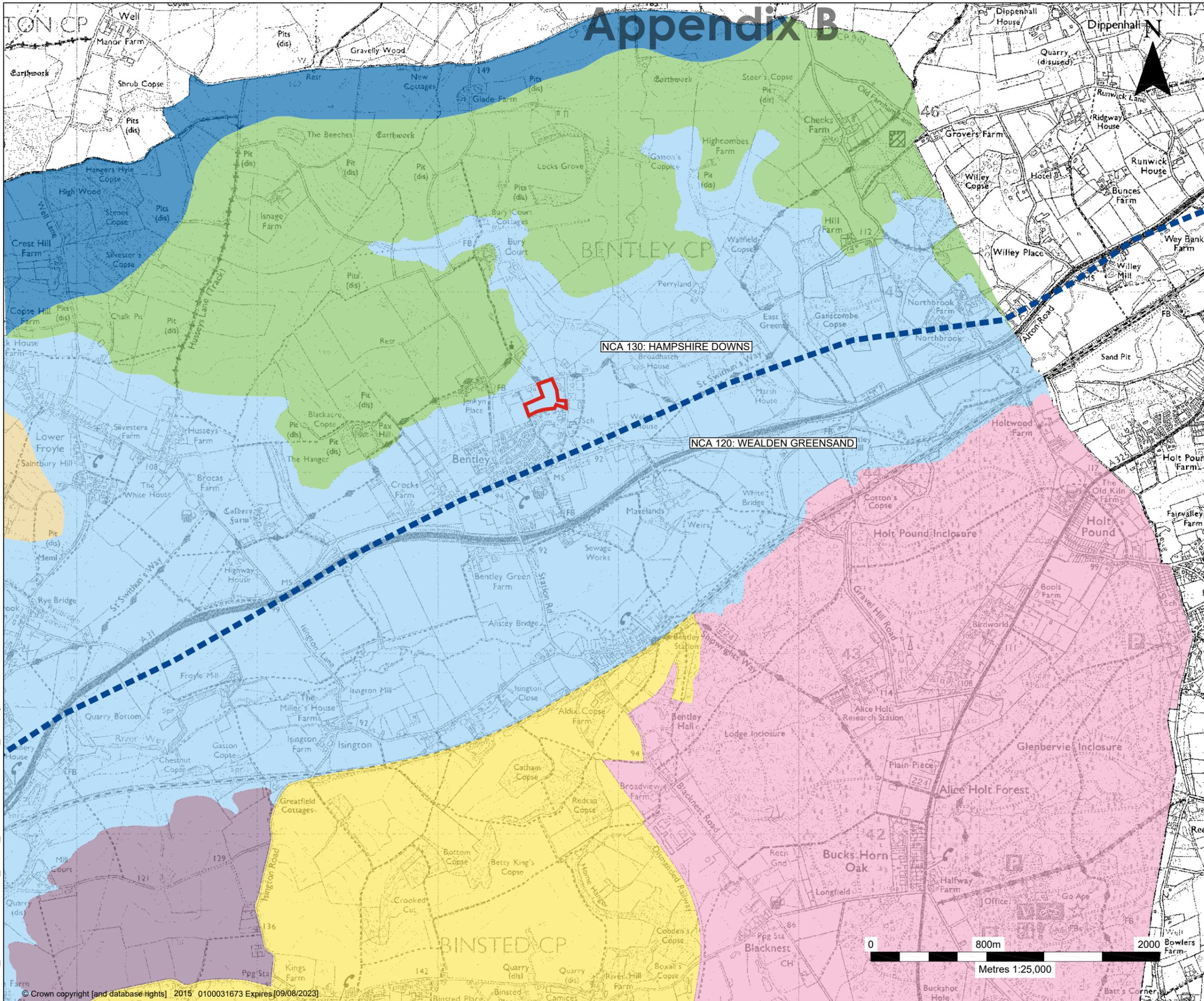
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Appendix B



LEGEND

	SITE BOUNDARY
	NATIONAL CHARACTER AREAS
EAST HAMPSHIRE DISTRICT LANDSCAPE CHARACTER ASSESSMENT (2005-2006)	
	3di - LASHAM (TYPE 3 DOWLAND MOSAIC)
	3dii - LASHAM (TYPE 3 DOWLAND MOSAIC)
	3diii - LASHAM (TYPE 3 DOWLAND MOSAIC)
	4b - NORTHERN WEY VALLEY (TYPE 4 CHALK VALLEY SYSTEMS)
	6a - SELBORNE (TYPE 6 GREENSAND TERRACE)
	6c - SELBORNE (TYPE 6 GREENSAND TERRACE)
	7c - ALICE HOLT (TYPE 7 MIXED FARMLAND AND WOODLAND)



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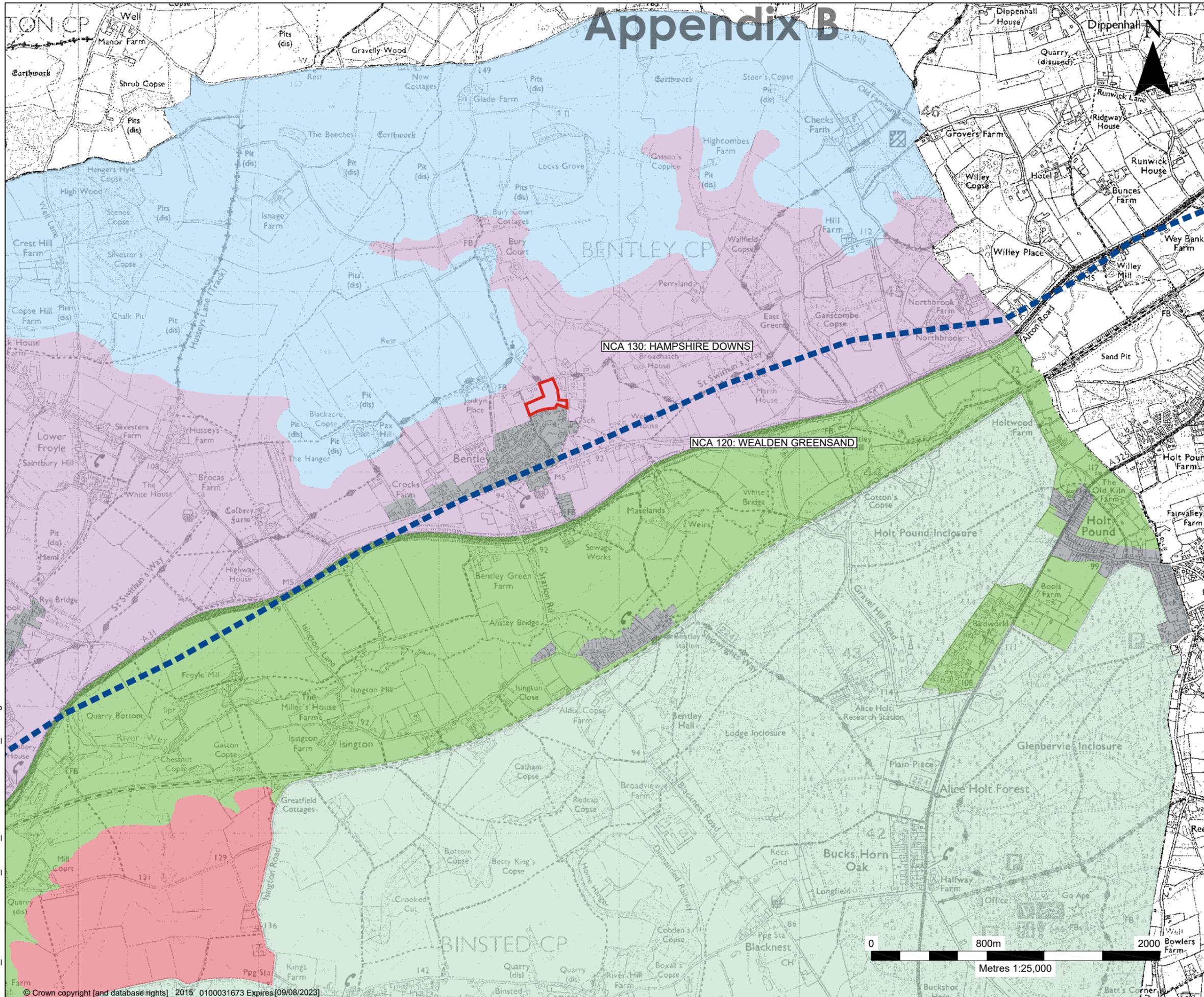
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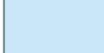
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Appendix B



LEGEND

-  SITE BOUNDARY
-  NATIONAL CHARACTER AREAS
-  LCA 3D.4
-  LCA 4B.1
-  LCA 4B.2
-  LCA 6C.1
-  SETTLEMENT POLICY BOUNDARY
-  SOUTH DOWNS NATIONAL PARK

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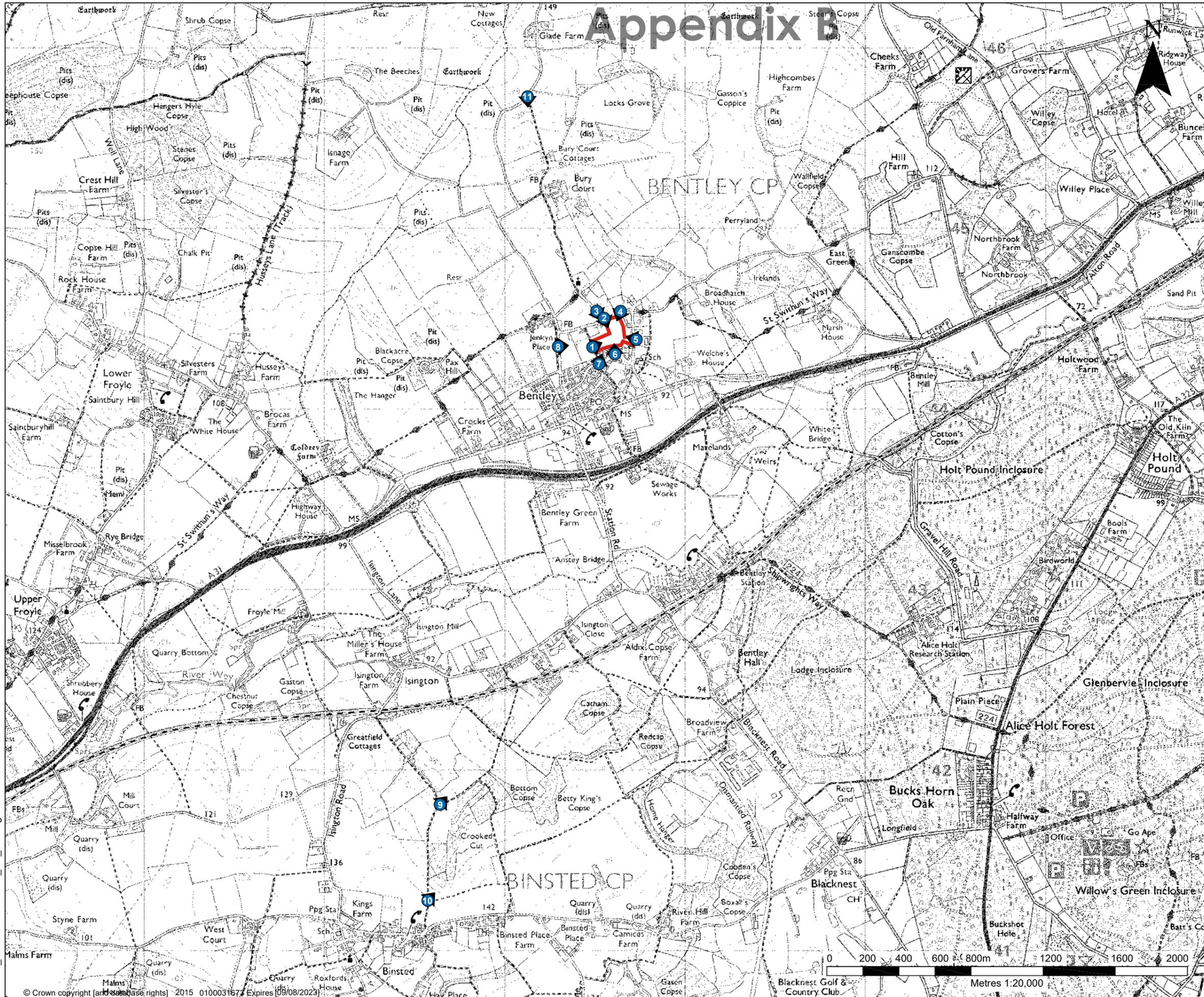
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LANDSCAPE CHARACTER PLAN
B-02C

Scale: 1:25,000 @ A3 Date: AUGUST 2022

220831_403.064414.00001_B-02C_CHARACTER PLAN_EJ.dwg

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Appendix B



LEGEND

- SITE BOUNDARY
- VIEWPOINT LOCATION

2ND AND 3RD FLOORS,
15 MIDDLE PAVEMENT,
NOTTINGHAM, NG1 7DX
T. 01159 647280
www.slrconsulting.com

HOLE LANE, BENTLEY
LANDSCAPE AND VISUAL APPRAISAL
VIEWPOINT LOCATION PLAN

B-03

Scale: 1:20,000 @ A3 Date: AUGUST 2022

220831_403.064414.00001_VP_EJ.dwg

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VIEWPOINT 1: FOOTPATH 30 (017/30/2)

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:44
MAKE AND MODEL OF CAMERA: NIKON 5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: NORTH

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
BENTLEY LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.06414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 1 DRAWING NO: B-04



VIEWPOINT 1: FOOTPATH 30 (017/30/2)

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:44
MAKE AND MODEL OF CAMERA: NIKON D5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: EAST

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
BENTLEY LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.06414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 1 DRAWING NO: B-05

Appendix B



VIEWPOINT 1: FOOTPATH 30 (017/30/2)

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:44
MAKE AND MODEL OF CAMERA: NIKON 5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: SOUTH

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR  
HOLE LANE, BENTLEY
LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.05414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 1 DRAWING NO: B-06

Appendix B



VIEWPOINT 2: ST SWITHENS LONG DISTANCE ROUTE / HOLE LANE

PROJECTION: CYLINDRICAL
 ENLARGEMENT FACTOR: 96% AT A1
 VIEW AT COMFORTABLE ARM'S LENGTH
 HORIZONTAL FIELD OF VIEW: 90°
 TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:51
 MAKE AND MODEL OF CAMERA: NIKON 5300
 MAKE AND FOCAL LENGTH OF LENS: 35MM
 DIRECTION OF VIEW: SOUTH-EAST

TYPE 1 PHOTOGRAPHY
 SUMMER PHOTOGRAPHY

SLR CAMPING PROPERTY
 HOLE LANE, BENTLEY
 LANDSCAPE AND VISUAL APPRAISAL

JOB NO: 403.06414.00001
 DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 2 **DRAWING NO: B-07**



VIEWPOINT 2: ST SWITHENS LONG DISTANCE ROUTE / HOLE LANE

PROJECTION: CYLINDRICAL
 ENLARGEMENT FACTOR: 96% AT A1
 VIEW AT COMFORTABLE ARM'S LENGTH
 HORIZONTAL FIELD OF VIEW: 90°
 TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:51
 MAKE AND MODEL OF CAMERA: NIKON D5300
 MAKE AND FOCAL LENGTH OF LENS: 35MM
 DIRECTION OF VIEW: SOUTH-WEST

