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ENERGY AND CLIMATE CHANGE
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MINERAL ESTATES
WASTE RESOURCE MANAGEMENT

GLADMAN DEVELOPMENTS LTD

HALTERWORTH LANE, ROMSEY

ENVIRONMENTAL STATEMENT

JANUARY 2024

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ENVIRONMENTAL STATEMENT

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[1] This report contains sensitive information and should be made available to Bona-fide organisations/individuals upon request only and for the purposes of this application only.

1 INTRODUCTION

1.1.1 This Environmental Statement (ES) has been prepared on behalf of Gladman Developments Ltd (the Applicant) and is intended to support an outline planning application with all matters reserved except for means of access for the demolition of existing buildings and the erection of up to 270 dwellings, including affordable housing, with land for the potential future expansion of Halterworth Primary School, public open space, structural planting and landscaping, sustainable drainage system (SuDS) and vehicular access points, (hereafter referred to as the 'Proposed Development') on land east of Halterworth Lane, Romsey. The relevant planning authority is Test Valley Borough Council (TVBC).

1.1.2 The Site is centred at approximately National Grid Reference (NGR) SU 37520 21292, and is located on land east of Halterworth Lane, Romsey, as illustrated within the Location Plan included at Appendix 1.1. The land included within the application redline boundary, to which the planning application relates, is hereafter referred to as 'the Site'.

1.1.3 The Site is approximately 12.8 hectares (ha) in size and currently comprises agricultural land.

1.1.4 The Proposed Development is illustrated on the Development Framework Plan (DFP), included at Appendix 1.2.

1.1.5 This ES reports the findings of an Environmental Impact Assessment (EIA) that has been undertaken in accordance with the criteria set out in the Town & Country Planning (EIA) Regulations 2017 (the 'EIA Regulations') in respect of the Proposed Development.

1.1.6 The EIA is based on the development parameters set out in Chapter 4 and illustrated on the Land Use and Access Parameter Plan included at Appendix 1.3.

1.1.7 In addition, a Non-Technical Summary (NTS) has been produced as a separate, stand-alone document, providing a summary of this ES in non-technical language.

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2 APPROACH AND SCOPE OF THE EIA

2.1 Introduction

2.1.1 Wardell Armstrong LLP is committed to the delivery of effective practice in EIA. As a registrant of the Institute of Environmental Management and Assessment's (IEMA) EIA Quality Mark, Wardell Armstrong's EIA practice is independently reviewed in accordance with best practice.

2.1.2 This ES has been prepared with regard to the requirements of the EIA Regulations, which apply to the Proposed Development, as set out below.

2.2 Planning Policy

2.2.1 In addition to the EIA Regulations, the main policy documents of relevance to this ES include the National Planning Policy Framework (NPPF) (December 2023) together with TVBC's current development plan (the Test Valley Borough Revised Local Plan (2016)).

2.2.2 Policies relevant to the issues contained in this ES are summarised below, with further details set out within each of the discrete technical chapters. Further details of the relevant planning policies (to this application) are provided within the accompanying Planning Statement.

National Planning Policy Framework

2.2.3 The NPPF was originally published in March 2012 and replaced all Planning Policy Statements (PPS) and Planning Policy Guidance Notes (PPG). The current version comprises the December 2023 NPPF. The National Planning Practice Guidance (NPPG) website was first published in March 2014 and updated regularly thereafter in order to assist local authorities with interpreting and applying the NPPF, locally. The NPPG should be read in conjunction with the December 2023 NPPF.

2.2.4 Each technical chapter within this ES details the relevant aspects of the NPPF and NPPG in relation to the Proposed Development and topic area under consideration.

Local Planning Policy

2.2.5 TVBC are currently in the process of preparing a new Local Plan. As this is yet to be adopted the Test Valley Borough Revised Local Plan (2016) is of relevance to the Proposed Development. The 2016 Local Plan was adopted in January 2016 and guides development in the area until 2029.

2.2.6 In addition to the Local Plan, TVBC's current Development Plan also includes the following relevant material considerations;

- 'Made' Neighbourhood Plans; and
- Supplementary Planning Documents (SPDs)

Neighbourhood Plans

2.2.7 The Site lies within the Romsey Extra neighbourhood plan area.

2.2.8 Through public consultation on Friday 13th June 2014 Romsey Town Council and Romsey Extra Parish Council submitted a joint application for the designation of a Neighbourhood Area covering both parishes.

2.3 Requirement for an EIA

2.3.1 Prior to planning permission being granted, there is a statutory requirement under the EIA Regulations to undertake an EIA and prepare an ES for any development that is likely to result in a significant adverse effect upon the environment. The EIA Regulations set out what types of development are likely to result in significant adverse effects on the environment, and detail screening thresholds and criteria to determine whether an EIA is required.

2.3.2 Schedule 1 of the EIA Regulations lists all development types for which an EIA is mandatory. Schedule 2 of the EIA Regulations lists all development types for which EIA is not mandatory, but for which it may be appropriate depending upon the scale of the proposed project and the sensitivity of the Site and its surroundings.

2.3.3 The Proposed Development falls under Schedule 2, Part 10(b) Urban Development Projects (infrastructure projects), the threshold criteria for which is a development that has:

- more than 1 hectare of urban development which is not dwelling house development; or
- more than 150 dwellings; or
- an overall area that exceeds 5 hectares.

2.3.4 Due to the size, scale, and development characteristics of the Proposed Development, the Applicant has undertaken an EIA on a voluntary basis.

2.4 Scope of the EIA

2.4.1 Schedule 4 of the EIA Regulations sets out specific requirements for the content of an ES. Whilst every ES should provide a full and factual description of the effect(s) of a given development, Schedule 4 places an emphasis upon identifying 'likely significant effects'. Other effects of little or no significance need only a brief reference within the ES in order to indicate that their significance has been considered.

2.4.2 Schedule 4 states that an ES should provide a detailed description of the development, and an outline of the reasonable alternatives considered by the Applicant. The outline of alternatives should include an indication of the main reasons for the choices made, taking into account the environmental effects.

2.4.3 Schedule 4 also states that a Non-Technical Summary (NTS) of the ES should be provided. This ES is accompanied by a NTS, a separate stand-alone document written in non-technical language.

2.4.4 In accordance with Schedule 4, likely significant effects of the development on the environment should be considered, in particular effects on: population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.

2.4.5 EIA Scoping has not been undertaken for the Proposed Development and the scope of this is ES is based on an understanding of the surrounding area and focuses on the aspects of the environment which are likely to have the most potential for significant effects as a result of the Proposed Development. The following topic areas have been considered within this EIA, and are included as technical chapters within this ES:

- Traffic and Transport;
- Ecology;
- Water Environment; and
- Socio-Economic.

2.4.6 Further consultation has been undertaken directly with the relevant bodies for the above, in order to identify the scope of assessment required for each topic area. Details of correspondence are included in the relevant chapters of this ES.

2.4.7 The following standalone reports have also been produced and have been submitted as part of the planning application:

- Landscape and Visual Appraisal (LVA);
- Shadow Habitats Regulations Assessment;
- Biodiversity Net Gain report;
- Arboriculture report;
- Phase 1 Site Investigation;
- Flood Risk Assessment;

- Transport Assessment;
- Travel Plan;
- Noise assessment;
- Air quality assessment;
- Mineral resource assessment;
- Archaeology and Heritage Statement; and
- Nutrient Report.

2.4.8 In accordance with the EIA Regulations the EIA has been undertaken, and the ES prepared, by 'competent experts'. The qualifications and experience of the team involved in the preparation of this ES is set out within the Statement of Expertise, included at the end of this ES.

Topics outside the scope of the EIA

2.4.9 It is not considered that any further topics require consideration within the EIA. Specific chapters have not been included for the following topics, as it is considered that these will be addressed sufficiently elsewhere within the ES or planning application, and the Proposed Development is unlikely to result in significant effects relevant to these topics.

Landscape and Visual Impact

2.4.10 A Landscape and Visual Appraisal (LVA) has been produced for the Proposed Development.

2.4.11 The LVA found that the Site is not covered by any statutory or non-statutory landscape designations such as National Landscapes or National Parks. The Site is located with the Test Valley Local Plan 'Romsey – North Baddesley, Local Gap' Policy E3. There is no intervisibility between the Site and North Baddesley due to distance and intervening dense hedgerows and trees along vehicular routes, as well as the solar farm limiting visibility.