TYPE 1 PHOTOGRAPHY
 SUMMER PHOTOGRAPHY

SLR CAMPING PROPERTY
 BENTLEY
 LANDSCAPE AND VISUAL APPRAISAL

JOB NO: 403.06414.00001
 DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 2 **DRAWING NO: B-08**



VIEWPOINT 3: ST SWITHUN'S LONG DISTANCE ROUTE / CHURCH LANE

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:49
MAKE AND MODEL OF CAMERA: NIKON 5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: SOUTH

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR  
HOLE LANE, BENTLEY
LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.05414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 3 DRAWING NO: B-09



VIEWPOINT 4: ST SWITHENS LONG DISTANCE ROUTE / HOLE LANE

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:52
MAKE AND MODEL OF CAMERA: NIKON 5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: SOUTH

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
HOLE LANE, BENTLEY
LANDSCAPE AND VISUAL APPRAISAL

JOB NO: 403.05414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 4 **DRAWING NO: B-011**



VIEWPOINT 4: ST SWITHENS LONG DISTANCE ROUTE / HOLE LANE

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:52
MAKE AND MODEL OF CAMERA: NIKON D5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: WEST

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
BENTLEY
LANDSCAPE AND VISUAL APPRAISAL

JOB NO: 403.05414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 4 **DRAWING NO: B-011**

22082_403.05414.0001_PHOTO SHEETS_B04-0002_A1

Appendix B



VIEWPOINT 5: SCHOOL LANE

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:57
MAKE AND MODEL OF CAMERA: NIKON 5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: WEST

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
HOLE LANE, BENTLEY
LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.06414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 5 DRAWING NO: B-012



VIEWPOINT 5: SCHOOL LANE

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 10:57
MAKE AND MODEL OF CAMERA: NIKON D5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: NORTH

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
BENTLEY
LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.06414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 5 DRAWING NO: B-012



VIEWPOINT 6: EGGARS FIELD

PROJECTION: CYLINDRICAL
 ENLARGEMENT FACTOR: 96% AT A1
 VIEW AT COMFORTABLE ARM'S LENGTH
 HORIZONTAL FIELD OF VIEW: 90°
 TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 11:00
 MAKE AND MODEL OF CAMERA: NIKON 5300
 MAKE AND FOCAL LENGTH OF LENS: 35MM
 DIRECTION OF VIEW: NORTH

TYPE 1 PHOTOGRAPHY
 SUMMER PHOTOGRAPHY

SLR CONSULTING
 CAMPING PROPERTY
 HOLE LANE, BENTLEY
 LANDSCAPE AND VISUAL APPRAISAL
 JOB NO: 403.06414.00001
 DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
 VIEWPOINT 6 DRAWING NO: B-014



VIEWPOINT 7: BABS FIELDS

PROJECTION: CYLINDRICAL
 ENLARGEMENT FACTOR: 96% AT A1
 VIEW AT COMFORTABLE ARM'S LENGTH
 HORIZONTAL FIELD OF VIEW: 90°
 TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 11:03
 MAKE AND MODEL OF CAMERA: NIKON D5300
 MAKE AND FOCAL LENGTH OF LENS: 35MM
 DIRECTION OF VIEW: E.G. NORTH-EAST

TYPE 1 PHOTOGRAPHY
 SUMMER PHOTOGRAPHY

SLR CONSULTING
 CAMPING PROPERTY
 BENTLEY
 LANDSCAPE AND VISUAL APPRAISAL
 JOB NO: 403.06414.00001
 DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
 VIEWPOINT 7 DRAWING NO: B-015



VIEWPOINT 8: FOOTPATH 25 (017/2/51) HOLE LANE

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 11:15
MAKE AND MODEL OF CAMERA: NIKON 5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: NORTH-EAST

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
HOLE LANE, BENTLEY
LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.06414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 8 **DRAWING NO: B-016**



VIEWPOINT 8: FOOTPATH 25 (017/2/51) HOLE LANE

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 11:15
MAKE AND MODEL OF CAMERA: NIKON D5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: SOUTH-EAST

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
BENTLEY
LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.06414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 8 **DRAWING NO: B-017**



VIEWPOINT 9: CONJUNCTION OF FOOTPATH 33 (020/33/1) AND 32 (020/32/4) (SOUTH DOWNS NATIONAL PARK)

PROJECTION: CYLINDRICAL
 ENLARGEMENT FACTOR: 96% AT A1
 VIEW AT COMFORTABLE ARM'S LENGTH
 HORIZONTAL FIELD OF VIEW: 90°
 TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 13:00
 MAKE AND MODEL OF CAMERA: NIKON 5300
 MAKE AND FOCAL LENGTH OF LENS: 35MM
 DIRECTION OF VIEW: NORTH-EAST

TYPE 1 PHOTOGRAPHY
 SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
 BENTLEY LANDSCAPE AND VISUAL APPRAISAL
 HOLE LANE, BENTLEY
 LANDSCAPE AND VISUAL APPRAISAL
 JOB NO: 403.05414.00001
 DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 9 **DRAWING NO: B-018**



VIEWPOINT 10: CONJUNCTION OF FOOTPATH 31 (020/31/1) AND 32 (020/32/4) (SOUTH DOWNS NATIONAL PARK)

PROJECTION: CYLINDRICAL
 ENLARGEMENT FACTOR: 96% AT A1
 VIEW AT COMFORTABLE ARM'S LENGTH
 HORIZONTAL FIELD OF VIEW: 90°
 TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 13:11
 MAKE AND MODEL OF CAMERA: NIKON D5300
 MAKE AND FOCAL LENGTH OF LENS: 35MM
 DIRECTION OF VIEW: NORTH-EAST

TYPE 1 PHOTOGRAPHY
 SUMMER PHOTOGRAPHY

SLR **CAMPING PROPERTY**
 BENTLEY LANDSCAPE AND VISUAL APPRAISAL
 HOLE LANE, BENTLEY
 LANDSCAPE AND VISUAL APPRAISAL
 JOB NO: 403.05414.00001
 DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 10 **DRAWING NO: B-019**

Appendix B



VIEWPOINT 11: CONJUNCTION OF FOOTPATH 8 (017/8/1) AND HOLE LANE

PROJECTION: CYLINDRICAL
ENLARGEMENT FACTOR: 96% AT A1
VIEW AT COMFORTABLE ARM'S LENGTH
HORIZONTAL FIELD OF VIEW: 90°
TO BE PRINTED AT A1 FOR ASSESSMENT PURPOSES

DATE AND TIME OF PHOTOGRAPHY: 20/08/2021 AT 13:37
MAKE AND MODEL OF CAMERA: NIKON 5300
MAKE AND FOCAL LENGTH OF LENS: 35MM
DIRECTION OF VIEW: SOUTH

TYPE 1 PHOTOGRAPHY
SUMMER PHOTOGRAPHY

SLR  
HOLE LANE, BENTLEY
LANDSCAPE AND VISUAL APPRAISAL
JOB NO: 403.00414.00001
DATE: AUGUST 2022 DRAWN: EH CHECKED: EJ APPROVED: EJ
VIEWPOINT 11 DRAWING NO: B-020

Land West of School Lane, Bentley
Archaeological Desk-Based Assessment
September 2022

Appendix B

Appendix B

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Appendix B

Report
Archaeological Desk-Based Assessment

Site

Land West of School Lane, Bentley

Clients

The Lovebug Group Ltd

Date

September 2022

Planning Authority

East Hampshire District Council

Site Centred At

SU 78630 44414

Prepared By

[REDACTED]

Approved By

[REDACTED]

Report Status

Final

Orion Ref

PN3539/DBA/1

Contents

Appendix B

Executive Summary

- 1.0 Introduction
- 2.0 Aims, Objectives & Methodology
- 3.0 Statutory and Planning Policy Framework
- 4.0 Archaeological & Historic Baseline
- 5.0 Built Heritage Assets
- 6.0 Proposed Development and Potential Impact on Designated and Non-Designated Heritage Assets
- 7.0 Summary and Conclusions

Sources Consulted

Appendix A – Gazetteers

List of Illustrations

- Figure 1: Site Location Map
- Figure 2: HER Archaeology Data
- Figure 3: 1575 Speed Map
- Figure 4: 1801 Cary Map
- Figure 5: 1840 Bentley Tithe Map
- Figure 6: 1874 Ordnance Survey Map 1:10,560
- Figure 7: 1896 Ordnance Survey Map 1:2,500
- Figure 8: 1911 Ordnance Survey Map 1:10,560
- Figure 9: 1961 Ordnance Survey Map 1:10,000
- Figure 10: 1979 Ordnance Survey Map 1:2,500
- Figure 11: 2000 Ordnance Survey Map 1:10,000

Timescales Used in This Report

Prehistoric

Palaeolithic	450,000 -12,000 BC
Mesolithic	12,000 - 4,000 BC
Neolithic	4,000 - 2,200 BC
Bronze Age	2,200 - 700 BC
Iron Age	700 - AD 43

Historic

Roman	43 - 410AD
Saxon/Early Medieval	410 - 1066AD
Medieval	1066 - 1485AD
Post Medieval	1486 - 1901AD
Modern	1901 - Present Day

Appendix B

This historic environment desk-based assessment considers land west of School Lane, Bentley (hereinafter referred to as the “study site”). In accordance with government policy (National Planning Policy Framework), this assessment draws together the available archaeological, historic, topographic and land-use information in order to clarify the heritage significance and archaeological potential of the study site.

Archaeological Assets

No statutory designations (Scheduled Ancient Monuments, Registered Battlefields or World Heritage Sites) are located within or adjacent to the study site boundary. None are recorded within the 1km study area. As such the assessment has not identified any designated archaeological assets which will be negatively impacted by the proposed development. The study site is located partially within the Area of Archaeological Potential and a Historic Rural Settlement, and this has been taken into account in consideration of the archaeological potential.

A review of the available evidence has confirmed that the study site has a low potential to contain Prehistoric and Roman finds and features and a moderate potential for medieval and post medieval archaeology. The significance of any such archaeology is likely to be relatively low, relating to the allotments, hop cultivation, agriculture or related to the nearby properties.

Given the archaeological potential identified, the proposed development will have a direct impact if archaeology is present. It is anticipated that there will be a requirement for a geophysical survey condition prior to the submission of the Reserved Matters. Subject to the results of the geophysical survey, the LPA Archaeologist may request further works in order to mitigate the impacts of the proposed development in line with the NPPF.

1.0 Introduction

- 1.1** This historic environment desk-based assessment considers land to the west of School Lane, Bentley (Figure 1). It has been researched and prepared by Orion Heritage on behalf of The Lovebug Group Ltd. The site (hereinafter referred to as the “study site”) is located at grid reference SU 78630 44414. It has been prepared to inform the emerging design of the proposed development and the promotion of the site for residential development.
- 1.2** In accordance with the Standard and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists 2017), the assessment draws together available information on designated and non-designated heritage assets, topographic and land-use information so as to establish the potential for non-designated archaeological assets within the study site. The assessment includes the results of a site survey, an examination of published and unpublished records, and charts historic land-use through a map regression exercise. The assessment also considers the setting of heritage assets and provides an assessment of how their settings contribute to their significance.
- 1.3** The assessment enables relevant parties to assess the significance of archaeological heritage assets on and close to the study site and considers the potential for hitherto undiscovered archaeological assets, thus enabling potential impacts on assets to be identified along with the need for design, civil engineering, or archaeological solutions. It also provides an understanding of any constraints to development of the study site due to the presence of nearby heritage assets and provides an assessment of the potential impact development would have on the significance of heritage assets and also provides design responses that would serve to reduce that impact in line with local and national policy.

Location, Topography and Geology

- 1.4** The study site is located to the north of the village of Bentley, east Hampshire, approximately 12km southwest of Aldershot (Figure 1). It is a 5.27ha, approximately C-shaped plot, situated at c100m AOD and under pasture or garden. The site is bounded by a broken hedgerow and farmland to the north, housing and further farmland to the east, houses and back gardens to the south and Jenkyn Place and gardens to the west.
- 1.5** The solid geology of the study site comprises Gault Formation – mudstone across the eastern half and Upper Greensand Formation - Calcareous sandstone and siltstone across the western half. No superficial deposits are recorded.

2.0 Aims, Objectives & Methodology

2.1 The principal aims of the heritage desk-based assessment are to:

- Gain an understanding of the archaeological potential of the study site;
- Identify any archaeological constraints to the development of the study site; and to
- Assess the likely impact of the proposed development.

2.2 The results of the archaeological desk-based assessment will inform an archaeological strategy for further on-site assessment and formulation of a mitigation strategy, as appropriate to the archaeological potential of the study site.

2.3 This desk-based assessment conforms to the requirements of current national and local planning policy (including *National Planning Policy Framework 2021*) and it has been designed in accordance with current best archaeological practice, and the appropriate national and local standards and guidelines, including:

- Management of Recording Projects in the Historic Environment: MORPHE (English Heritage 2006);
- Code of Conduct (Chartered Institute for Archaeologists [CIfA] [revised edition] 2014); and
- Standard and Guidance for Historic Environment Desk-Based Assessment (CIfA January 2017).

2.4 It is noted that the Chartered Institute for Archaeologists defines desk-based assessment as:

“a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.”

2.5 The Chartered Institute for Archaeologists Standard for desk-based assessment states that:

“Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the Code of conduct and other relevant regulations of CIfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so) and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.”

Methodology

2.6 The following sources will be consulted for the whole study area:

- Hampshire Historic Environment Record (HHER).

Appendix B

- National Heritage List for England held by Historic England.
- Historic mapping.
- Previous archaeological evaluation and excavation records relating to sites in and immediately adjacent to the study area.
- Such other published works, reports and other information relevant to the desk-based assessment.
- Online aerial photography including Google Earth and Bing Aerial.
- An assessment of any Lidar holdings held by the Environment Agency for the study area.
- Portable Antiquities Scheme (PAS) data, available from the PAS website.
- A built heritage assessment has previously been undertaken by CgMs in relation to an earlier planning application for the study site (Edwards, 2015)

2.7 If the DBA is submitted as part of a planning application, a digital copy of the report will be provided to the Oxfordshire HER (hard copies will be provided on request) and a copy will also be uploaded as part of the ADS OASIS database record.

2.8 Lidar provides topographic data and is particularly useful in the detection and identification of heritage assets that survive as earthworks. The Environment Agency (EA) regularly collects Lidar data for England and makes these data available for public use through their online portal. Digital Terrain Models (DTM) are routinely used for heritage purposes as this model shows the ground surface with buildings and trees filtered out to create a 'bare earth' effect. The Environment Agency National Lidar Programme collected DTM data in 2021 at 1m resolution that offers full coverage of the study site and 1km study area. This data was downloaded in February 2022, processed using the Relief Visualisation Toolkit (RVT) version 1.2 and reviewed using QGIS.

3.0 Statutory and Planning Policy Framework

Ancient Monuments & Archaeological Areas Act 1979

- 3.1 The Ancient Monuments & Archaeological Areas Act 1979 (as amended) protects the fabric of Scheduled Monuments but does not afford statutory protection to their settings.

Planning (Listed Building and Conservation Areas) Act 1990

- 3.2 The *Planning (Listed Buildings and Conservation Areas) Act* 1990 sets out broad policies and obligations relevant to the listing of special buildings.
- 3.3 Section 66(1) of the Act states:
- “In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses”.*

National Planning Policy Framework (NPPF) & National Planning Practice Guidance (NPPG)

- 3.4 Government policy in relation to the historic environment is outlined in Section 16 of the National Planning Policy Framework (NPPF), entitled ‘Conserving and Enhancing the Historic Environment’. This provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 16 of the NPPF can be summarised as seeking the:
- Delivery of sustainable development;
 - Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment;
 - Conservation of England's heritage assets in a manner appropriate to their significance; and
 - Recognition of the contribution that heritage assets make to our knowledge and understanding of the past.
- 3.5 Section 16 of the NPPF recognises that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term.
- 3.6 Paragraph 194 states that planning decisions should be based on the significance of the heritage asset, and that the level of detail supplied by an applicant should be proportionate to the importance of the asset and should be no more than sufficient to understand the potential impact of the proposal upon the significance of that asset.
- 3.7 Paragraph 198 states that decisions regarding the removal or alteration of historic statues, plaques, memorials or monuments should have regard to the importance of their retention in situ and, where appropriate, explaining their historic and social context rather than removal.
- 3.8 Paragraph 203 requires the decision-maker to take into account the effect on the significance of non-designated heritage assets and to take a balanced judgement having regard to the scale of harm or loss and the significance of the asset(s) potentially affected.

3.9 Annex 2 of the NPPF has the following heritage related definitions:

- **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.*
- **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);*
- **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.*
- **Significance (for heritage policy):** *The value of a heritage asset to this and future generations because of its heritage interest. This 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.*
- **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.*

3.10 Heritage assets that have not been designated as a listed building, scheduled monument, registered park and garden, protected wreck, battlefield or conservation area is referred to as a non-designated heritage asset.

3.11 The NPPF is supported by the PPG (July 2019). In relation to the historic environment, paragraph 002 (002 Reference ID: 18a-002-20190723) states that:

"Where changes are proposed, the National Planning Policy Framework sets out a clear framework for both plan-making and decision-making in respect of applications for planning permission and listed building consent to ensure that heritage assets are conserved, and where appropriate enhanced, in a manner that is consistent with their significance and thereby achieving sustainable development. Heritage assets are either designated heritage assets or non-designated heritage assets."

3.12 Paragraph 18a-013 (Paragraph: 013 Reference ID: 18a-013-20190723) outlines that although the extent and importance of setting is often expressed in visual terms, it can also be influenced by other factors such as noise, dust and vibration. Historic relationships between places can also be an important factor stressing ties between places that may have limited or no intervisibility with each other. This may be historic as well as aesthetic connections that contribute or enhance the significance of one or more of the heritage assets.

3.13 Paragraph 18a-013 concludes:

"The contribution that setting makes to the significance of the heritage asset does not depend on there being public rights or an ability to access or experience that setting. This will vary over time and according to

circumstance. When assessing any application for development which may affect the setting of a heritage asset, local planning authorities may need to consider the implications of cumulative change. They may also need to consider the fact that developments which materially detract from the asset's significance may also damage its economic viability now, or in the future, thereby threatening its on-going conservation."

- 3.14** The key test in NPPF paragraphs 199-202 is whether a proposed development will result in substantial harm or less than substantial harm to a designated asset. However, substantial harm is not defined in the NPPF. Paragraph 18a-017 (Paragraph: 018 Reference ID: 18a-018-20190723) of the PPG provides additional guidance on substantial harm. It states:

"What matters in assessing whether a proposal might cause harm is the impact on the significance of the heritage asset. As the National Planning Policy Framework makes clear, significance derives not only from a heritage asset's physical presence, but also from its setting.

- 3.15** Proposed development affecting a heritage asset may have no impact on its significance or may enhance its significance and therefore cause no harm to the heritage asset. Where potential harm to designated heritage assets is identified, it needs to be categorised as either less than substantial harm or substantial harm (which includes total loss) in order to identify which policies in the National Planning Policy Framework (paragraphs 200-203) apply.
- 3.16** Within each category of harm (which category applies should be explicitly identified), the extent of the harm may vary and should be clearly articulated.
- 3.17** Whether a proposal causes substantial harm will be a judgment for the decision-maker, having regard to the circumstances of the case and the policy in the National Planning Policy Framework. In general terms, substantial harm is a high test, so it may not arise in many cases. For example, in determining whether works to a listed building constitute substantial harm, an important consideration would be whether the adverse impact seriously affects a key element of its special architectural or historic interest. It is the degree of harm to the asset's significance rather than the scale of the development that is to be assessed. The harm may arise from works to the asset or from development within its setting.
- 3.18** While the impact of total destruction is obvious, partial destruction is likely to have a considerable impact but, depending on the circumstances, it may still be less than substantial harm or conceivably not harmful at all, for example, when removing later additions to historic buildings where those additions are inappropriate and harm the buildings' significance. Similarly, works that are moderate or minor in scale are likely to cause less than substantial harm or no harm at all. However, even minor works have the potential to cause substantial harm, depending on the nature of their impact on the asset and its setting.
- 3.19** Paragraph 202 of the NPPF outlines that where a proposed development results in less than substantial harm to the significance of a heritage asset, the harm arising should be weighed against the public benefits accruing from the proposed development. Paragraph 18a-020 of the PPG (Paragraph: 020 Reference ID: 18a-020-20190723) outlines what is meant by public benefits:

"Public benefits may follow from many developments and could be anything that delivers economic, social or environmental objectives as described in the National Planning Policy Framework (paragraph 8). Public benefits should flow from the proposed development. They should be of a nature or scale to be of benefit to the public at large and not just be a private benefit. However,

benefits do not always have to be visible or accessible to the public in order to be genuine public benefits, for example, works to a listed private dwelling which secure its future as a designated heritage asset could be a public benefit.

Examples of heritage benefits may include:

- *sustaining or enhancing the significance of a heritage asset and the contribution of its setting;*
- *reducing or removing risks to a heritage asset; and*
- *securing the optimum viable use of a heritage asset in support of its long-term conservation.”*

- 3.20** In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance the NPPF, by current Development Plan Policy and by other material considerations.

Local Planning Policy

- 3.21** The East Hampshire Local Plan was adopted in May 2014 and contains the following policies relevant to this assessment:

CP30 HISTORIC ENVIRONMENT

Development proposals must conserve and, where possible, enhance the District’s historic environment.

All new development will be required to:

- a) conserve and enhance the cultural heritage of the South Downs National Park if in the National Park and take account of this cultural heritage where the National Park’s setting is affected;*
- b) reflect national policies in respect of design, landscape, townscape and historic heritage;*
- c) conserve, enhance, maintain and manage the district’s heritage assets and their setting including listed buildings, conservation areas, Scheduled Ancient Monuments, archaeological sites and Historic Parks and Gardens;*
- d) ensure that the development makes a positive contribution to the overall appearance of the local area including the use of good quality materials of appropriate scale, profile, finish, colour and proven weathering ability;*
- e) take account of local conservation area appraisals and town and village design statements where they exist.*

7.80 The historic environment is made up of individual buildings, groups of buildings, conservation areas, historic parks and gardens, archaeological sites and other features, both designated and un-designated, that are important to the overall character of the countryside, towns and villages. East Hampshire has a rich and diverse historic environment which is an important asset. It is also part of the wider environment which draws people to the area either to live, visit or for investment. It is important to recognise that this environment is sensitive to change and requires protection. The challenge for the District is managing changes so that it continues to meet the needs of the future population, while protecting the historic environment.

7.81 Government guidance states that the historic environment and its heritage assets should be conserved and enjoyed for the quality of life they

bring to this and future generations. Imaginative policies can help to reduce threats to the historic environment and contribute to the fabric of the community and its local distinctiveness. The historic environment provides an irreplaceable record of our cultural heritage, adds to the quality of life by enhancing the local scene and sustains the sense of local distinctiveness that is such an important aspect of the character and appearance of towns, villages and countryside. The inclusion of heritage within Green Infrastructure is an important contribution to this. In addition, it can also be of immense importance for leisure and recreation. The Council and National Park Authority recognise the need to continue to embrace change through sensitive adaptation and new development. This must be based on a full understanding of the significance of and impact on the heritage assets, both currently known and potential, and historic environment of the place. Where development will result in the removal or alteration of an heritage asset, this should be recorded and the results made available to the community. The results should make a positive contribution to the public understanding of the historic environment, local distinctiveness and its contribution to the fabric of the community.

- 3.22** There is an Emerging Local Plan that will supersede the 2014 document and may impact future development. At present it does not carry any weight in planning decisions and so has not been referenced here.

Guidance

Historic Environment Good Practice Advice In Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015)

- 3.23** The purpose of this document is to provide information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy in the NPPF and NPPG. Paragraph 6 outlines a six-stage process to the assembly and analysis of relevant information relating to heritage assets potentially affected by a proposed development:

- *“Understand the significance of the affected assets.*
- *Understand the impact of the proposal on that significance.*
- *Avoid, minimise and mitigate impact in a way that meets the objectives of the NPPF.*
- *Look for opportunities to better reveal or enhance significance.*
- *Justify any harmful impacts in terms of the sustainable development objective of conserving significance and the need for change; and*
- *Offset negative impacts on aspects of significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.”*

Historic Environment Good Practice Advice In Planning Note 3: The Setting of Heritage Assets (Historic England 2017)

- 3.24** Historic England’s Historic Environment Good Practice Advice in Planning Note 3 provides guidance on the management of change within the setting of heritage assets.

- 3.25** The document restates the definition of setting as outlined in Annex 2 of the NPPF. Setting is also described as being a separate term to curtilage, character and context; while it is largely a visual term, setting, and thus the way in which an asset is experienced, can also be affected by noise, vibration, odour and other factors. The document makes it clear that setting is not a heritage asset, nor is it a heritage designation, though land within a setting may itself be designated. Its importance lies in what the setting contributes to the significance of a heritage asset.
- 3.26** The Good Practice Advice Note sets out a five-staged process for assessing the implications of proposed developments on setting:
1. Identification of heritage assets which are likely to be affected by proposals.
 2. Assessment of whether and what contribution the setting makes to the significance of a heritage asset.
 3. Assessing the effects of proposed development on the significance of a heritage asset.
 4. Maximising enhancement and reduction of harm on the setting of heritage assets; and
 5. Making and documenting the decision and monitoring outcomes
- 3.27** The guidance reiterates the NPPF in stating that where developments affecting the setting of heritage assets results in a level of harm to significance, this harm, whether substantial or less than substantial, should be weighed against the public benefits of the scheme.

4.0 Archaeological and Historic Baseline

4.1 The heritage assets under consideration have been identified by means of a review of a wide range of sources, in summary this includes:

- Hampshire Historic Environment Record (HHER) Data.
- The National Heritage List for England (NHLE) held by Historic England.
- Historic England Archive.
- Local studies and record office research.
- Review of historic mapping.
- Previous archaeological evaluation and excavation records relating to sites in and immediately adjacent to the study area.
- Such other published works, reports and other information relevant to the desk-based assessment.
- Online aerial photography including Google Earth.
- An assessment of any Lidar holdings held by the Environment Agency for the study area.
- Portable Antiquities Scheme (PAS) data, available from the PAS website.

4.2 These resources have been used to provide an understanding of the heritage assets which may be affected by the proposed development. This chapter will describe the heritage assets which may be affected and assess their significance.

4.3 The location of heritage assets mentioned in the text are shown on Fig 2.

4.4 The study site falls partially within an Area of Archaeological Potential and a Historic Rural Settlement, identified by the HER. This covers the northern half of the study site and extends beyond it to the north of St Mary's Church. The Bentley Conservation Area is located c500m to the south and west. Historic Landscape Characterisation describes the study site under the Small Parliamentary group, consisting of small regular fields with straight boundaries, formed under Parliamentary enclosure.

Portable Antiquities Scheme

4.5 The Portable Antiquities Scheme (PAS) encourages the recording of archaeological objects found by members of the public in England and Wales. A search of the online PAS database is appended to this report. The spatial data is not available to download but can be viewed using the PAS KML download in Google Earth.

4.6 The PAS database contained a Roman copper alloy coin 1km to the north of the study site and three Iron Age silver coins to the west of Bentley village. A post-medieval lead vessel, probably a bird feeder, was found c200m to the south of the study site within the village.

Aerial Photographs and Lidar

4.7 The Cambridge University Collection of Aerial Photographs (CUCAP) is presently closed to the public and there is currently no projected reopening date for services. The CUCAP collection is searchable online and a list of aerial photographs within the study area is at Appendix A. In some cases, there are detailed descriptions and thumbnail images which indicate the subject of the photographs however full analysis has not been possible. Three of these

(RC8LS220; RC8LS221; RC8LS222) cover the study site. No archaeological features are visible within these images.

Appendix B

- 4.8 The National Mapping Programme (NMP) data does not cover the study site. However, at c1km to the south, a series of post medieval drainage ditches and field systems are recorded (HER references 173675; 173676; 62952).
- 4.9 Satellite and aerial imagery held by Google Earth covers the study site for the period 1985-2021, although the resolution of the 1985 image is too low to allow analysis. The remaining images show the site as ploughed agricultural land, pasture and garden. No archaeological features are visible.
- 4.10 The Environment Agency National Lidar Programme collected data that covers the study site and 1km study area at 1m resolution in 2021. The processed data does not show any evidence of archaeological features within the study site.

Previous archaeological investigations

- 4.11 West of Hole Lane and c150m southwest of the study site, an archaeological evaluation did not locate any archaeological features (69261).
- 4.12 An evaluation in advance of an extension to St Mary's Church, Bentley, north of the study site, identified six graves (63588). Further evaluation found the remains of two brick post medieval vaults and a possible ditch that is likely to predate the church (65700).
- 4.13 A large evaluation undertaken prior to development c500m southeast of the study site identified a series of rectangular enclosures (69691). The ditches and gullies included pottery, animal bone, iron slag, hammerscale and charcoal. The artefacts are suggestive of industrial activity during the medieval period, with earlier Roman activity dated by pottery.
- 4.14 Ditches and linear features were also recorded during an evaluation on Station Road (63550). They are probable former field boundaries and dated by a single sherd of medieval pottery.
- 4.15 Recording activities in 1993-94 along the route of the A31 Bentley bypass identified Bronze Age to medieval archaeology (39387). Prehistoric remains included a probable burnt mound and five irregular pits with pottery. Ditches, cremations and two cobbled surfaces were recorded as medieval. Subsequent excavations also found Bronze Age activity as well as Roman brick, tile and pottery.

Undated

- 4.16 Earthworks, possibly associated with an orchard, are recorded immediately to the north of the study site (55068).

Prehistoric

- 4.17 Mesolithic flint cores, microliths and scrapers were found adjacent to the northern boundary of the study site (17054). South of the study site, a Neolithic axe was found by the property owner (39991) and a second findspot of a polished axe head is recorded to the southwest (36153).
- 4.18 In 1994, a Bronze Age hoard of palstaves, socketed axes, swords, spear heads and other artefacts was found c500m southeast of the study site (39692). Further south, a flanged axehead of similar date was also found (17075).
- 4.19 An Iron Age bone handle fragment, decorated with incised lines, was found c400m southwest of the study site (34324).