2.4.12 Owing to the change from agricultural land to built development, there will be an adverse landscape effects upon the Site, however this effect will reduce as proposed planting continues to mature. At year 15 the effect will be no more than moderate/minor adverse. The landscape effect upon the wider landscape areas will range from minor adverse to negligible/none.

2.4.13 The LVA considers that adverse visual effects will occur and will be up to major adverse in the short term upon receptors adjacent to the Site. However, such effects will

reduce over time as planting proposals mature. For less sensitive receptors and those at a distance from the Site, visual effects will range from minor adverse to negligible.

2.4.14 It is considered that the project will follow the latest best practice guidance on lighting installations to minimise lighting emissions and pollution on the surrounding landscape and on the night time skies. Assuming an appropriate mitigating lighting strategy is implemented, coupled with the existing of vegetation within the local context which will absorb some of the lighting effect, the lighting effects on the night-time skies are considered to result in only a slight increase in lighting levels from that already provided by the settlement and existing development.

2.4.15 The LVA concludes that '*Overall, it is considered the development proposals demonstrate a well-considered approach to the landscape and context of the Site and appropriate development of the Site has the potential to successfully integrate into the local surroundings without any unacceptable landscape or visual effects'*. The topic of Landscape and Visual Impact has therefore been scoped out of the ES.

2.4.16 It should be noted that the landscape areas and public open space features will be managed and maintained. This would be achieved through the implementation of a comprehensive Landscape Management Plan (LMP), to ensure the successful establishment and continued thriving of the landscape proposals.

Noise and Vibration

2.4.17 A noise assessment has been undertaken to accompany the planning application for the Proposed Development.

2.4.18 The report assessed the results of noise monitoring. The assessment identified that the dominant noise source, which will affect the residents of the Proposed Development, is road traffic on Halterworth Lane, and Botley Road.

2.4.19 The initial Site Noise Risk Assessment carried out showed that proposed receptors located closest to Halterworth Lane are at a Low risk of experiencing an adverse noise impact due to road traffic during the daytime and a Low-Medium risk of experiencing an adverse noise impact during the night-time period, with no mitigation in place. It has also been shown that proposed dwellings located closest to Elmtree Gardens and Botley Road are at a Negligible risk of experiencing an adverse noise impact during the day and a Low risk of experiencing an adverse noise impact during the night-time.

2.4.20 The assessment also considered the risk of overheating. It was concluded that overheating is expected to be sufficiently mitigated through opening windows.

2.4.21 The assessment found that the majority of gardens across the Site would meet the external noise guideline level without the need for any noise mitigation. However, mitigation would be required for gardens located closest to and facing Halterworth Lane. Where possible gardens associated with properties closest to Halterworth Lane will be located on the screened side of the proposed dwellings and include localised closed boarded fencing, to screen parts of gardens with a direct line of sight to the road.

2.4.22 Proposed dwellings across the majority of the development site, further away from Botley Road and Halterworth Lane, are expected to achieve the internal daytime and night-time noise levels even with windows open for ventilation. Mitigation measures, such as standard thermal glazing and alternative means of ventilation will be explored for the facades of dwellings closest to and facing Botley Road and Halterworth Lane to ensure recommended internal noise levels, within living rooms and bedrooms, are met.

2.4.23 An assessment of noise impact on the proposed school extension has shown that mitigation measures are not required for playing fields and external teaching areas in any part of the designated site for the school. Classrooms located on the northern façade of the proposed school extension will benefit from screening by the school and are therefore expected to achieve the internal noise levels with open windows for ventilation. However, classrooms located on the southern façade of the proposed extension will require closed windows together with alternative means of ventilation to maintain low internal noise levels.

2.4.24 Detailed mitigation requirements will be identified and confirmed, during detailed design.

2.4.25 Owing to the nature (mainly residential) of the Proposed Development it is unlikely to result in significant adverse effects upon existing sensitive receptors.

2.4.26 To minimise the potential for vibration to be generated by any necessary piling during construction, consideration will be given to the type of piling to be used. Once the precise building locations, ground conditions for each location and type(s) of piling are confirmed, recommendations for control will be made as appropriate.

2.4.27 Owing to the above Noise and Vibration has been scoped out of this ES.

Air Quality

2.4.28 An Air Quality Assessment has been undertaken to accompany the planning application for this Proposed Development. The assessment has considered dust and

fine particulate matter during the construction phase, and road traffic emissions during the operational phase.

2.4.29 The assessment concluded that with site specific mitigation in place, the generation of dust and fine particulate matter effects from demolition, earthworks, construction and trackout is considered to be not significant. Such mitigation will include but is not limited to:

- The development and implementation of a stakeholder communications plan that includes community engagement before work commences on Site.
- The recording of all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust.
- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erection of solid screens or barriers around dusty activities or the Site boundary.
- Ensuring all vehicles switch off engines when stationary - no idling vehicles.
- Avoiding the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Imposing maximum speed-limits on haul roads and work areas.
- Implementing a Travel Plan that supports and encourages sustainable travel (public transport, cycling walking and car-sharing).

2.4.30 An air quality assessment has also been undertaken to consider the potential impact of development generated vehicle trips on air quality at existing and proposed sensitive receptors. The assessment found that concentrations of NO_2, PM_{10} and $PM_{2.5}$ will be below the annual mean air quality objective and limit value concentrations at existing and proposed sensitive receptors in the year 2028. The effect of the Proposed Development on human receptors is therefore considered to be not significant.

2.4.31 However, to further reduce any potential impact mitigation measures such as electric vehicle (EV) charging points, low NOx boilers and the implementation of a green travel plan will be explored.

2.4.32 The air quality assessment concluded that '*the Proposed Development will not lead to an unacceptable risk from air pollution, nor will it lead to any breach of national*

objectives as required by national policy. The Proposed Development will be in accordance with all relevant national policy and there are no material reasons in relation to air quality why the proposed scheme should not proceed'.

2.4.33 Owing to the above air quality has been scoped out of this ES.

Archaeology and Cultural Heritage

2.4.34 A Heritage Desk-Based Assessment (DBA) has been produced to support the planning application for the Proposed Development.

2.4.35 This assessment involved the consultation of publicly available resources such as The National Heritage List for England (NHLE), Hampshire Historic Environmental Record (HER), historic maps, aerial photographs, and satellite images. This research was also combined with a site walkover, during which selected designated heritage assets in the vicinity were visited.

2.4.36 No designated or non-designated heritage assets are located within the Site.

2.4.37 The DBA found that the Site is located in an area of known Palaeolithic potential, hence there is the potential for redeposited Palaeolithic material within River Terrace Deposits within the Site. This could be further assessed through an archaeological watching brief during any intrusive geotechnical works, or through test pitting/trial trench evaluation. The DBA did not identify any notable potential for remains of a later date. The DBA states that '*the archaeological potential could be addressed by way of a condition attached to outline planning permission*'. The scope and timing of such would be agreed with the archaeological advisor to the LPA.

2.4.38 The closest designated heritage asset is the Grade II listed Luzborough Cottage, c. 60m south-east of the Site. The Site visit did not identify any intervisibility with other designated heritage assets in the wider area, which are all separated from the Site by intervening built form. The DBA concluded that the Proposed Development will not alter the immediate setting of Luzborough Cottage, or agricultural land to its north/east. Overall, it is concluded that the Proposed Development would not adversely impact the significance of the Grade II listed Luzborough Cottage. The development would not adversely impact the significance of any designated heritage assets as a result of alteration to setting.

2.4.39 Consequently, archaeology and cultural heritage has been scoped out of the ES.

Ground Conditions and Contamination

2.4.40 A Preliminary Geo-Environmental Risk Assessment Report has been produced in support of the planning application.

2.4.41 For full details of the geo-environmental settings reference should be made to the Preliminary Geo-Environmental Risk Assessment Report.

2.4.42 This assessment found that the Site is considered to present a 'negligible' potential contamination risk to both construction workers and future site occupants. Furthermore, there are no identified off-site sources or receptors.

2.4.43 Any unexpected contamination is anticipated to be localised and would be addressed during the development works through a discovery strategy, with source removal and off-site disposal likely to be the most appropriate remedial action, or the use of a clean capping (where appropriate).

2.4.44 A Ground Investigation will be undertaken to provide design information for future development works post-consent. This will likely be covered by a suitably worded condition.

2.4.45 Owing to the above, Ground Conditions has been scoped out of the ES.

Climate Change

2.4.46 The EIA Regulations state that an EIA should consider potential climate related effects. It is considered that these comprise the impact of the Proposed Development on the climate (i.e. greenhouse gas (GHG) emissions) and the impact of climate change on the Proposed Development.

2.4.47 As for any development, the Proposed Development will result in GHG emissions and these are unavoidable. It is not considered that the GHG emissions of the Proposed Development will be significantly different from other proposals of a similar nature and scale as the Proposed Development will be constructed, at a minimum, in accordance with relevant regulations, with betterment of Building Regulations being achieved where possible. In addition, the proposals will meet the requirements of policies that aim to reduce GHG emissions, through the use of sustainable design and other relevant measures.

2.4.48 The Proposed Development could potentially be affected by the impact of climate change, including increased risk of extreme weather events and flooding. However, resilience to extreme weather events will be incorporated within the design process, and the Proposed Development will be constructed in accordance with relevant regulations and guidance. In addition, a Flood Risk Assessment has been undertaken which considers the risk of potential extreme flood events as a result of climate change. The Proposed Development is not expected to be severely affected by climatic changes.

2.4.49 In conclusion, it is not considered that the Proposed Development is likely to result in significant adverse effects on climate, and it is considered that the risk of the Proposed Development being significantly affected by climate change is being considered sufficiently elsewhere within the ES and standalone reports submitted as part of the application package.

Lighting

2.4.50 The on-site temporary light fittings, construction compounds and on-Site security lighting associated with preparation and construction phase(s) have the potential to result in sky glow and light trespass or 'spill' impacting sensitive local and ecological receptors. The level of light will be dependent on the location of the construction activities on a daily basis and the equipment being used, with light levels being attenuated as the distance between the source and receptor increases. Any impacts would be temporary.

2.4.51 During construction a Construction Environmental Management Plan (CEMP) will be implemented and will include measures to reduce light spill. The potential impact of construction lighting is not expected to be significant.

2.4.52 Upon completion of the Proposed Development, lighting effects are likely to be limited to street lighting at areas of public realm and main access. These will be designed in accordance with the most relevant lighting standards and will be assessed in relation to sensitive ecological receptors. As detailed in the LVA appropriate mitigating lighting strategy will be implemented, and therefore the Proposed Development will only result in only a slight increase in lighting levels from that already provided by the settlement and existing development. As such, no significant operational effects are anticipated.

2.4.53 It is therefore considered that it is not necessary to assess lighting further within the ES.

Waste

2.4.54 Under the current land use, the Site does not generate any levels of waste that require management.

2.4.55 During construction a Site Waste Management Plan (SWMP) would be prepared, pre-commencement, which will include measures to minimise waste and encourages reusing and recycling material.

2.4.56 During the operational phase of the Proposed Development, suitable waste storage and recycling facilities will be provided in accordance with the regulations and policy

set out by TVBC and Hampshire County Council (HCC), who will collect the waste from the Site under their statutory duties, and as part of TVBC's existing waste collection scheme.

2.4.57 It is not anticipated that the construction or operation of the Proposed Development will generate hazardous waste.

2.4.58 The design of the Proposed Development would provide appropriate access for refuse collection vehicles to access all properties and ensure safe access and manoeuvrability for collection crews.

2.4.59 With implementation of an appropriate SWMP and inclusion of design features to facilitate waste collection, it is considered that there is limited potential for significant waste effects to arise as a result of the Proposed Development. Consequently, waste has been scoped out of further assessment within the ES.

Human Health

2.4.60 It is considered that the potential impacts to Population and Human Health arising from the Proposed Development have been adequately covered separately within the relevant chapters ES and the standalone reports submitted in support of the Planning Applications (e.g. Air Quality and Noise).

2.4.61 During the construction phase, health and safety regulations and a CEMP, will be adhered to reduce the likelihood of any impacts occurring to human health. The construction of the Proposed Development will create employment opportunities in the short term which will likely have a beneficial effect upon the local population through increased employment opportunities and will also contribute to the economy through expenditure.

2.4.62 Owing to the nature of the Proposed Development no adverse effects on human health are expected to be introduced by the Proposed Development during the operational phase. As reported in the Socio-economics chapter of the ES (Chapter 9) the Proposed Development will provide a beneficial effect through the provision of open space. Areas of green open space have been found to improve people's mental health through spending time outdoors. The provision of open space also allows people to get outside and exercise, which also brings many benefits to people's physical health.

2.4.63 The Proposed Development will also promote healthy travel through the provision of cycle parking and paths, and electric vehicle (EV) charging points across the development.

2.4.64 As it is considered that the Proposed Development is unlikely to result in any significant adverse effects on human health, beyond those already being considered elsewhere within the ES and standalone reports submitted with the planning application, a separate chapter has not been included within this ES.

Risks of Major Accidents and/or Disasters

2.4.65 The EIA Regulations state that an EIA should include a "*description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned*."

2.4.66 *'Risk'* can be defined as the likelihood of an impact occurring, combined with the effect or consequence(s) of the impact on a receptor, if it does occur. A '*major accident*' can be defined as events that threaten immediate or delayed serious damage to human health, welfare and/or the environment; and a '*disaster*' can be defined as naturally occurring extreme weather events or ground-related hazard events with the potential to cause an event or situation.

2.4.67 For the purpose of this ES, a 'significant adverse effect' is considered to be one which results in the loss of life or permanent injury, and/or permanent or long-lasting damage to an environmental receptor.

2.4.68 Table 2.1 below sets out the accidents and disasters of relevance to the Proposed Development (based on the location of the Site and proposed land uses), and how these will be mitigated.

Table 2.1: Consideration of major accidents and/or disasters to the Proposed Development

Major accident/disaster type	Description
Extreme weather events	Buildings within the Proposed Development could be damaged by extreme weather events (exacerbated by climate change), including storms, snow, ice and heatwaves. Resilience to extreme weather events will be incorporated within the individual building design process, and all buildings will be constructed in accordance with relevant building and fire regulations.
Flooding	The Site is located within flood zone 1, and therefore is at low risk of flooding. However, the reduction in permeable area as a result of the Proposed Development could lead to an increased risk of flooding. A drainage design strategy (including SuDS) is incorporated within the Proposed Development to ensure flood risk within the Site or surrounding area is not increased. The mitigation has been designed to accommodate potential extreme flood events as a result of climate change. For further details please refer to the Flood Risk Assessment submitted with the planning application.

Table 2.1: Consideration of major accidents and/or disasters to the Proposed Development	
Major accident/disaster type	**Description**
Electricity, gas, water supply or sewerage system failures	Future residents and users of the Proposed Development could be at risk of utilities system failures. However, it is assumed that this risk will be mitigated through standard protocols implemented by the utilities providers, including emergency call and response procedures.
Ground contamination / Pollution incidents	As reported in the Preliminary Geo-Environmental Risk Assessment the Site is considered to present a 'negligible' potential contamination risk to both construction workers and future site occupants based upon the available information reviewed to date. Any unexpected contamination would be address as necessary and a Ground Investigation will be undertaken to provide design information for future development works.
Transport accidents	The Proposed Development could affect traffic flows on the local highway network, which could increase the risk of transport accidents. However, the Transport Assessment has considered highway safety, and it is considered that there are no highway safety issues in the vicinity of the Site that would be exacerbated by the Proposed Development. Further details are provided within Chapter 6 (Traffic and Transport).

2.4.69 Based on the above, it is not considered that the Proposed Development will result in any significant adverse effects on the environment deriving from the vulnerability of the Proposed Development to the risk of major accidents and/or disasters (relevant to the Proposed Development).

2.5 Assessment Methodology

2.5.1 The technical assessments provide a detailed examination of the key environmental impacts associated with the Proposed Development for each technical discipline included within the ES.