4.20 In summary, there are no recorded Prehistoric finds or features within the study site. The evidence from the study area is of findspots, with more concentrated activity recorded during development to the south. The potential for Prehistoric archaeology is therefore low.

Roman

4.21 The route of a Roman road, c450m south of the study site, runs in an east-northeast to west-southwesterly orientation (36157). A possible agger is extant to the east of Bentley.

4.22 Trench digging in 1933, c600m to the northwest of the study site, revealed twelve Roman cremation urns (17022). These were associated with pottery, tiles and animal bone.

4.23 At Crocks Farm, c720m to the southwest, a large quantity of Roman pottery has gradually been collected (17028).

4.24 There is a scatter of Roman activity throughout the study area, with the majority found to the south closer to the route of the Roman road. It is considered that there is low potential for Roman remains within the study site.

Medieval

4.25 Bentley is referenced as a settlement in the Domesday Book of 1086. The survey did not include an individual entry however, so there is no land ownership recorded.

4.26 It is thought that the Manor of Bentley belonged to the Bishop of Winchester from the 8th century, attached to nearby Farnham Manor, and descended with the bishopric until it was sold to George Wither in 1648.

4.27 The purported location of 'Jancknes's Well' is to the west of the study site, now within the garden of Jenkyn Place (33972), though the exact location is unknown.

4.28 In summary, medieval activity is recorded to the north around the church and to the south close to the bypass. The location of the study site between these two and within the area of Historic Rural Settlement gives a moderate potential for medieval archaeology.

Post Medieval

4.29 During renovation of a property adjacent to the eastern boundary of the study site, 15th-19th century pottery was found (71319). Earthworks of a building are recorded in the southeast corner of the study site (61092). These correlate with a building shown on the Bentley Tithe Map.

4.30 Jenkyn Place and its boundary wall are Grade II Listed and located to the west of the study site (51797; 12875; 12876). They consist of an 18th century house, with Queen Anne front and subdivided garden with Dutch and Italian influences.

4.31 The Bishop of Winchester eventually regained ownership of Bentley during the post medieval period and held it until it passed to the Ecclesiastical Commissioners by 1885. The Commissioners held the manor as representatives of the bishopric into the 20th century.

4.32 Bentley is recorded on all the known pre-Ordnance Survey mapping, usually with a church, from Speed's 1575 map onwards. The 1801 Cary Map is the first to depict the square of roads that define the settlement, as well as an indication of property located along them.

4.33 On the 1840 Tithe Map the study site is shown in its entirety and the Apportionment records the following:

Plot Number	Plot Name	Owner	Occupier	Cultivation/Use
222	Bower Lands	Parish Officers of Bentley	John Knight	Arable
223	Upper Babbs	John Knight	John Knight	Hops
225	Barn Field Meadow	John Knight	John Knight	Pasture
320	Cottage and Garden	George Goodeve	George Goodeve	----
321	Cottage and Garden	John Knight	John Knight	----

- 4.34** The 1874 Ordnance Survey map clearly depicts Jenkin Place to the northwest and Inwoods Farm, which lies just outside the northern boundary of the study site. The field patterns are very similar and there is already considerable development along London Road. In 1896, the western field within the study area is described as Allotment Gardens.
- 4.35** There is very little change to the settlement, except for the renaming of Jenkin Place to Bentley House by 1911, until 1961 when the OS map shows infill development between the study site and London Road. Two new buildings are also shown north of the study site, west of Inwoods Farm. On the 1979 OS map, Inwoods has been divided into two properties, with the former courtyard having been partially removed and renamed Field House. The infilling continues into the 1980s and 1990s with the A31 bypassing the settlement on the 2000 OS map.
- 4.36** The post medieval evidence is indicative of agricultural use though the site is located between principal buildings, such as the church and Jenkin Place and the residential part of the village. The Tithe Apportionment and later OS mapping also indicate a period of allotment use and hop cultivation, which will have needed special trellises. It is considered that there is a moderate potential for archaeology relating to agriculture, in particular to hop cultivation, and to the nearby residential properties.

Summary of Archaeological Potential and Assessment of Significance

- 4.37** A review of the available evidence has confirmed that the study site has low potential for Prehistoric and Roman archaeology, which is predominantly known from isolated findspots closer to the study site, with more concentrated remains to the south. There is moderate potential for medieval and post-medieval archaeology due to the location between the church and residential settlement. The available evidence points to the study site being agricultural, with references to allotments and hop cultivation, and therefore any remains are likely to be of low, local significance.

5.0 Proposed Development and Potential Impact on Designated and Non-Designated Heritage Assets

Site Conditions

- 5.1 The site comprises pasture and garden bounded by hedgerows, with the residential areas of Bentley spread out to the south and farmland to the north and east.

The Proposed Development

- 5.2 The proposed development consists of 93 dwellings and associated infrastructure.
- 5.3 The production of the masterplan has not been finalised and therefore this section and the impacts and conclusions sections of this report may be subject to revision.

Potential Archaeological Impacts and Mitigation Measures

- 5.4 No statutory designations are located within or adjacent to the study site and none are recorded within the 1km study area. As such, the assessment has not identified any archaeological assets that will be negatively impacted by the proposed development.
- 5.5 A review of the available evidence has confirmed that the study site has low potential to contain Prehistoric and Roman archaeology and moderate potential for finds and features from the medieval and post medieval periods.
- 5.6 Given the archaeological potential within the study site, the proposed development will have a direct impact if archaeology is present. It is anticipated that there will be a requirement for a geophysical survey that could be conditioned prior to the submission of the Reserved Matters. Subject to the results of the geophysical survey, the LPA Archaeologist may request further works in line with the NPPF to mitigate any impacts.

6.0 Summary and Conclusions

6.1 This historic environment desk-based assessment considers land west of School Lane, Bentley.

Archaeological Assets

- 6.2 No statutory designations (Scheduled Ancient Monuments, Registered Battlefields or World Heritage Sites) are located within or adjacent to the study site boundary. None are recorded within the 1km study area. As such the assessment has not identified any designated archaeological assets which will be negatively impacted by the proposed development. The study site is located partially within the Area of Archaeological Potential and a Historic Rural Settlement and this has been taken into account in consideration of the archaeological potential.
- 6.3 A review of the available evidence has confirmed that the study site has a low potential to contain Prehistoric and Roman finds and features and a moderate potential for medieval and post medieval archaeology. The significance of any such archaeology is likely to be relatively low, relating to the allotments, hop cultivation, agriculture or related to the nearby properties.
- 6.4 Given the archaeological potential identified, the proposed development will have a direct impact if archaeology is present. It is anticipated that there will be a requirement for a geophysical survey condition prior to the submission of the Reserved Matters. Subject to the results of the geophysical survey, the LPA Archaeologist may request further works in order to mitigate the impacts of the proposed development in line with the NPPF.

Sources

Appendix B

General

British Library

The National Archives

Hampshire Historic Environment Record

Cartographic

1575	Speed Map
1607	Norden Map
1659	Janssonius Map
1665	Blaeu Map
1787	Cary Map
1794	Cary Map
1801	Cary Map
1808	Froyle OS Drawing OSD129
1829	Greenwood Map
1840	Bentley Tithe Map
1863	Ordnance Survey Map
1871	1:2,500 Ordnance Survey Map
1874	1:10,560 Ordnance Survey Map
1887	1:2,500 Ordnance Survey Map
1896	1:2,500 Ordnance Survey Map
1897	1:10,560 Ordnance Survey Map
1899	1:10,560 Ordnance Survey Map
1910	1:2,500 Ordnance Survey Map
1911-1912	1:10,560 Ordnance Survey Map
1920	1:10,560 Ordnance Survey Map
1934	1:10,560 Ordnance Survey Map
1961	1:10,000 Ordnance Survey Map
1973	1:10,000 Ordnance Survey Map
1979	1:2,500 Ordnance Survey Map
1984-85	1:10,000 Ordnance Survey Map
1989	1:2,500 Ordnance Survey Map
1993	1:2,500 Ordnance Survey Map
1994	1:2,500 Ordnance Survey Map
2000	1:10,000 Ordnance Survey Map
2006	1:10,000 Ordnance Survey Map
2021	1:10,000 Ordnance Survey Map

Websites

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British History Online - <http://www.british-history.ac.uk/> (2022). A History of the County of Hampshire: Volume 4. Available at: <https://www.british-history.ac.uk/vch/hants/vol4> (Accessed 23 August 2022).

British Geological Society Geology of Britain Viewer - <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>

Historic England National Heritage List for England - <https://www.historicengland.org.uk/listing/the-list/>

Heritage Gateway - www.heritagegateway.org.uk

MAGIC - www.magic.gov.uk

Open Domesday. (2022). Entry for Bentley, Hundred of Bentley, Surrey/Hampshire. Available at: <https://opendomesday.org/place/SU7844/bentley/> (Accessed: 22 August 2022).

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Historic England. 2017. Historic Environment Good Practice Advice in Planning Note 3 – The Setting of Heritage Assets

Lidar

Lidar data were downloaded from the Environment Agency website in August 2022 - <https://environment.data.gov.uk/DefraDataDownload/?Mode=survey>

Tile Name	Year	Resolution (m)
SU74ne	2021	1
SU74se	2021	1

APPENDIX A – GAZETTEERS

Appendix B

GAZETTEER OF ARCHAEOLOGICAL ASSETS

In order to understand the nature and extent of the surrounding archaeological resource, a study area of a 1km buffer of the study site was adopted. The following gazetteer represents all of the entries from the Hampshire HER.

Abbreviations:

HHER: Hampshire Historic Environment Record
MonUID: Hampshire HER monument identification reference number

MonUID	NAME
36153	Neolithic Polished Axe Findspot
36155	Area Of Buildings Identified On Ap
36159	Bronze Age Pit, Bentley Green Farm
39692	Bronze Age Hoard Findspot
36041	Linear feature
36157	Location Of Roman Road
36163	Flint Tools From Bentley Green Farm
34324	Bone handle fragment
34327	Iron Age Coin Findspot
39770	Post-Medieval Findspot, Bentley
35756	Probable Long Barrow, S Of Bentley Green Farm
39387	Bronze Age To Post Medieval Activity, Along The A31 Bentley Bypass
17028	Roman Pottery
17054	Flint Cores, Scrapers And Microliths
17075	Flanged Axehead
65347	Roman Road 16
33972	Jenkyn Place
38696	Pax Hill School
17022	Cremation Cemetery
42281	Crocks Farm
61092	Earthworks Representing Site Of Building

Appendix B

MonUID	NAME
63550	Evaluation On Land To South Of Meadow House, Bentley
63588	Evaluation At St Mary'S Church, Bentley
69261	Land At Hole Lane, Bentley
69691	East Field, Main Road, Bentley
71319	Yew Tree Cottage
51756	Broadhatch House
55431	Site Of C19 Brick Kiln, Eggars Field
51797	Jenkyn Place
51811	Marelands
52365	Bury Court
55068	Earthworks, Bentley
65700	Evaluation At St Marys Church, Bentley
61091	Site Of Building
38695	Perryland
28388	Bentley
30455	Site Of Icehouse At Marelands
39991	Bentley Green Farm

GAZETTEER OF PORTABLE ANTIQUITIES SCHEME DATA

The following gazetteer represents all known Portable Antiquities Scheme Data within the 1km study area.

Abbreviations:

PAS: Portable Antiquities Scheme

PAS ID: Portable Antiquities Scheme Identification Reference Number

PAS ID	Name	Period
SUR-DE54EC	Coin	Roman
SUR-088E11	Bird feeder	Post medieval
CCI-920567	Coin	Iron Age
CCI-920568	Coin	Iron Age
CCI-920569	Coin	Iron Age

GAZETTEER OF CAMBRIDGE UNIVERSITY COLLECTION OF AIR PHOTOS

Appendix B

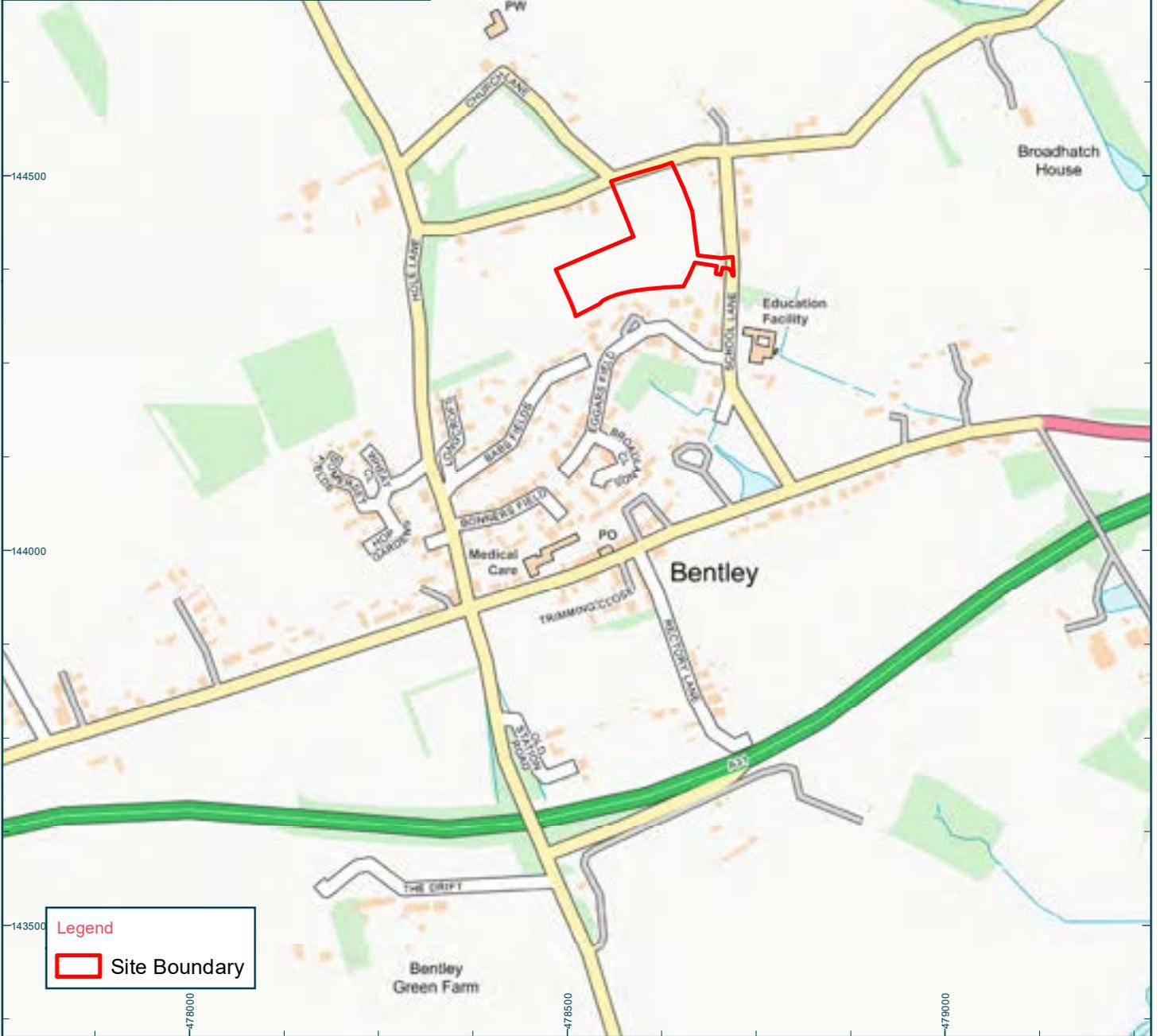
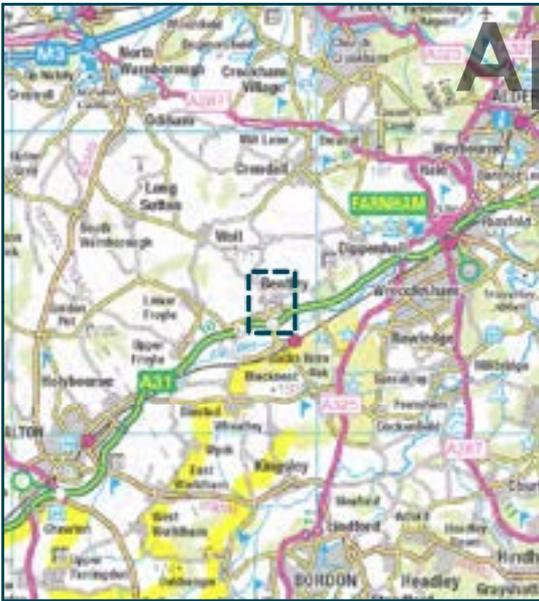
The following cover search lists all aerial photographs covering the study site and c1km study area, which were accessioned to the digital CUCAP archive as of 22/08/2022.