2.5.2 Baseline data was obtained from published information sources, non-confidential data supplied by the various organisations consulted, previous site work undertaken by others and additional fieldwork. The methodologies for predicting the nature, extent, magnitude and significance of environmental effects vary according to the topic area being considered. As such, the methodology for predicting impacts is included within each assessment chapter.

2.5.3 Quantitative methods make reference to thresholds and indicative criteria set out within government regulations and guidelines (where available). Where quantitative criteria are not available or not appropriate, qualitative methods have been adopted, relying on previous experience and professional judgement.

2.5.4 The objective of each assessment is to identify the 'magnitude of change' to the existing baseline environment arising as a result of the Proposed Development. The magnitude of change that could affect a receptor as a result of the Proposed Development would be identified on a scale of change from minor alterations to major change or loss of a receptor. For some environmental topics, guidance on levels of acceptability means such change is based on quantitative parameters whilst for other topics this can be informed by professional judgement using qualitative parameters.

2.5.5 The level of effect is a function of impact magnitude and the importance/sensitivity of the resources or receptors. Whilst the methods for determining the level of an effect can vary according to the environmental discipline, this underlying principle remains the same.

2.5.6 The sensitivity or value of a receptor may be classified by its proximity to the Proposed Development, its use, or its importance, as informed by legislation, policy, and guidance, and qualified by professional judgement.

2.5.7 To evaluate the significance of effects, consideration of the sensitivity of a receptor, and the magnitude of change that could affect that receptor, is required. For each environmental receptor the following factors are considered:

- Geographical extent;
- Rate of change;
- Reversibility of the effect;
- Probability of the effect;
- Duration of the effect;
- Size and magnitude of the effect; and
- Sensitivity/importance/substitutability of the receptor.

2.5.8 Criteria is then used to determine whether an effect is 'significant' or 'not significant'.

2.5.9 The criteria for the assessment of effects that has been adopted within each assessment chapter is in accordance with current published guidance specific to the discipline to which it relates. The published guidance documentation used is referenced within each chapter. Where published guidance or criteria is unavailable, the chosen method for assessing impacts and their significance is explained in detail to ensure transparency.

2.5.10 Where likely significant adverse effects have been identified, mitigation measures have been proposed in order to avoid, reduce or remove such effects. The mitigation measures include refinements to the scheme design (as much as is possible at this outline stage) and/or the introduction of best practice methodology and specific

safeguards. As an EIA is an iterative process, the assessment methodology was used to refine the mitigation measures and then adjusted to take them in to account during the assessment.

2.5.11 Via the incorporation of appropriate mitigation measures, identified adverse effects have been reduced to the lowest practicable level, consistent with the overall objectives of the Proposed Development. Any residual effects, during either construction and/or operation are identified and the significance of these residual effects, assessed.

2.6 Cumulative Impact Assessment

2.6.1 Schedule 4 of the EIA Regulations state that an ES must include a description of the likely significant effects of the Proposed Development, including reference to possible cumulative effects.

2.6.2 Within the assessment of cumulative impacts, there are two aspects to consider:

- Intra-cumulative effects (i.e. those occurring as a result of the Proposed Development in isolation); and
- Inter-cumulative effects (i.e. those occurring as a result of the Proposed Development in combination with other developments).

2.6.3 Chapter 10 summarises both the significance of the residual effects detailed within the technical ES chapters, and the likely significant cumulative effects.

Intra-cumulative Effects

2.6.4 The EIA has considered where a significant residual cumulative impact is expected to occur on a particular receptor as a consequence of collective actions, aspects or effects of the Proposed Development. Chapter 10 summarises all significant residual impacts likely to be experienced for each type of receptor and assesses the significance of these cumulative effects.

Inter-cumulative Effects

2.6.5 Schedule 4 states that an ES should include a "*description of the likely significant effects of the development on the environment, resulting from… the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected, or the use of natural resources".*

2.6.6 The schemes to be considered comprise committed developments in the area surrounding the Site and are set out below within Table 2.2.

2.6.7 To ensure the scope of the technical assessment is proportionate the list of committed developments has been reviewed within each of the technical chapters.

Table 2.2: Schemes considered within the inter-cumulative impact assessment		
Ref and Address	**Details**	**Status**
Test Valley Borough Council (TVBC)		
TVS.00515/43 Former Brewery Site, The Horsefair, Romsey, Hampshire.	Proposed residential development of houses and flats (198 dwellings) with parking, landscaping and associated works.	PERMISSION subject to conditions & notes Thu 03 Aug 2006
16/02432/OUTS Hoe Farm, Hoe Lane, North Baddesley, Southampton, Hampshire, SO52 9NH. 20/03189/RESS 20/03167/RESS 20/03191/RESS 20/03214/RESS	Outline application for up to 300 dwellings with associated open space, roads, parking, service infrastructure, allotments and landscaping and potential for ancillary uses including employment, retail and health provision; along with the creation of new vehicular access points to Hoe Lane and Sylvan Drive.	OUTLINE PERMISSION Tue 02 Feb 2021
19/01867/FULLS Stroud School, Highwood House, Highwood Lane, Romsey, SO51 9ZH.	Single storey extension to existing classroom block to provide 2 classrooms and ancillary accommodation, with associated alterations to parking and landscaping.	PERMISSION subject to conditions & notes Wed 11 Mar 2020
19/02755/FULLS Land At Abbotswood Local Centre, Abbotswood Common Road, Romsey, Hampshire.	Erection of 36 retirement apartments, communal facilities, and parking.	PERMISSION subject to conditions & notes Fri 22 Oct 2021
20/00599/FULLS Land South of Abbotswood House, Braishfield Road, Romsey, Hampshire.	Erection of 63 residential dwellings, with associated landscaping, parking and reconfiguration of roundabout to form new vehicular access.	PERMISSION subject to conditions & notes Thu 03 Mar 2022

Table 2.2: Schemes considered within the inter-cumulative impact assessment		
Ref and Address	**Details**	**Status**
22/01213/OUTS Land At Whitenap, Luzborough Lane, Romsey, Hampshire.	Outline application for up to 1,100 dwellings including affordable homes with associated open space, roads, parking, service infrastructure, local food production and landscaping. Employment areas (commercial, business and service), visitor accommodation, local community uses, community hall, medical consulting rooms, 1.5 form entry primary school, early years/nursery provision, conversion and/or new build at Whitenap Barns to provide commercial, business, service and local community uses with associated infrastructure. Creation of two new vehicular access points to Luzborough Lane (A27), pedestrian and cycle connection to St Barbe Close, and improvement of existing Whitenap Lane access. Provision of Suitable Alternative Natural Greenspace (SANG), provision of Sustainable Urban Drainage System (SuDs). All matters other than access to be reserved.	Pending decision
22/03346/FULLS Land South West of Misslebrook Copse, Misslebrook Lane, North Baddesley, Hampshire.	Battery electrical storage system (BESS), with substation, transformer stations, site accesses, internal access tracks, security measures, access gates, other ancillary infrastructure and landscaping and biodiversity enhancements.	Pending decision
23/00964/OUTS Kings Chase South, Land South of Ganger Farm, Ganger Farm Lane, Romsey, Hampshire.	Residential development of up to 309 dwellings, delivered across 3 severable residential parcels and 1 access parcel with associated infrastructure and works; all matters reserved other than access.	Pending decision
23/02407/SCRS Brentry Nurseries, Jermyns Lane, Ampfield, Hampshire.	Request for Environmental Impact Assessment Screening Opinion under Regulation 6(1) of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 for a phased redevelopment following demolition of buildings to provide 15,500 sqm storage and distribution building including ancillary offices and other facilities, 280 no. dwellings, landscaping, public open space, SUDS/drainage, access including upgraded access to Jermyns Lane, parking, electric charging points, photovoltaic panels and other associated works/engineering operations.	EIA Not Required Wed 18 Oct 2023

Table 2.2: Schemes considered within the inter-cumulative impact assessment		
Ref and Address	**Details**	**Status**
Local Plan Policy LE1 University of Southampton Science Park	Employment development falling within Class B1 and support facilities will be permitted within the University of Southampton Science Park (see map G), provided that: a) the use comprises scientific research and development including associated design and ancillary industrial production or appropriate support facilities; b) it is not visually intrusive in views from the M27 motorway, the A27, Chilworth Old Village, or Chilworth and does not detract from the setting of Chilworth Manor and garden; c) any development does not result in the loss of important trees within or adjoining the Science Park and is landscaped to maintain its attractive 'campus' character; and d) any new building, redeveloped building or extension to an existing building, is designed to a high standard and contributes to the character of the Science Park.	Local Plan Policy (Allocation)
Local Plan policy LHW3	Forest Park Land adjoining the M27 motorway, Southampton Land allocated for vehicular and pedestrian/cycle access from A3057, Rownhams Lane, the A27 Botley Road and Bournemouth Road.	Local Plan Policy (Allocation)
South of Romsey Town Centre	At master planning stage Masterplan for Romsey South of Town Centre adopted by the Council in September 2020. No detailed proposals are available at this stage.	
Hampshire County Council (HCC)		
21/01274/CMAS Roke Manor Quarry, Salisbury Road, Shootash, Romsey, Hampshire, SO51 6GA.	An extension of mineral working at Roke Manor Quarry, to extract circa 600,000 tonnes of sand and gravel from the Stanbridge Ranvilles Extension, including continuation of on-site mineral processing, backfilling with inert material and progressive restoration to agriculture with increased nature conservation and biodiversity enhancements at Roke Manor Quarry - Stanbridge Ranvilles Extension, Salisbury Road, Shootash SO51 6GA.	Granted subject to the completion of a legal agreement. Date unknown
New Forest District Council (NFDC)		
Local Plan Policy SS1	Strategic Site (Development Sites). Land to the north of Totton. Estimated minimum Capacity: 1000 dwellings.	Local Plan Policy (Allocation)

Table 2.2: Schemes considered within the inter-cumulative impact assessment		
Ref and Address	**Details**	**Status**
20/10464 - Request for Screening under Regulation 6 of the Town & Country Planning act (Environmental Impact Assessment) (Screening Opinion) | Land NORTH OF, SALISBURY ROAD, TOTTON (A36)		

3 SITE DESCRIPTION

3.1 Introduction

3.1.1 This Chapter of the ES provides an overview of the Site location and a description of the Site and the surrounding areas. The technical assessments set out in Chapters 6 to 9, each contain a detailed description of the baseline environmental conditions of the Site and its environs, relevant to the scope and nature of the topic area under consideration.

3.2 Site Location

3.2.1 The Site is centred at National Grid Reference (NGR) SU 37520 21292, and is located on land east of Halterworth Lane, Romsey. It falls within the administrative authority of TVBC.

3.1.1 The location of the Site and the application redline boundary is illustrated in Appendix 1.1.

3.3 Site Description

3.3.1 The Site is approximately 12.8ha in size and comprises agricultural land. The Site also contains several agricultural related buildings, in its northern extent which are accessible via a track off Halterworth Lane.

3.3.2 The Site is bound by:

- Agricultural land to the north and east;
- Halterworth Primary School and Chatterbox Community Pre-School and residential properties along Elmtree Gardens and off Botley Road to the south; and
- Halterworth Lane and residential properties to the west and north-west.

3.4 Description of the Surrounding Area

3.4.1 The Site sits on the east edge of Romsey. Land to the north-west, west and south comprises residential development interspersed by pockets of green space and commercial development. Land beyond this comprises open countryside interspersed by farmsteads and hamlets.

3.4.2 A railway line is situated approximately 300m to the north of Site and runs in an east to west orientation between Romsey and Chandler's Ford stations. The A3090 also runs approximately 600m north of the Site. The northernmost residential areas of Romsey and Granger Farm Sports Park are located beyond the A3090. Land further to the north comprises open countryside interspersed by farmsteads and hamlets.

3.4.3 The wider landscape to the east of the Site comprises open countryside interspersed by woodland. Beyond this lies the urban areas of Knightwood and Eastleigh.

3.4.4 A solar array is also located approximately 300m to the southeast of the Site. Beyond this lies the village of North Baddesley.

3.4.5 Beyond Halterworth Primary School, Chatterbox Community Pre-School, and residential developments to the south, sits further residential development to south of Botley Road, Mountbatten School and Abbey Park Industrial Estate. Further to the south land comprises open countryside interspersed by woodland and farmsteads. The M27 runs in an east to west orientation beyond this land, with the urban outskirts of Southampton to the south.

3.5 Environmental Designations

3.5.1 The Site is located within a Nitrate Vulnerable Zone (NVZ) for Eutrophic Water (Hamble Estuary Eutrophic NVZ (TraC)).

3.5.2 The Site is crossed by the Public Rights of Way (PRoW) footpath: 198/15/1 located on an east to west axis, linking Highwood Lane to the east, through the Site towards Halterworth Lane to the west.

3.5.3 Tadburn Meadows Local Nature Reserve (LNR) is located approximately 180m west of the Site.

3.5.4 The fields located immediately to the east of the Site are part of a woodland grant scheme 3.

3.5.5 There are several ancient and semi-natural woodlands located in the area around the Site, these include: Beggrspath Wood (approximately 750m south west of the Site); Oxease Copse (approximately 1.3 km north west of the Site); South Holmes Copse (approximately 1.7 km north east of the Site); and Ganger Wood (approximately 500m north of the Site).

3.5.6 Approximately 1.4 km to the east of the Site lies Emer Bog, which is a special area of conservation (SAC). Other international designations within 15km of the Site include: Solent and Southampton Water Ramsar/Special Protection Area (SPA) approximately 5.7km south of the Site; Solent Maritime SAC approximately 6km south of the Site; New Forest Ramsar/SPA/SAC approximately 7.4km to the south west of the Site; Mottisfont Bats SAC approximately 7.5km north west of the Site (to the nearest woodland compartment under the designation); and River Itchen SAC approximately 8.2km to the east of the Site. The Site is within the New Forest SAC's recognised zone of influence (ZOI) and on the boundary of the Mottisfont Bats SAC's ZOI.

3.5.7 The non-statutory designated Sites found within 1km of the Site include the local wildlife sites (LWS) of:

- Tadburn Stream Woodland and Meadow approximately 165m west of the Site;
- Woodley Grange Western Meadow approximately 290m north of the Site;
- Woodley Grange Eastern Meadow approximately 380m north of the Site;
- Cramp moor Glebe approximately 520m to the north east of the Site;
- Ganger Wood approximately 550m north of the Site;
- Ganger Swamp approximately 585m north of the Site;
- Beggarspath Wood approximately 615m to the south west of the Site;
- Ganger Wood Meadow approximately 625m north of the Site;
- Small Copse in extra Romsey approximately 665m north of the Site;
- Ganger Farm Meadow approximately 680m north of the Site;
- Parkers Moor/Luzborough Plantation approximately 685m south of the Site;
- Ganger Wood Strip approximately 720m north of the Site;
- Gypsy's Copse approximately 750m east of the Site;
- Cramp Moor approximately 880m to the north east of the Site; and
- Warren Farm Copse approximately 900m east of the Site.

3.5.8 A number of Listed Buildings (Grades II and II*) are located within the wider area. The closest is Luzborough Cottage, approximately 60m south-east of the Site.

3.5.9 The Site is located in a Mineral Safeguarding Area for sharp sand and gravel. A Mineral Resource Assessment has been undertaken to determine whether the Proposed Development would meet the criteria for being acceptable development in a Mineral Safeguarding Area. This is included as part of the Planning Application package. The report concluded that minerals within the Site are not a commercially viable mineral resource, and the Proposed Development would be compatible with the County Council's mineral safeguarding policy.

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4 DEVELOPMENT DESCRIPTION

4.1 Introduction

4.1.1 This chapter sets out a description of the Proposed Development, a summary of the design process and indicative details of the development timescales.

4.2 Development Proposals

4.2.1 Outline planning permission, with all matters reserves expect for access, will be sought for the demolition of existing buildings and the erection of up to 270 dwellings, including affordable housing, land for the potential future expansion of Halterworth Primary School, public open space, structural planting and landscaping, sustainable drainage system (SuDS) and vehicular access points.