Abbreviations:

CUCAP: Cambridge University Collection of Aerial Photographs

Photo Reference	Oblique or Vertical	Date	Subject	Easting	Northing
AK14	Oblique	11/08/1947	Bentley	478600	144200
AR36	Oblique	19/06/1948	Bentley	478600	144200
RC8LS219	Vertical	05/02/1990	Bentley	478006	143884
RC8LS220	Vertical	05/02/1990	Bentley	478337	144007
RC8LS221	Vertical	05/02/1990	Bentley	478696	144145
RC8LS222	Vertical	05/02/1990	Bentley	479004	144323
ZknIA182	Vertical	01/06/1999	SE 185	479607	144249
ZknIA182	Vertical	01/06/1999	SE 186	479607	144249

Appendix B



Legend

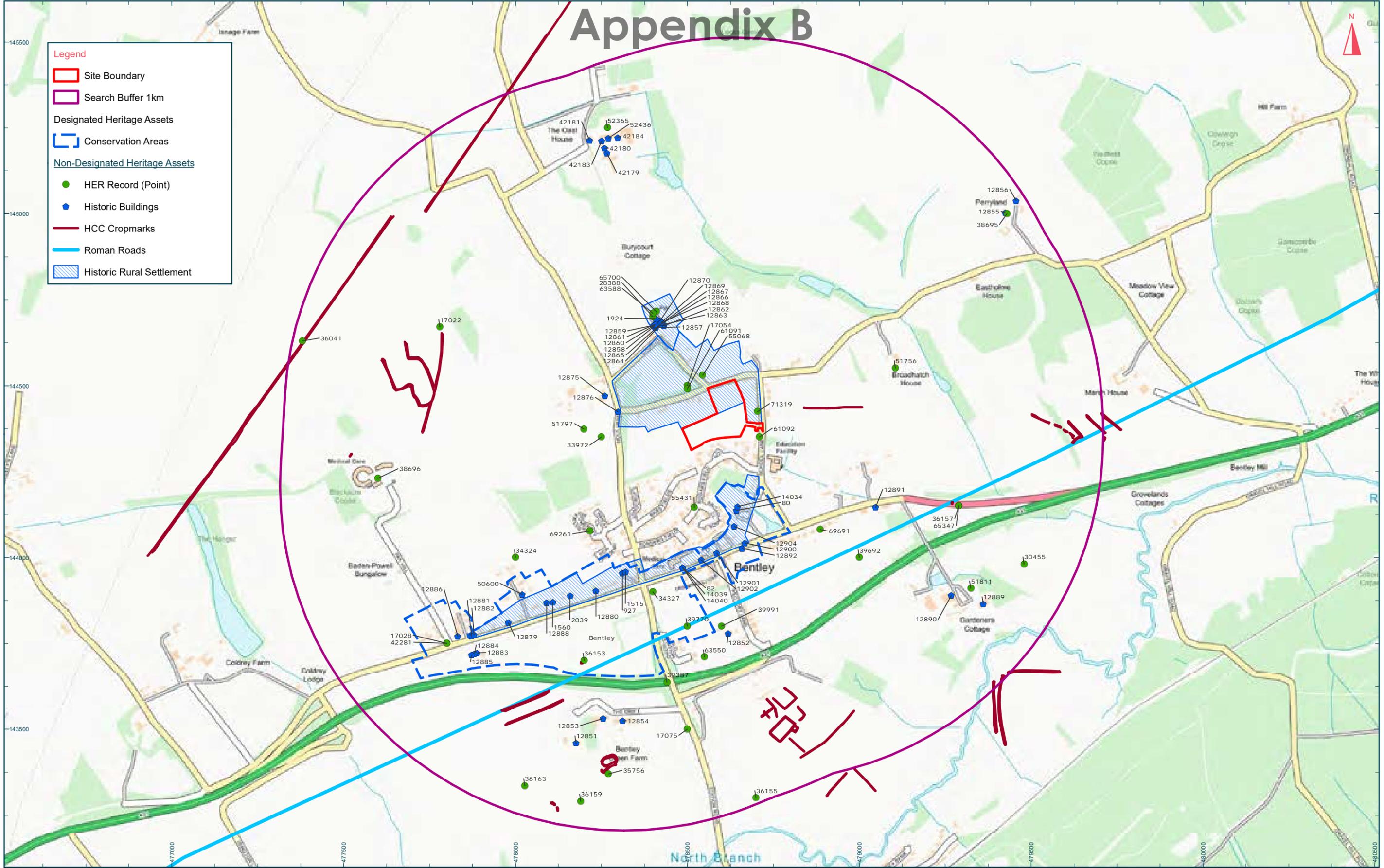
 Site Boundary

<p>Title: Figure 1: Site Location</p> <p>Address: Hole lane, Bentley</p>	<p>Scale at A4: 1:8,000</p> <p>0  250m</p>	
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Appendix B

Legend

- Site Boundary
- Search Buffer 1km
- Designated Heritage Assets**
- Conservation Areas
- Non-Designated Heritage Assets**
- HER Record (Point)
- ◆ Historic Buildings
- HCC Cropmarks
- Roman Roads
- Historic Rural Settlement