4.2.2 This ES is based on the Parameters Plan, which is included at Appendix 1.3.

4.2.3 The parameters are as follows:

- Proposed Residential Area: 7.10ha;
- Up to 270 dwellings;
- Land for proposed extension to Primary School: 1.09ha;
- Green Infrastructure: 4.45ha;
- Demolition of existing buildings; and
- Two vehicular access points off Halterworth Lane.

4.2.4 The proposed residential development area is to cover an area of 7.10 ha with up to 270 dwellings at 38 dph.

4.2.5 Vehicular access is proposed off Halterworth Road at two points. The residential parcels will be accessed via network of internal roads.

4.2.6 The Proposed Development has identified land for the extension of Halterworth Primary School. The area of this land is 1.09ha; 0.06ha of land has also been identified for a potential primary school car parking and visitor parking in the form of a lay-by, nearby both Site access points.

4.2.7 Land has also been identified for a potential pumping station.

4.2.8 Up to 4.45ha of Green Infrastructure (GI) is proposed which will comprise Public Open Space (POS); a Sustainable Urban Drainage System (SuDS) with ponds created for ecological mitigation; the retention of existing hedgerows and trees; structural

landscaping (woodland, trees and hedgerows); two Locally Equipped Areas for Play (LEAP); and the retention of a veteran tree along the Site's eastern boundary.

4.2.9 The existing Public Right of Way (PRoW) is to be retained and incorporated within the GI of the Proposed Development. A network of footpaths is also proposed across the Proposed Development which will provide connectivity to the wider area. A pedestrian access point is located off Halterworth Lane at the southwest corner of the Site.

4.2.10 The proposed general arrangement of the scheme is illustrated in Appendix 1.2 (Development Framework Plan).

Demolition and Construction

4.2.11 It is proposed that the existing buildings on Site, located within the northern extent of the Site, will be demolished as part of the Proposed Development. A Method Statement for the demolition works will be submitted to TVBC prior to commencement.

4.2.12 It is anticipated that the demolition will occur during plot preparation prior to the construction phase.

4.2.13 Standard good practice and methodologies will be followed during the construction phase.

4.2.14 Site preparation work will be necessary prior to the construction of the Proposed Development. At present it is anticipated that the Site preparation works will comprise:

- Identification of all underground service infrastructure that crosses or affects the Site;
- Erection of site hoardings;
- Topsoil stripping and creation of temporary storage areas;
- Creation of temporary haul roads; and
- Foundation preparatory works.

4.2.15 Demolition and construction activities would be guided and controlled by a Construction & Environmental Management Plan (CEMP) and a Construction Traffic Management Plan (CTMP). These will be produced and then approved by TVBC, and any other relevant bodies, as part of a planning condition. These documents will ensure good working practices based on standard construction guidance.

4.2.16 Proposed working hours for the Site will also be contained within the CEMP. It is anticipated that operational construction working days and hours will be agreed with the LPA.

4.3 Mitigation and Design

4.3.1 The EIA process has served to shape and refine the design proposals by identifying any potential adverse effects, issues or constraints that could be effectively 'designed out' of the proposals at an early stage. The design parameters have evolved in response to external engagement and public consultation feedback and the results of technical assessments. The design proposals have undergone various iterations to either avoid or incorporate measures to mitigate for adverse environmental impacts, or (where possible) to enhance the environmental benefits of the Proposed Development.

4.4 Indicative Development Timetable

4.4.1 Subject to the outline planning application being submitted in January 2024, outline consent being granted in January 2025, it is anticipated that submission of any reserved matters will be in December 2025, with consent being granted in January 2027. First occupation is expected in January 2028.

4.4.2 Phasing details of construction are not available at this outline planning stage, and will be agreed during detailed design.

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5 CONSIDERATION OF ALTERNATIVES

5.1 Introduction

5.1.1 Schedule 4(2) of the EIA Regulations state that an ES should include:

"A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."

5.2 'Do Nothing' Alternative

5.2.1 The first alternative considered is the 'do nothing' scenario. This scenario assumes that the Proposed Development would not proceed and that the Site will continue with its current use.

5.2.2 Whilst this option would eliminate the potential for adverse environmental impacts as a result of the Proposed Development, it would also remove the contribution to the housing targets, including affordable housing, that have been identified within the Test Valley area. The need for new housing within the area has been identified within the Council's Housing Strategy 2020-2025, and Revised Local Plan DPD 2011-2029. TVBC is required to provide a minimum of 10,584 new homes from 2011 to 2029 (in line with the duration of the local plan), and 3,492 of these new homes are to be provided in the southern Test Valley area (where the Site is located). TVBC has also set a target of providing 200 affordable dwellings per annum.

5.2.3 The Proposed Development includes up to 270 residential units including a proportion of affordable housing and, by not developing the Site, this valuable contribution to the housing targets and sustainable creation of housing within the area would be lost.

5.2.4 The Proposed Development also includes for a network of Green Infrastructure in accordance with Local Plan Policy LHW1. Off-site provision will be provided in the form of outdoor sports facilities and allotments and provision for children and teenagers will be provided on Site in the form of POS and GI. It is also proposed to provide parks and public gardens as well as informal recreational areas on Site above the local plan requirement. As detailed above by not developing the Site this contribution to GI provision in the local area would be lost. This demonstrates how the Proposed Development would help to reach the aims of the Test Valley Green Space Strategy 2021- 2031, which are;

1. To respond to the increasing pressure for more (and more diverse) green space to meet current and future demand;
2. Provide resilient spaces in the face of a changing climate;
3. Connect green spaces to form part of an ecological network;
4. Maintain safe and accessible green spaces; and
5. Encourage community participation in green space management.

5.2.5 The Proposed Development also presents an opportunity to create temporary jobs during construction, and generate an increase in consumer spending in the local economy, supporting local retail and other services. These would likely benefit the local population and economy and would be lost should the Proposed Development not be built out.

5.2.6 On the basis of the above, the 'Do Nothing' alternative has been discounted.

5.3 Alternative Design

5.3.1 The proposals have been through an iterative design process in conjunction with the assessment of environmental impacts and the production of the ES. The design process has also been informed by consultation with TVBC and other relevant consultees. As far as possible, potential significant adverse environmental impacts have been 'designed out' of the scheme at an early stage. Measures have also been incorporated into the proposals to mitigate any impacts that cannot be adequately addressed through design, or (where possible) to enhance the environmental benefits of the Proposed Development.

5.3.2 Alterations to the design of the Proposed Development have included consideration of density, layout, open space and drainage. The result is the Development Framework Plan which can be found within Appendix 1.2. The Proposed Development has been designed so as to ensure retention of existing trees and hedgerows as far as possible, with limited removal required for access. However, where small sections of hedgerows are lost this will be compensated for through additional planting of trees and hedgerows throughout the Proposed Development, creating new/additional connectivity. The design also includes the retention and creation of habitats, including grassland, trees, woodland, and hedgerows. Any planting carried out on the Site will follow guidance suggested within the Arboricultural Assessment.

5.3.3 BNG calculations have been completed to ensure that a net gain can be achieved on the Site with the Proposed Development, and the results of faunal surveys have been used to ensure negative impacts are kept to a minimum. The Proposed Development

will achieve a 10.25% gain in habitat units and 22.01% gain in hedgerow units. This will be achieved through the enhancement of existing retained habitats and through the creation of native species-rich grasslands, mixed scrub, hedgerows and a wildlife pond.

5.3.4 The development design also incorporates the following intrinsic ecological avoidance, mitigation and enhancement measures:

- Retaining mature trees with root protection areas (RPA) adequately buffered in line with the Arboricultural Impact Assessment.
- Protecting retained hedgerows from damage.
- Keeping roads as narrow as possible where they breach hedgerows to avoid hedgerow loss, as it is intended to avoid hedgerow loss unless for access and/or H&S (visual splays etc).

5.3.5 In addition, mitigation measures have been identified and incorporated into the proposals in order to avoid, remove or reduce any adverse effects that cannot be adequately addressed through design. Further information on the specific mitigation measures proposed are set out within the relevant technical chapters of this ES.

5.3.6 Therefore, the Proposed Development, as illustrated within Appendix 1.2 and described in Chapter 4, is considered to be the most suitable design alternative.

5.4 Alternative Site Locations

5.4.1 The EIA Regulations require only the "*reasonable alternatives... studied by the developer*" to be considered within the ES. The Applicant does control additional sites within Test Valley District, however does not control any other available sites within Romsey which could deliver the Proposed Development, Therefore, the location of the Site has been reviewed.

5.4.2 The Site is located within an area that is well-placed and connected to key growth points in the wider region including Southampton and as such is likely to continue the successful growth of Test Valley. In addition to being well located, the Site has access to a number of existing services and facilties, including education, healthcare and open space (see Chapter 9 (Socio-economics) for further details). This access will be enhanced through the Proposed Development via new vehicle, pedestrian and cycle provisions allowing the day-to-day needs of residents to be met sustainably.

5.4.3 The Site abuts the eastern edge of Romsey, thereby creating a natural extension to the village whilst offering easy access to and from the village which provides a number of further services such as Halterworth Primary School, Romsey Hospital (see Chapter 9 (Socio-economics) for further details) and Romsey railway station. It should also be

noted that the Site offers an opportunity for the extension of Halterworth Primary School further continuing the growth of Romsey. The Site can be sympathetically integrated into the landscape, with existing border vegetation selectively retained and enhanced via structural planting.

5.4.4 On the basis of the above, it is considered that the Site is located in a sustainable and environmentally suitable location and therefore alternative site locations have been discounted.

5.5 Conclusion

5.5.1 In summary, the Proposed Development has been through an iterative design process to reduce the potential environmental effects to the lowest practical level, and enhance the potential benefits of the scheme.

5.5.2 The current proposals are therefore considered to represent the most suitable option for development of the Site, taking into consideration environmental effects.

5.5.3 It is considered that the Proposed Development proposals were conceived through a transparent and comprehensive assessment of the reasonable alternatives. The Proposed Development is the result of a comprehensive, iterative design process incorporating the views of TVBC, members of the public and other stakeholders.

6 TRAFFIC AND TRANSPORT

6.1 Introduction

6.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of Traffic and Transport in the context of the Site and surrounding area. In particular it considers the likely significant effects of severance of communities; road vehicle driver delay and passenger delay; non-motorised user delay; non-motorised user amenity; fear and intimidation on and by road users; and road user and pedestrian safety.

6.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 10).

6.1.3 This Chapter should also be read in conjunction with the Transport Assessment (TA) included as Appendix 6.1 and the Travel Plan (TP) included as Appendix 6.2.

6.2 Legislation, Policy and Guidance

6.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendices 6.1 and 6.2.

Legislative Framework

6.2.2 There is no applicable legislative framework in regard to Traffic and Transport.

Planning Policy

6.2.3 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (NPPF) (December 2023);
- Department for Transport (DfT) Circular 01/2022 Strategic Road Network and the Delivery of Sustainable Development (2022);
- Hampshire Local Transport Plan 3 (2011);
- Test Valley Borough Revised Local Plan DPD (2016); and
- Romsey Town Access Plan SPD (2015).

Guidance

6.2.4 The applicable guidance is summarised as follows:

- Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement (2023) (the 2023 IEMA Guidelines);
- IEMA Guidelines for the Environmental Assessment of Road Traffic (1993) (the 1993 IEMA Guidelines);
- Planning Practice Guidance: Travel Plans, Transport Assessments and Statements (2014);
- Planning Practice Guidance: Transport evidence bases in plan making and decision taking (2015);
- Manual for Streets (2007) (MfS);
- Manual for Streets 2 (2010) (MfS2);
- Department for Transport TAG Unit M1.2 Data Sources and Surveys (2020);
- DfT Guidance on Transport Assessment (2007);
- Hampshire Technical Guidance Notes (live);
- Active Travel England Standing Advice Note: Active Travel and Sustainable Development (2023);
- Building Research Establishment (BRE) report Construction Site Traffic, The Next Big Thing (2003);
- Test Valley (South) Local Cycling and Walking Infrastructure Plan (2022); and
- A Vision for Romsey 2022-2042.

6.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

6.3.1 The scope of the TA was issued to the highway officers at Hampshire County Council (HCC) and National Highways (NH) for comment. It was stated in the emails to the two highway authorities that an EIA would be undertaken with the assessment in line with the 2023 IEMA Guidelines.

6.3.2 The response from HCC focused on the technical detail of the TA (Appendix 6.1) with very limited comments provided directly on the detail of this Chapter and the provision of improved crossing facilities on Halterworth Lane. Further details are provided in Appendix A of the TA.

6.3.3 NH did not comment on the detail of this Chapter during scoping discussions but the forecasting methodology aligns with that of this Chapter, therefore aspects of it are applicable.

Effects Not Considered within the Scope

6.3.4 With reference to the 2023 IEMA Guidelines, air quality, noise, vibration, landscape and visual, biodiversity, cultural heritage and climate and greenhouse gases are considered to be outside the scope of this Traffic and Transport Chapter, and as such are considered in specialist chapters of this ES or separate standalone reports, as appropriate.

6.3.5 The effects on ecological receptors are not included in this Chapter as explained in paragraph 6.3.18.

6.3.6 The 2023 IEMA Guidelines note that many of the above potential impacts will not be relevant to many kinds of development. As such, 'hazardous/large loads' has not been subject to assessment as such loads are not anticipated during the construction, operational or demolition phase of the Proposed Development, with the large loads used during construction being no longer than 16.5m long articulated lorries or 32 tonne tipper trucks which are commonly used on UK roads.

6.3.7 There are a number of sites allocated for development in the Test Valley Borough Council (TVBC) and New Forest District Council areas that are yet to be subject to planning applications, as such they have not been explicitly included in the assessment, though the background traffic growth detailed later in this Chapter will serve as a reasonable proxy for such planned growth. This methodology is in line with Paragraph 14 of PPG (2014) which states:

> *It is important to give appropriate consideration to the cumulative impacts arising from other committed development (ie development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next 3 years).*

6.3.8 NH did not comment on the detail of this Chapter during scoping discussions. It appears that the authority is content with a capacity assessment on M27 junction 3, which is detailed in the standalone 'SRN Capacity Note'. As such, an assessment of the environmental impact on the local strategic road network is not included as part of this Chapter.

Extent of the Study Area

6.3.9 The study area matches that of the junction capacity assessments detailed in the TA (Appendix 6.1) as agreed with HCC during scoping discussions. The study area therefore consists of the following junctions and the links (roads) in between and leading to them:

- Halterworth Lane/Jenner Way;
- Halterworth Lane/Highwood Lane;
- A3090 Winchester Road/Halterworth Lane;
- Botley Road/Halterworth Lane;
- A27/Botley Road/Premier Way;
- A27 Rownhams Lane;
- A27/A3057 (Ashfield roundabout);
- M271/A3057/Coldharbour Lane (Romsey Road roundabout); and
- 2 x proposed Site accesses from Halterworth Lane.

Consultation Undertaken to Date

6.3.10 Table 6.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter. Copies of relevant correspondence are provided in Appendix A of the TA (Appendix 6.1). The scoping primarily focused on the content of the TA, however as the TA forecasting methodology aligns with that of this Chapter, aspects of these discussions are relevant.

Table 6.1: Summary of Consultation Undertaken to Date

Organisation	Individual(s)	Meeting Date and other forms of Consultation	Summary of Outcome of Discussion
HCC (Highways Development Planning)	Fraser Spinney (Senior Transport Planner)	Email discussions commencing 21st August 2023 with final email received 31st October 2023	Scope of TA assessment and traffic forecasting parameters agreed
NH	Patrick Blake (Area 3 Spatial Planning Manager)	Email discussion commencing 13th November 2023 with final email received 4th December 2023	Scope of TA assessment and traffic forecasting parameters agreed

Assessment Methodology

6.3.11 The method of baseline data collection and assessment is in accordance with current guidance and industry best practice. The TA traffic forecasting methodology, which in part guides this EIA methodology, was agreed with HCC and NH during pre-application discussions (Appendix A of Appendix 6.1).