Title:
Figure 2: HER Archaeology Data
Address:
Hole lane, Bentley

Scale at A3: 1:10,000
0 400m



Appendix B



Legend

 Approximate Site Location



Title:
Figure 3: 1575 Speed Map
Address:
Hole lane, Bentley

Not To Scale:
Illustrative Only



Appendix B



Legend

 Approximate Site Location



Title:
Figure 4: 1801 Cary Map
Address:
Hole lane, Bentley

Not To Scale:
Illustrative Only

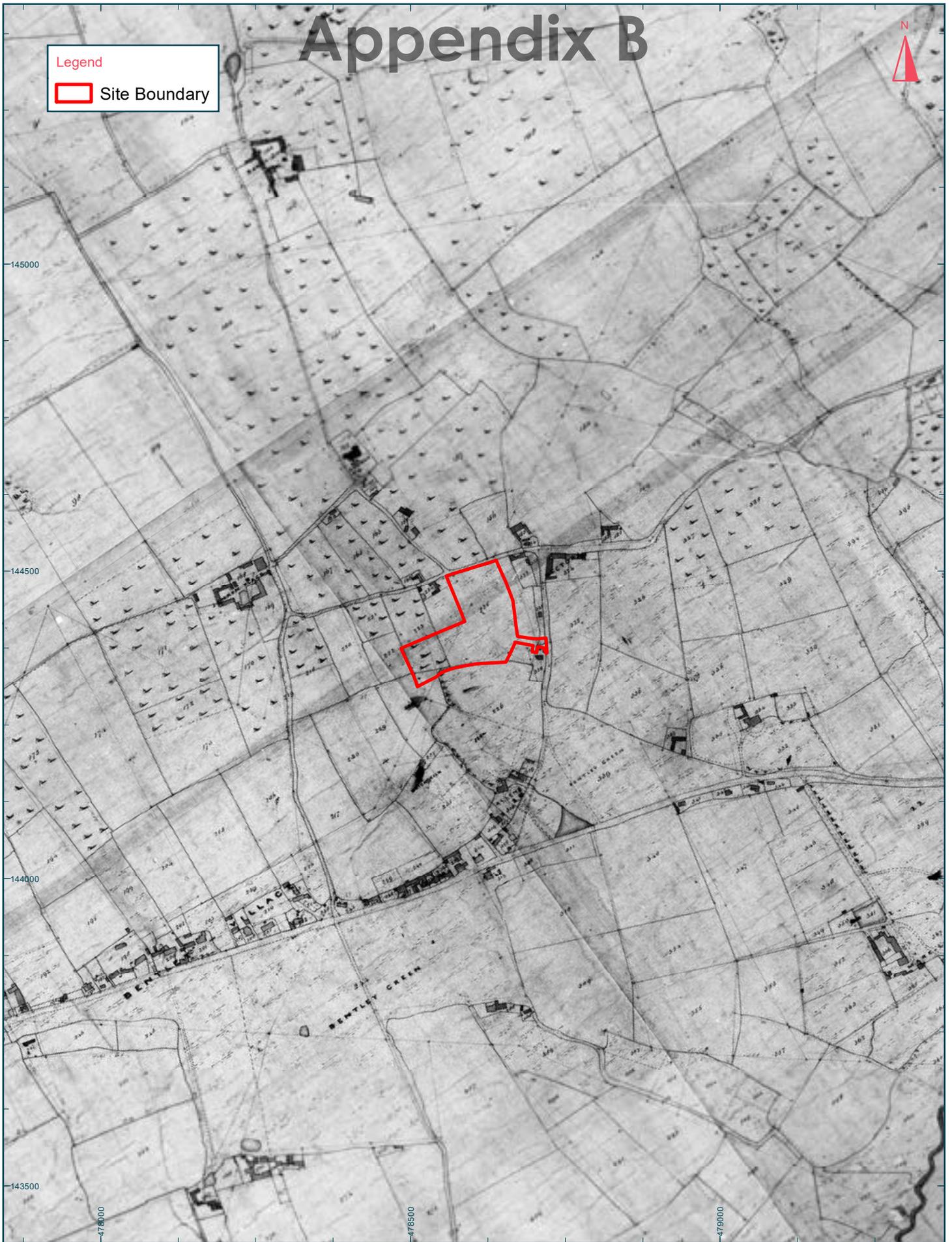


Appendix B



Legend

 Site Boundary

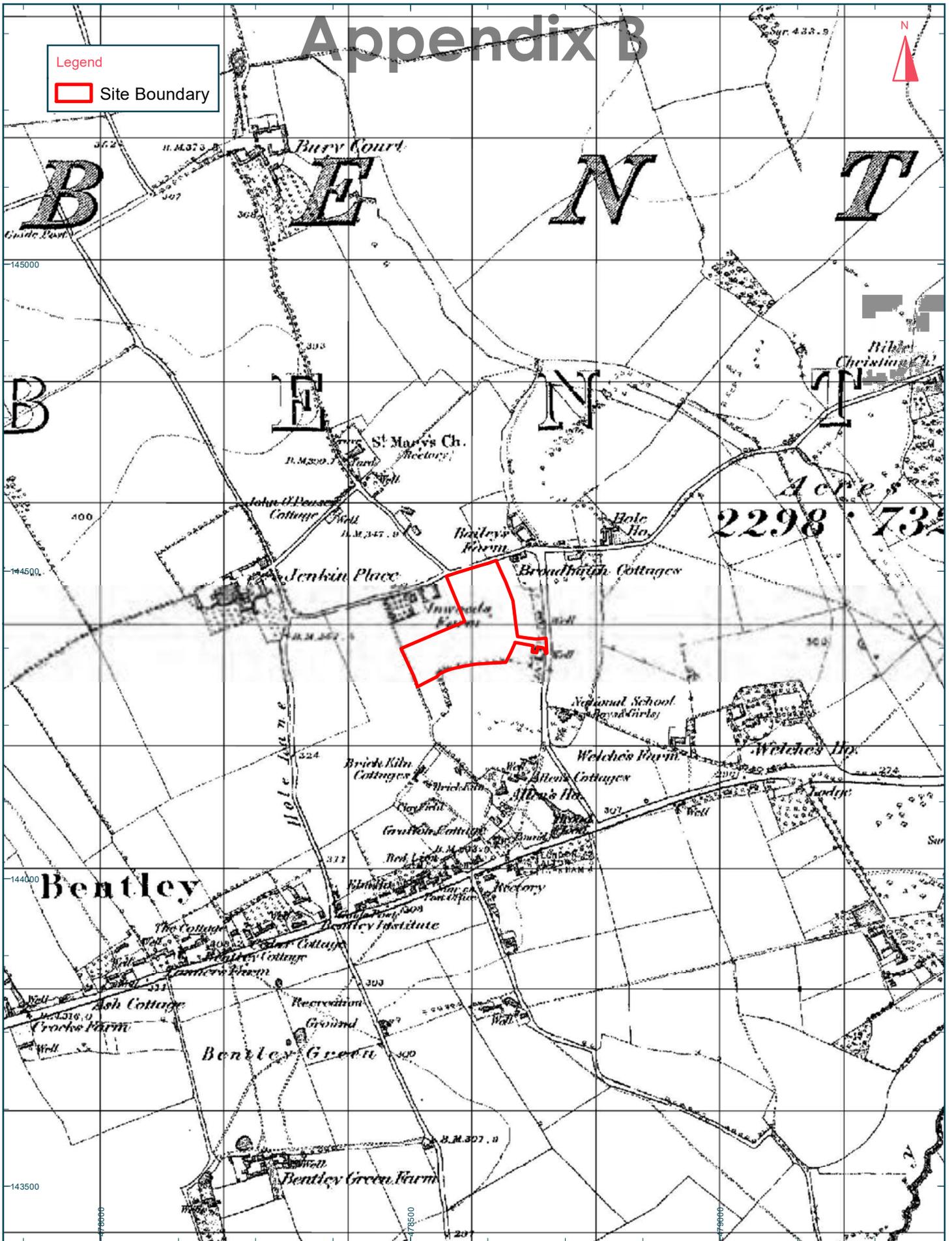


Title:
Figure 5: 1840 Bentley Tithe Map
Address:
Hole lane, Bentley

Scale at A4: 1:8,000



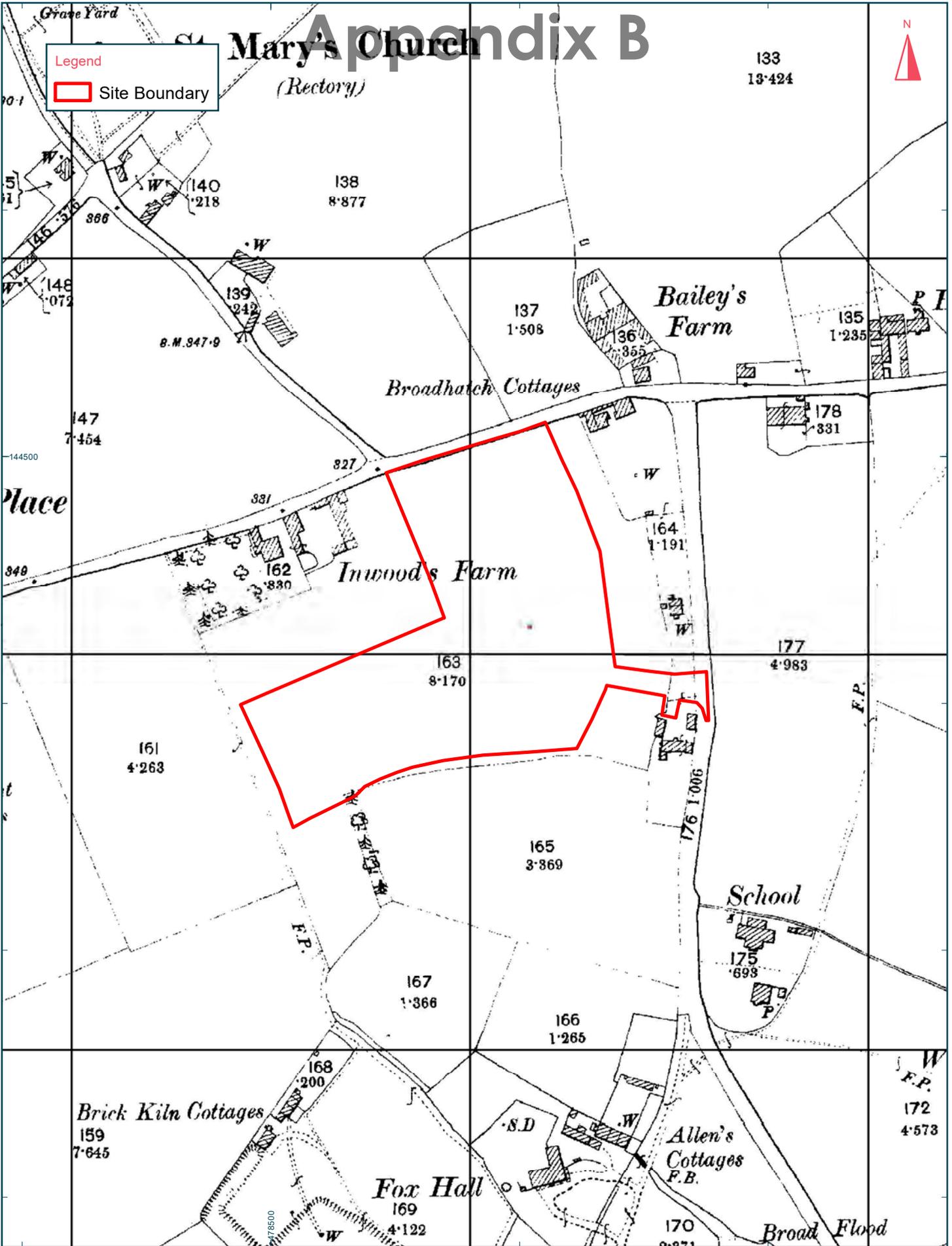
Appendix B



Title:
 Figure 6: 1874 Ordnance Survey Map 1:10,560
Address:
 Hole lane, Bentley

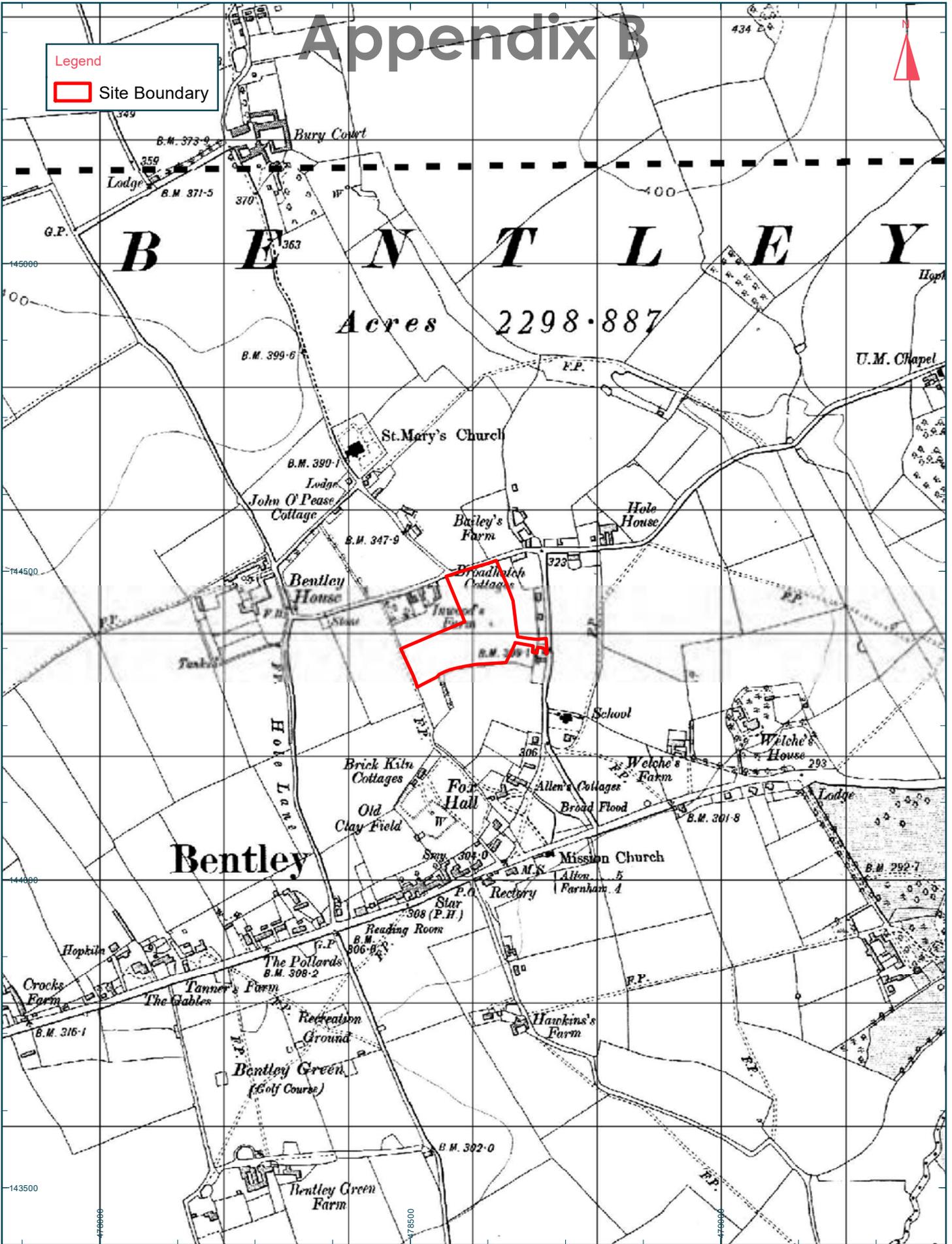
Scale at A4: 1:8,000





<p>Title: Figure 7: 1896 Ordnance Survey Map 1:2,500</p> <p>Address: Hole lane, Bentley</p>	<p>Scale at A4: 1:2,500</p>	
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Appendix B

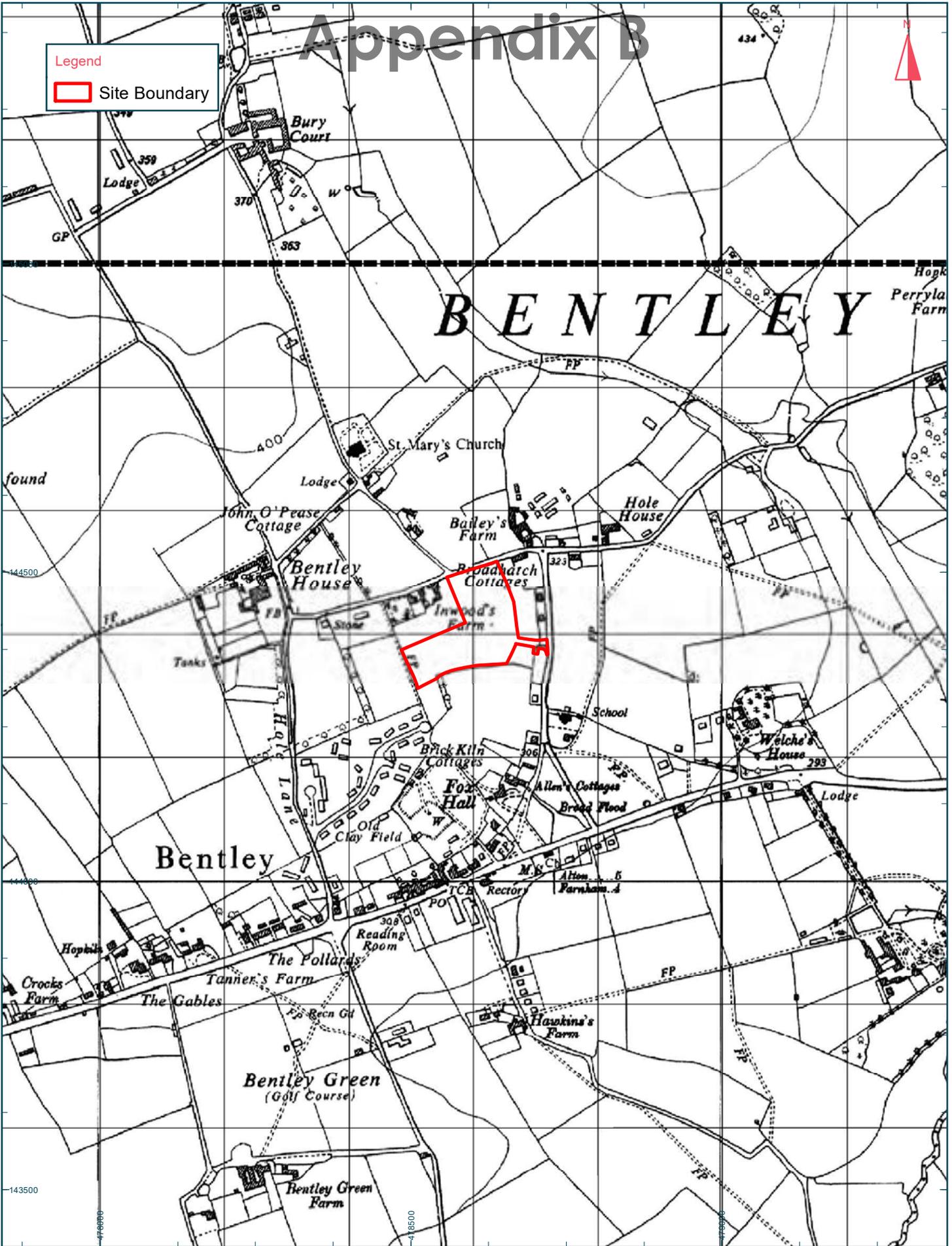


Title:
 Figure 8: 1911 Ordnance Survey Map 1:10,560
Address:
 Hole lane, Bentley

Scale at A4: 1:8,000



Appendix B

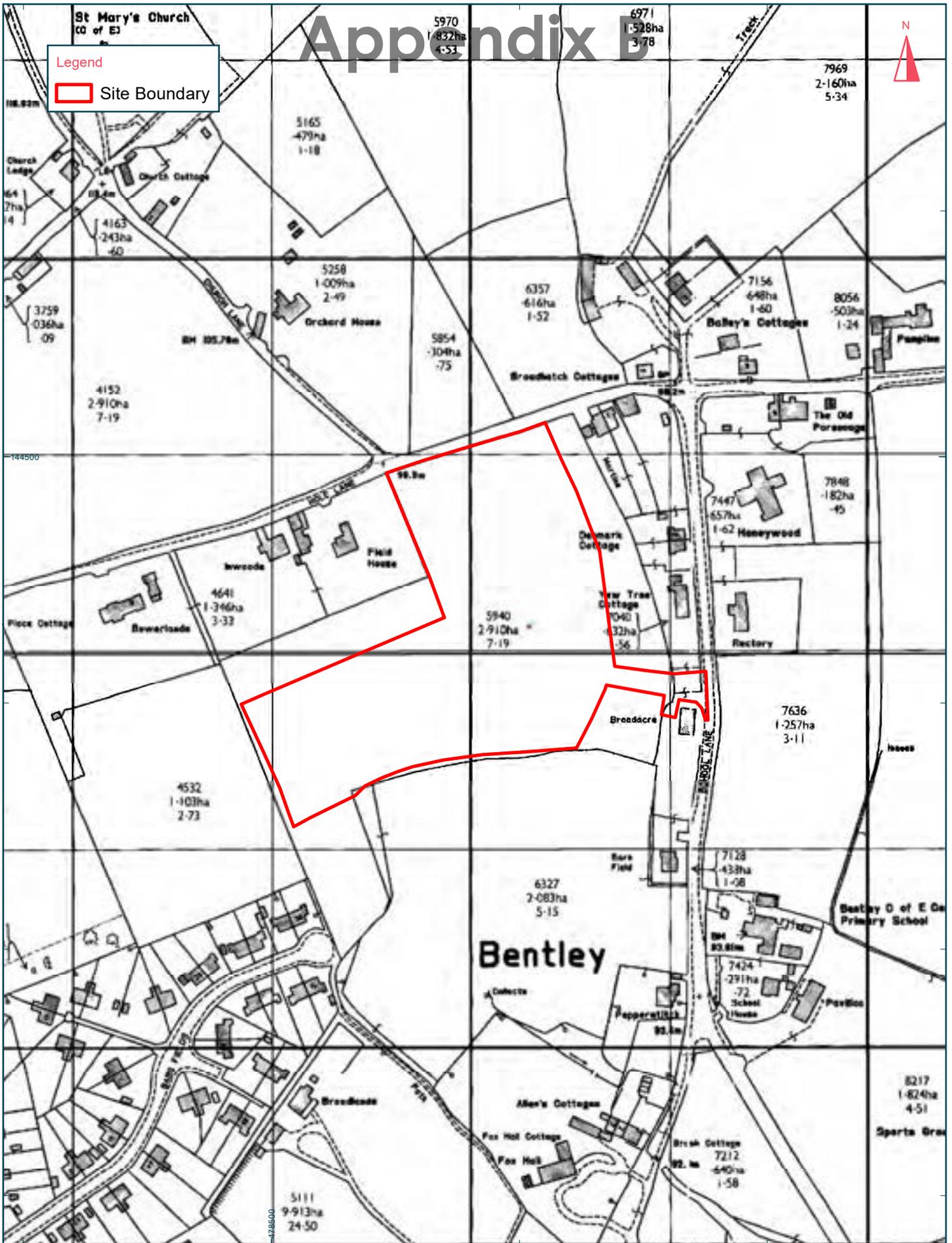


Title:
 Figure 9: 1961 Ordnance Survey Map 1:10,000
Address:
 Hole lane, Bentley

Scale at A4: 1:8,000
 0 250m



Appendix B



Title:
 Figure 10: 1979 Ordnance Survey Map 1:2,500
Address:
 Hole lane, Bentley

Scale at A4: 1:2,500

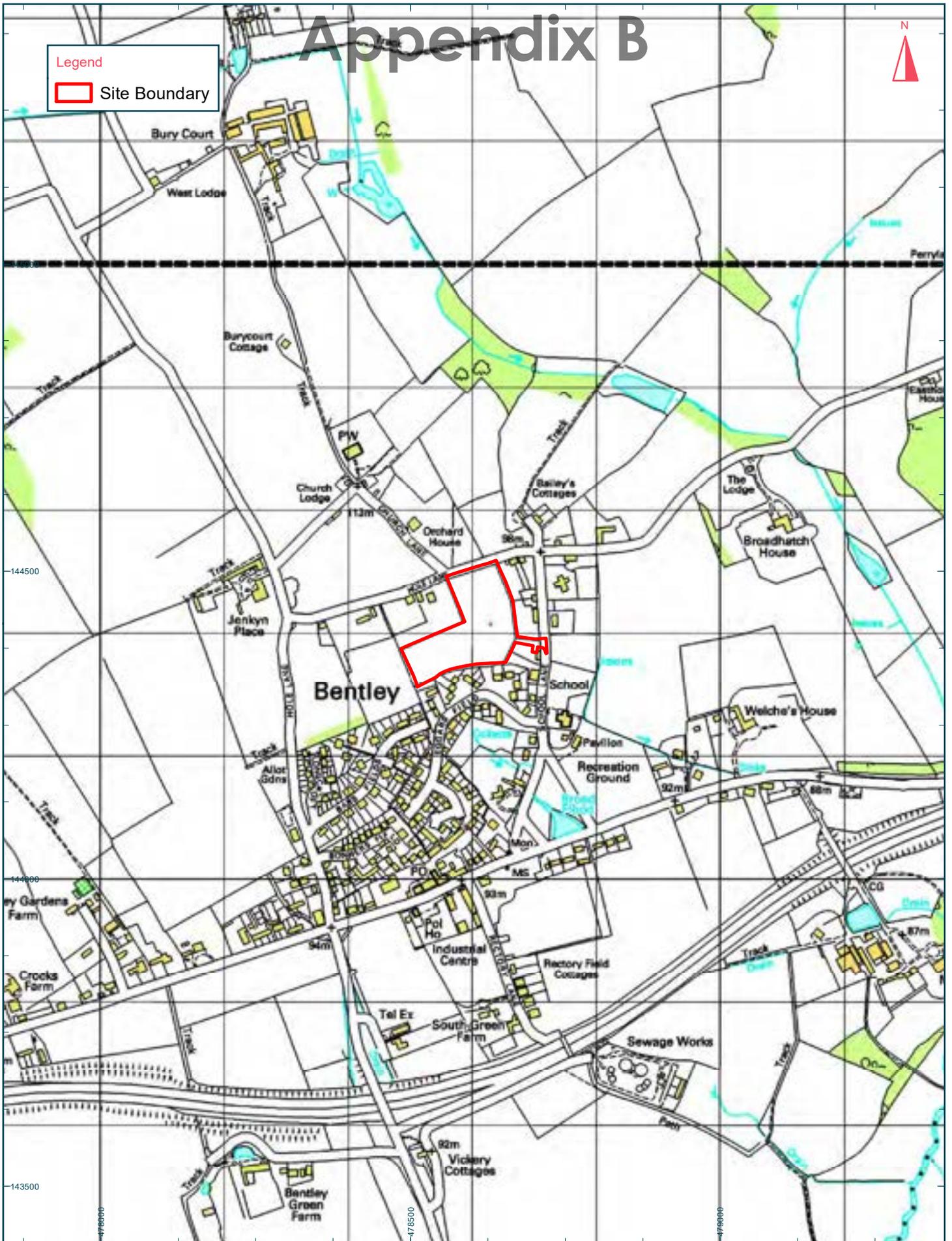


Appendix B



Legend

 Site Boundary



Title:
Figure 11: 2000 Ordnance Survey Map 1:10,000
Address:
Hole lane, Bentley

Scale at A4: 1:8,000



Appendix B

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DAVID ARCHER ASSOCIATES



Arboricultural Method Statement

Land Off School Lane

Bentley

Farnham

GU10 5JP

Client: Camping Property

Date: September 2022

Appendix B

Contents

1.	Introduction.....	3
2.	Pre-start requirements, liaison & communication	3
3.	Tree removals and pruning	4
4.	Protective fencing	4
5.	Ground protection.....	5
6.	Supervised excavations	6
7.	Underground services - drainage	6
8.	Landscaping.....	6
9.	Supervision & monitoring	7
	<i>Table 1</i> - Timings of supervision and monitoring visits.....	8

Appendices

Appendix 1 – Tree Schedule

Appendix 2 – Tree Protection Plan

Appendix B

1. Introduction

- 1.1 This arboricultural method statement ('AMS') details the actions to be taken in order to prevent unacceptable damage being caused to the retained trees on this and the adjacent site during the proposed development at Land Off School Lane, Bentley, Farnham GU10 5JP.
- 1.2 This AMS complies with the recommendations of British Standard BS 5837: 2012, *Trees in relation to design, demolition and construction – Recommendations* ('BS 5837'). It is designed to reflect the principles of the tree protection required for the proposed development, and should not be read as a definitive engineering or construction statement for this site. If required, matters relating to the construction detail or engineering performance of any protective measures specified should be referred to a qualified architect or structural engineer, for further information and specification which may be necessary for their practical implementation in a manner that satisfactorily ensures their protective intention or function.
- 1.3 The AMS should be read in conjunction with, and is to be considered an essential part of, the tree protection plan ('TPP') which is attached to it at **Appendix 2**.

2. Pre-start requirements, liaison & communication

- 2.1 Before any works of any description take place on the site, the applicant, landowner or promoter of the proposed development ('the developer') shall appoint a suitably qualified arboricultural consultant to act as the supervising arboriculturist for the project, in order to ensure that the specified tree protection measures are carried out during the entire construction process. Confirmation of this appointment, and details of the supervising arboriculturist appointed, shall be provided to the Local Planning Authority ('LPA') before any works commence.
- 2.2 Before any works commence on site, the developer shall convene a pre-start meeting. This should be attended by the developer or project manager, the site manager, the groundwork contractor, the supervising arboriculturist and, if so required by the LPA, the LPA tree officer. The meeting will be led by the supervising arboriculturist, who will ensure that the sequence and methods of tree protection specified in this statement are fully explained and understood by all parties. Reporting procedures, arboricultural supervision requirements, and frequency of monitoring visits (as detailed in **Section 9** and *Table 1* of this AMS) will be discussed and agreed, and relevant contact details exchanged. Any modifications to this statement arising from this meeting will be recorded and the revisions circulated to all parties.

Appendix B

- 2.3 The developer shall inform the supervising arboriculturist if at any time during the construction process, the site manager is replaced. In this event, the supervising arboriculturist will, within 5 days, arrange a meeting with the new site manager to review all remaining or outstanding aspects of this method statement.
- 2.4 A copy of this method statement, together with the TPP, shall be given to all personnel who have control over works of any nature within the root protection areas (RPAs) of the trees which are to be retained. The developer will ensure that adequate instruction is given for the implementation of the protection measures outlined within this statement.

3. Tree removals and pruning

- 3.1 Trees nos. 33 & 35 and Hedges H5 & H6 shall be felled to ground level; stumps shall be excavated (grubbed out).
- 3.2 Group G2 is required to be cut back on its eastern side to permit construction of the proposed development.
- 3.3 Tree felling and pruning will be carried out in accordance with British Standard BS 3998: 2010, *Tree work - Recommendations*.

4. Protective fencing

- 4.1 No vehicles of any kind shall enter the site, nor any works commence, until the root protection areas of the retained trees, as shown on the TPP, have been protected by the erection of protective fencing to the specification found in BS 5837, Section 6.2. The location of the fencing is denoted by the continuous bold purple lines on the TPP.
- 4.2 The fencing shall be at least 2.1m in height and comprise standard 'Heras' welded mesh fence panels mounted on a vertical and horizontal scaffolding framework. The panels shall be fixed to each other with at least two clamps and secured with anti-lift devices to concrete or rubber bases that are pinned to the ground to a depth of 450mm by short lengths of scaffolding tube.
- 4.3 Scaffold uprights shall be at a maximum of 3m centres and supported on the side closest to the retained trees by struts braced to the ground at an angle of 45 degrees. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. The Heras panels shall be secured to the two cross members between the uprights with heavy duty cable ties. Notices stating "*Tree Protection Zone – Keep Out*" will be attached with cable ties to every other panel.
- 4.4 No activity of any kind shall be undertaken behind the protective fencing; there shall be no topsoil stripping, no storage of materials, no access for vehicles or personnel, and no excavation or changes in soil level of any kind.

Appendix B

- 4.5 Areas for storing or mixing of fuels, oils or cement shall be agreed at the pre-start meeting. None of these areas shall be within the area behind the protective fencing, and where possible shall not be within 10m of any retained tree.
- 4.6 No fixtures of any nature shall be attached to the retained trees, and no fires shall be lit in any position where heat could affect their foliage or branches.
- 4.7 When the installation of the protective fencing is complete, the supervising arboriculturist shall be informed so that they may come and inspect it. If it complies with this statement, the supervising arboriculturist will record the fact and notify the client and LPA.
- 4.8 If the protective fencing is accidentally damaged or knocked over, the damaged sections shall be immediately marked with high visibility tape or with mesh fencing. The damaged sections shall be replaced or repaired to the original specification within 48 hours. All events of this nature must be recorded and reported to the supervising arboriculturist.
- 4.9 The protective fencing will not be moved, dismantled or relocated without the prior approval of the supervising arboriculturist. When the construction period is complete the fencing may then be removed, but only after first informing the supervising arboriculturist of this intention.

5. Ground protection

- 5.1 In order to provide construction working space, where the setting back of the protective fencing space results in unmade ground within the RPAs of retained trees being exposed to construction damage, temporary ground protection shall be put in place for the duration of the construction period, in the location denoted by magenta hatching on the TPP. In order to protect the structure of the soil adjacent to the areas of construction, the ground protection should be capable of supporting any traffic, pedestrian or mechanical, entering or using the relevant areas without being distorted or causing compaction of underlying soil.
- 5.2 The ground protection shall comprise of proprietary inter-linked ground protection boards or 15mm (3/4") steel sheets placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane.
- 5.3 The ground protection shall be installed in the specified location at the same time as the erection of the protective fencing, prior to any works commencing on the site. When its installation is complete, the supervising arboriculturist shall be informed so that they may come and inspect it. If it complies with this statement the supervising arboriculturist will record the fact and notify the client and LPA.

Appendix B

- 5.4 If, during the course of construction operations, it becomes known that the specification of the installed ground protection in any location will be insufficient to accommodate the loadings to which it will unavoidably be subjected, it shall be replaced or upgraded to a more robust specification immediately, in accordance with BS 5837 recommendations and with the advice of the supervising arboriculturist, before any further works in the relevant area proceed.
- 5.5 The ground protection shall be retained in place for the duration of the construction operations, and shall not be removed until all works are completed, and all equipment and materials have been removed from the site.

6. Supervised excavations

- 6.1 Where denoted by brown hatching on the TPP, within the RPA of tree no. 34, excavations for the formation edges of new areas of hard surfacing shall be undertaken under direct on-site arboricultural supervision. The first 750mm depth of the excavation (or the required depth if this is less than 750mm) shall be excavated using hand tools only.
- 6.2 For formation edges of new hard surfacing, any roots found with a diameter of less than 25mm shall be cleanly severed by the supervising arboriculturist. If any roots of 25mm diameter and above are found, they shall initially be covered and protected by damp hessian. The supervising arboriculturist shall then decide if it is necessary to retain them. If not, they shall be cleanly severed. If removal of such roots is not feasible, they shall be wrapped with a 50:50 mixture of topsoil and clean sharp sand with a minimum thickness of 50mm, encased in polythene and incorporated into the kerb structure. The wrapping shall take into account the potential for future growth and make provision for expansion of the roots' diameter.

7. Underground services - drainage

- 7.1 As per Viewport 2 of the TPP, detailed drainage plans have been produced for the outline planning submission. As can be seen, there are no impacts on trees to be retained from the proposed drainage routes, including the connections to the existing network.

8. Landscaping

- 8.1 On completion of construction works, but prior to the commencement of any landscaping works within the protected area behind the protective fencing the developer shall arrange a meeting with the site manager, the supervising arboriculturist and the landscape contractor. The details of this part of the method statement shall be discussed in relation to the proposed landscape operations and a clear sequence of operations established.
- 8.2 Within the RPAs the following principles will be maintained:

Appendix B

- J Existing ground levels shall not be substantially altered.
- J No plant or vehicles shall enter the RPA.
- J No fuels or chemicals shall be stored within any of these areas.
- J Any excavation required for fence posts, log retaining walls or any other landscape structures shall be undertaken by hand, under direct arboricultural supervision. If roots are encountered then the position of the excavation shall be moved to a new location. If this is not possible then any roots with a diameter less than 25mm may be cut cleanly by hand. Any exposed roots shall be re-covered within 24hrs of excavation.
- J No structure shall be fastened in any way to the trunks of the retained trees.
- J No drainage or irrigation pipes shall be installed within the RPAs of the retained trees.
- J Any unwanted vegetation shall be removed by hand.

9. Supervision & monitoring

- 9.1 At the start of the construction process the supervising arboriculturist shall visit the site on the occasions specified to inspect the tree protection measures (fencing and ground protection) as installed. If these measures comply with the specifications detailed in this method statement, statements of compliance shall be sent to the developer and copied to the LPA.
- 9.2 The supervising arboriculturist shall then visit the site on a regular basis, as agreed at the pre-start meeting, or when specifically required as set out in *Table 1* below, to ensure that the tree protection measures are kept in place and functioning as designed. Regular contact will be maintained with the site manager to determine any forthcoming operations that may make an impact on these tree protection measures and if arboricultural supervision is required. A record of all monitoring visits will be kept, and copies sent to the developer and the LPA following each visit.
- 9.3 The site manager shall give at least 48 hours' notice to the supervising arboriculturist of any operations, e.g. construction of hard surfacing etc., which may make an impact on the RPAs of the retained trees.
- 9.4 Any alterations or variations in drawings for the site that are in, or within, the RPAs of the retained trees shall be referred in the first instance to the supervising arboriculturist for advice. If these changes make any kind of impact on the retained trees the supervising arboriculturist shall suggest changes that will either avoid damage to the retained trees or offer solutions to minimize the impact. If required, the supervising arboriculturist will liaise with the LPA's tree officer to agree a way forward, since any alterations to the approved details may require the LPA's prior written agreement. Following these consultations, the supervising arboriculturist shall issue revisions to the TPP and/or this AMS that reflect the changes.

Appendix B

9.5 Where any operations carried out by the developer deviate substantially from this AMS, work must cease immediately and the LPA be informed in writing. A meeting will be convened between the developer, the supervising arboriculturist, the LPA tree officer and the site manager to determine the best method to mitigate any damage that may have occurred. Work shall not be recommenced until appropriate action has been agreed to the LPA's satisfaction.

Visit no.	Trees affected/ relevant	Timing of visit	Function carried out
1	All	Prior to the start of any construction works.	To lead the pre-start meeting.
2	All	Following tree felling, erection of protective fencing and installation of ground protection.	To check protective fencing and ground protection have been installed in the correct locations and to the correct standard.
3	34	During the excavation of that section of the kerbing within the RPA of tree 34.	To supervise the manual excavation of the kerb foundations.
4	All	On a regular basis during the construction phase.	To check the protective fencing & ground protection remain in place and that activities which would be harmful to trees are not being carried out.
5	All	At any other time which is sensitive in arboricultural terms.	To ensure retained trees are protected from development activities.

Table 1 - Timings of supervision and monitoring visits

David Archer | Practice Principal

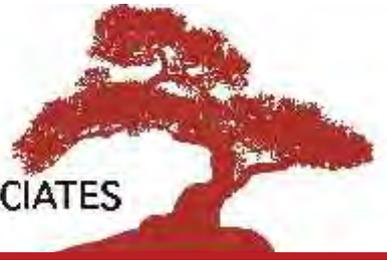
M.Arbor.A.

September 2022

Appendix B

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DAVID ARCHER ASSOCIATES



APPENDIX 1 – Tree Schedule

Appendix B

TREE SURVEY SCHEDULE

Land Off School Lane
Bentley
Farnham
GU10 5JP

July 2022

Appendix B

Notes for the Tree Schedule

This schedule is based on an inspection carried out by Michael Roberts on Wednesday the 13th July 2022. Weather conditions at the time were clear, dry and bright. Deciduous trees were in leaf.

The information contained in this schedule reflects the conditions of those specimens at the time of inspection. They were inspected from the ground only; they were not climbed and no internal investigations were undertaken, thus no guarantee may be given as to their structural integrity.

As trees are dynamic organisms and subject to continual change no dimensions expressed in this schedule may be relied upon for development purposes for more than 24 months from the date of survey. Estimated dimensions are marked 'est'.

1. **No:** Expressed in sequential order starting from number 1 – woodlands, groups & hedges are prefixed as W, G, & H respectively.
2. **Species:** The common name as given in "Collins Tree Guide", Johnson & More (2004).
3. **Height:** Estimated with the aid of a 'Disto' laser range finder and expressed in metres.
4. **Trunk Diameter:** Measured at 1.5m above ground level and expressed in millimetres to the nearest 10mm; where multiple stems are present they are measured individually and a cumulative total calculated in accordance with BS5837 (2012).
5. **Radial Crown Spread:** Distance in metres from the centre of the trunk to each cardinal point of the compass and rounded up to the nearest half metre.
6. **Crown Clearance:** Mean height from adjacent ground level to the lowest point of the crown.
7. **Height to First Branch:** Height, in metres, of the first significant branch (100mm) or to crown break from ground level.
8. **Life Stage:** Young, Semi mature, Mature, Veteran/Ancient.
9. **Physiology:** Health and condition of the tree in comparison to a typical specimen of species and age: Good, Average, Below Average, Poor, Dead.
10. **Structure:** The structural condition of the tree based on an assessment of any visible roots, trunk and crown, noting the presence of any defects or decay: Good, Moderate, Indifferent, Poor, Hazardous.
11. **Landscape Value:** Reflecting the importance of the tree in the local landscape. High, Moderate, Low, Nil.
12. **Estimated Years:** Estimate of remaining contribution expressed in years <10, 10-20, 20-40, 40+.
13. **Comments:** Notes relating to health and condition, structure and form, estimated life expectancy and importance within the local landscape.
14. **Category:** - A rating given to individual trees based on Table 1 in the British Standard, BS 5837 (2012) "*Trees in relation to design, demolition and construction - Recommendations*".

Category 'U' - Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboriculture management.

Category 'A' - Trees of high quality and value; in such a condition as to be able to make a substantial contribution (Normally a minimum of 40 years).

Category 'B' - Trees of moderate quality and value; those in such a condition as to make a significant contribution (Normally a minimum of 20 years).

Category 'C' - Trees of low quality and value; currently in adequate condition to remain until new planting could be established (Normally a minimum of 10 years), or young trees with a stem diameter below 150mm.

Sub-categories (where appropriate); 1 – Mainly arboricultural qualities: 2 – Mainly landscape qualities: 3 – Mainly cultural values, including conservation.

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category
1	Cider Gum	10m	365mm	NE7m SE5m SW3.5m NW6.5m	SE0.5m NW4m	3m	Semi-mature	Below average	Below average	Moderate	10-20	Slightly leaning trunk; occluded trunk wound from base on NW side to 1.2m; asymmetrical crown as suppressed by adjacent specimens; of limited potential.	C (12)
2	Weeping Willow	11m	500mm est	8m	0.3m	1.5m NW	Semi-mature	Good	Average	Moderate	20-40	Off-site tree; good example of species; no significant structural defects visible at time of survey.	B (12)
3	English Oak	12m	550mm est	6m	5.5m	3m	Mature	Average	Average	Moderate	20-40	Off-site tree; crown has been heavily reduced or "topped" in past; sporadic epicormic growth throughout crown caused by reduction.	B (12)
4	English Oak	5.5m	200mm est	4m	1m	0.75m NE	Young	Average	Average	Low	40+	Off-site tree; of moderate quality, but currently of low value due to small size.	C (12)
5-6	Hawthorn	5m	150mm est	2.5m	1m	0.5m	Semi-mature	Average	Average	Low	20-40	Off-site trees; brambles entangled through crowns; of only low-level screening value.	C (12)
7	Ash	16m	400mm est 350mm est	N6.5m E7m S6m W8m	N3m	1.2m NE	Semi-mature	Poor	Below average	Moderate	<10	Advanced onset of Ash Dieback (Chalara); very sparsely foliated; of no potential.	U
8	Hawthorn	5.5m	150mm est	N2.5m E1.5m S2m W3m	1.5m	1m	Semi-mature	Average	Below average	Low	20-40	Off-site tree; suppressed crown as overtopped by adjacent specimens; of limited potential.	C (12)
9	English Oak	11m	850mm ivy	N5m E4m S6.5m W8m	N5.5m	4.5m W	Mature	Below average	Below average	Moderate	20-40	Decay of buttress root to the north following historical damage; slightly leaning trunk; ivy-covered; previously suppressed by adjacent ash that have now been felled. light reaction growth present.	B (2)
10	Hawthorn	5m	200mm ivy est	NE2m SE1m SW2m NW3m	1.5m	2m	Semi-mature	Average	Average	Low	10-20	Ivy-covered; one-sided crown as suppressed by adjacent specimens.	C (12)
11	Leyland Cypress	4m	250mm est	2.5m	0.3m	1m	Semi-mature	Below average	Below average	Low	10-20	Golden; recently "topped" at 3m; of limited potential.	C (12)
12	Field Maple	3.5m	150mm ivy est	N4m E2.5m S1m W2.5m	1m	1.5m	Semi-mature	Average	Below average	Low	10-20	Off-site tree; young tree with stem diameter below 150mm; ivy-covered; suppressed crown as overtopped by adjacent specimens.	C (12)

Appendix B

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category
13	English Oak	19m	850mm est	N11.5m E11m S12m W11m	N2.5m NE2m W4m	4.5m N	Mature	Average	Average	High	40+	Off-site tree; of particular visual importance; evidence of previous pruning works; crown lift and selected branch reduction.	A (2)
14	English Oak	17m	575mm est	N9.5m E5m S8m W8m	3.5m	4m NE	Semi-mature	Good	Average	Moderate	40+	Off-site tree; single vertical trunk; asymmetrical crown as suppressed by adjacent specimens; no significant structural defects visible at time of survey.	B (12)
15	Hornbeam	7m	300mm est	NE4.5m SE1.5m SW6m NW7.5m	1.5m	1.5m	Semi-mature	Average	Below average	Low	10-20	Off-site tree; lapsed hedge, overtopped and suppressed.	C (12)
16	Silver Birch	12.5m	250mm est	NE3m SE4m SW4m NW4m	0.5m	1.2m SW	Semi-mature	Average	Average	Moderate	20-40	Off-site tree; single vertical trunk; good example of species; asymmetrical crown as suppressed by adjacent specimens.	B (12)
17	Beech	16m	500mm est	NE7m SE6m SW7m NW4m	SE0.5m	4.5m SE	Semi-mature	Average	Average	Moderate	20-40	Off-site tree; asymmetrical crown as suppressed by adjacent specimens; crown overhangs site.	B (12)
18	Walnut	9m	200mm est	NE2m SE4m SW2m NW4m	SE3m	2m	Semi-mature	Average	Average	Low	20-40	Suppressed crown as overtopped by adjacent specimens.	C (12)
19	Wild Cherry	12m	350mm est	NE6m SE6.5m SW4.5m NW6m	SE1.5m	4m	Semi-mature	Average	Average	Moderate	20-40	Off-site tree; tree of moderate visual importance.	B (12)
20	Chanticleer Pear	11m	250mm est	3m	SE2.5m	4m	Semi-mature	Average	Good	Moderate	20-40	Off-site tree. Upper crown only visible from survey	B (2)
21	Portugese Laurel	12m	400mm est	6m	4.5m	3m	Semi-mature	Average	Average	Moderate	20-40	Off-site tree. Upper crown only visible from survey	B (12)
22	English Oak	17m	650mm est	N5m E9m S9m W9m	E1m	1.5m SE	Semi-mature	Average	Average	Moderate	20-40	Off-site tree; four stemmed from 2m; no significant structural defects visible at time of survey.	B (12)

Appendix B

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category
24	Hornbeam	16m	450mm est	N9.5m E9m S5.5m W9m	2m	2m	Semi-mature	Good	Average	Moderate	40+	Off-site tree; no significant structural defects visible at time of survey.	B (12)
25	Alder	8m	125mm est	N2m E2.5m S2m W2m	NE2m	2m	Semi-mature	Average	Average	Low	20-40	Off-site tree; of moderate quality, but currently of low value due to small size.	C (12)
26	Turkey Oak	8.5m	165mm	N3m E3m SE4m S3m W3m	1.5m	1.8m	Young	Average	Average	Low	40+	Of moderate quality, but currently of low value due to small size.	C (12)
27	Field Maple	10m	12 stems @ 100mm est 2 stems @ 200mm est	5m	1m	0.5m	Semi-mature	Average	Below average	Moderate	20-40	Off-site tree; multi-stemmed from base; no significant structural defects visible at time of survey.	B (2)
28	Field Maple	4m	150mm est	2.5m	1m	0.5m	Semi-mature	Average	Below average	Low	10-20	Trunks 'S' bends through brambles; then upright; of limited potential.	C (12)
29	English Oak	5m	175mm est	N3m E3m SE4m S3m W3m	1.5m	1.2m	Young	Average	Average	Low	40+	Off-site tree; of moderate quality, but currently of low value due to small size.	C (12)
30	Crab Apple	6m	250mm est	NE3m SE0m SW3m NW7m	1m	1.5m	Semi-mature	Average	Below average	Low	10-20	Suppressed specimen.	C (12)
31	Hawthorn	5m	150mm	2.5m	0.2m	0.2m	Semi-mature	Average	Average	Low	20-40	Of moderate quality, but currently of low value due to small size.	C (12)

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category
32	Pear	5.5m	100mm	N2.5m E2.5m SE3m S2.5m W2.5m	0.5m	0.75m	Young	Average	Average	Low	20-40	Young tree with stem diameter below 150mm; domestic fruit tree.	C (12)
33	Corkscrew Willow	3m	2 stems @ 55mm	0.5m	0.1m	0.2m	Young	Poor	Hazardous	Nil	<10	In significant, immediate & irreversible overall decline.	U
34	Corkscrew Willow	4m	110mm 170mm	2.5m	0.5m	1.5m	Semi-mature	Average	Average	Low	20-40	Of moderate quality, but currently of low value due to small size.	C (12)
35	Sycamore	13m	2 stems @ 300mm 420mm	N6.5m E7.5m S7m W8m	2.5m	3m W	Semi-mature	Average	Below average	Moderate	10-20	Three stemmed from base; evidence of bootlace fungus (<i>Armillaria mellea</i>) situated between tight inclusion; <i>Pseudomonas sp.</i> present on trunk; of limited potential.	C (1)
36	Bay	4m	4 stems @ 75mm est	2.5m	0.2m	0.1m	Semi-mature	Average	Average	Low	10-20	Multi-stemmed from base; many stems below required 75mm dia; of only low-level screening value.	C (12)
G1	Field Maple (x2), Ash (x2) and Hawthorn (x2)	9m	Min 75mm est Max 200mm est	NE6m SE4m SW6m NW4m	NE2m	1.5m	Semi-mature	Below average	Average	Moderate	20-40	Off-site group of trees; Ash Dieback (<i>Chalara</i>) in ash within group; however not advanced; lapsed hedgerow; now small trees; multi-stemmed from base.	C (12)
G2	Ash and Hawthorn	Min 6m Max 10m	Min 75mm est Max 200mm est	NE6m SE3m SW6m NW3m	0m	0.5m	Semi-mature	Average	Below average	Moderate	20-40	Off-site group of trees; lapsed hedgerow, now small trees; unmanaged.	C (12)
G3	Goat Willow	12m	Min 75mm Max 150mm	NE7m SE9m SW7.5m NW9m	SW0.5m	1m	Semi-mature	Average	Below average	Moderate	10-20	Off-site group of trees; group of drawn-up, mutually suppressed specimens; of limited potential.	C (12)
G4	Dogwood and Osier	Min 3m Max 6m	Avg 125mm est	3.5m	0m	0m	Young	Average	Below average	Low	10-20	Group of ornamental garden planting; low visual importance.	C (12)

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category
H1	Leyland Cypress	2.5m	Avg 150mm est	1m	0m	0.2m	Semi-mature	Average	Average	Low	20-40	Appears to be regularly managed.	C (12)
H2	Hawthorn and Goat Willow	Min 2m Max 4m	Max 100mm	2m	0.2m	0.2m	Young	Average	Below average	Low	10-20	Sporadic hedge growth on boundary; some self seeded; of low quality.	C (12)
H3	Hornbeam	2m	Avg 75mm	1m	0.2m	0.2m	Semi-mature	Average	Average	Low	20-40	Appears to be regularly managed; of only low-level screening value.	C (12)
H4	Leyland Cypress	3.5m	Min 75mm	1m	0.2m	0.2m	Semi-mature	Average	Below average	Low	10-20	Golden; of only low-level screening value; appears to be regularly managed.	C (12)
H5	Box	1.5m	Max 45mm	0.5m	0.2m	0.2m	Semi-mature	Average	Average	Low	10-20	Appears to be regularly managed; of only low-level screening value.	C (1)
H6	Hawthorn and Ivy	2m	Avg 100mm est	0.5m	0.2m	0.2m	Semi-mature	Average	Average	Low	20-40	Of only low-level screening value.	C (12)
H7	Lawson Cypress	7m	Avg 150mm	2m	2m	2m	Semi-mature	Average	Average	Moderate	10-20	Off-site trees; "topped" at 7m.	C (12)

Appendix B

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DAVID ARCHER ASSOCIATES



APPENDIX 2 – Tree Protection Plan