6.3.12 The following assessment has been undertaken in line with the 2023 IEMA guidelines which at paragraph 3.3 (of the document) provide a recommended list of potential environmental impacts that should be considered as part of an ES. These are:

- Severance of communities;
- Road vehicle driver delay and passenger delay;
- Non-motorised user delay;
- Non-motorised user amenity;
- Fear and intimidation on and by road users;
- Road user and pedestrian safety; and
- Hazardous/large loads.

6.3.13 The 2023 (and 1993) IEMA Guidelines set out two alternative rules to identify locations at which transport impacts should be considered. As such, the assessment should:

'Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)' (Rule 1); and

'Include highway links of high sensitivity where traffic flows have increased by 10% or more' (Rule 2).

6.3.14 The 30% threshold traditionally relates to a level at which people may perceive change and there may therefore be an effect, although increases above this level do not necessarily mean that there is a significant effect, only that further consideration is required.

6.3.15 Increases in traffic flows of less than 10% are accepted within the IEMA Guidelines as having negligible impact as daily variance in traffic flows can be of equal magnitude, unless there are sensitive geographic locations adjacent to links within the study area. Examples of such sensitive geographic locations given within the 2023 IEMA Guidelines include locations with concentrations of sensitive and/or vulnerable users or groups like hospitals, places of worship and schools, along with retail areas,

recreational areas, tourist attractions, roads or junctions with road safety concerns or collision clusters and roads or junctions that are at or over capacity. People at home and people at work are also listed as sensitive geographic locations but clearly many roads in urban and semi-urban areas will pass people's homes and workplace so we will consider such impact more subjectively.

6.3.16 The Guidelines also note that it would not normally be appropriate to consider links where flows have changed by less than 10%, unless there are *'significant changes in the composition of traffic'*, such as a substantial increase in the number of heavy vehicles.

6.3.17 Sensitive geographic locations treated as 'sensitive receptors' are detailed later in this chapter.

6.3.18 The 2023 IEMA Guidelines also make reference to 'sensitive areas' with reference to EIA Regulation 2. Examples of such sensitive areas include Sites of Special Scientific Interest (SSSI) and Areas of Outstanding Natural Beauty (AONB). Whilst there are such sensitive areas in the vicinity of Romsey, the annual average daily traffic (AADT) of the Proposed Development and cumulative developments in combination would not exceed 1,000 AADT on roads that pass within 200m of these sensitive areas, which is the criteria used in Air Quality Assessments, therefore such areas have not been included in this assessment as sensitive receptors. Further details of this are provided in Shadow Habitats Regulations Assessment (Appendix 7.9).

Traffic Growth

6.3.19 Further details of the traffic forecasting methodology used in this assessment area provided in Section 7 of the TA (Appendix 6.1). The somewhat standard TA methodology has been modified to align with the additional assessment scenarios required based on the 2023 IEMA Guidelines. A summary of the methodology is as follows.

6.3.20 The year of assessment has been set for 2028 which is when the Applicant expects the Proposed Development to begin to be occupied which was agreed with HCC during scoping discussions. It is recognised that the Proposed Development will unlikely be fully occupied by this forecast year, however 100% occupation in 2028 has been assumed for assessment purposes.

6.3.21 DfT software TEMPro (Trip End Model Presentation Program) version 8.1 (the latest at the time of assessment) has been chosen as a suitable method to forecast traffic growth for light vehicles with the DfT's National Road Traffic Projections (NRTP)

growth factors a suitable method for heavy vehicles. The growth factors are provided in Section 7 of the TA (Appendix 6.1).

6.3.22 The application of five-years of TEMPro and NRTP growth forms the 2028 Future Baseline traffic flows which aligns with the 2023 IEMA Guidelines.

Development Traffic

6.3.23 The operational traffic associated with the Proposed Development has been forecast using the TRICS database as detailed in Section 7.4 of the TA (Appendix 6.1) and assigned (distributed) to the network based on 2011 UK census method of travel to work data detailed in Section 7.6 of the TA. Both the trip rates and trip assignment was agreed with HCC and NH during pre-application discussions (TA Appendix A).

Committed Developments

6.3.24 The following developments have been included within the assessment. It is acknowledged that several of these applications do not benefit from planning permission, but have still been included as being committed based on EIA guidance:

- 14/00726/OUTS - Land at Rownhams: 320 dwellings & 60 unit extra care home (consented);
- 16/02432/OUTS - Land at Hoe Lane: 300 dwellings (outline consent);
- 20/00599/FULLS - Land off Braishfield Road: 63 dwellings (consented);
- 22/01213/OUTS - Whitenap - A New Neighbourhood; Large scale development including 1,100 dwellings (pending);
- 22/03069/OUTS - Proposed extension of Abbey Park: 18,600 sqm of B1, B2 & B8 employment use (pending); and
- 23/00964/OUTS - Land at Kings Chase South: 310 dwellings (pending).

6.3.25 Traffic flows from the respective Transport Assessments or Statements submitted in support of the above have been extracted for use in this assessment. The planning assumptions within the TEMPro growth factors have been adjusted in order to remove the double counting of planned growth as detailed in Section 7.3 of the TA (Appendix 6.1).

6.3.26 It has been assumed that all developments will be fully built-out by the forecast year, presenting a worst-case assessment.

6.3.27 Not all of the developments included in the cumulative list in Chapter 2 have been included, primarily as those excluded are not forecast to add notable levels of traffic

to the study area. Allocated sites that are not supported by planning applications have not been included due to limited information being available and as the traffic growth applied can serve as a reasonable proxy for them.

Assessment Scenarios

6.3.28 The main assessment of the operational phase is based on the increase in traffic associated with the Proposed Development added to the 2028 Future Baseline, referred to as the '2028 Future Baseline plus Development' scenario, compared to the 2028 Future Baseline on its own.

6.3.29 The cumulative assessment of the operational phase is based on the increase of committed development plus the Proposed Development traffic added to the 2028 Future Baseline, referred to as the '2028 with Development' scenario (2028 Future Baseline plus Committed plus Development), compared to the 2028 Future Baseline.

6.3.30 This methodology is based on the 2023 IEMA Guidelines which states:

> *'Future baseline and cumulative assessment should not be confused. They are two different considerations within the environmental assessment process. Derived forecast traffic growth (e.g. TEMPro) should be utilised to derive future year baseline traffic conditions. However, discrete projects within the agreed study area that are existing, approved or likely to come forward (where sufficient certainty and relevant information about the project exists) should not be added to the baseline scenario and should be considered in the cumulative scenario.'*

Significance Criteria

6.3.31 The 2023 IEMA Guidelines provide examples of sensitive receptors as mentioned above, however they do not attempt to classify the sensitivity of the receptors. It is stated in the document that the *'Guidelines are intended to complement professional judgement and the experience of trained and competent assessors'*, as such there is scope for the assessor to tailor their methodology appropriately. We have therefore referenced the receptor sensitivity classifications from the 1993 IEMA Guidelines for use in this assessment as summarised in Table 6.2 below.

Table 6.2: Receptor Sensitivity	
Receptor Sensitivity	**Receptor Type**
Substantial	Receptors of greatest sensitivity to traffic flows: schools, colleges, playgrounds, accident black spots, retirement homes, roads without footways that are used by pedestrians

Table 6.2: Receptor Sensitivity	
Receptor Sensitivity	**Receptor Type**
Moderate	Traffic flow sensitivity receptors: congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, recreation facilities, workplaces, level crossings and bus routes
Minor	Receptors with some sensitivity to traffic flow: places of worship, public open space, listed buildings, tourist attractions and residential areas with adequate footway provision
Negligible	Receptors with low sensitivity to traffic flows

6.3.32 Table 6.3 below summarises the criteria that have been used to determine magnitude of impacts.

Table 6.3: Magnitude of Impact Criteria				
Impact	**Magnitudes of Impact**			
	Negligible	**Minor**	**Moderate**	**Substantial**
Severance of communities	Change in total traffic or HGV flows of less than 30%	Change in total traffic or HGV flows of 30-60%	Change in total traffic or HGV flows of >60-90%	Change in total traffic or HGV flows over 90%
Road vehicle driver delay and passenger delay	Change in journey time of less than 30 secs	Change in journey time of 30secs-1min	Change in journey time of >1min-2mins	Change in journey time of more than 2mins
Non-motorised user delay	Change in total traffic or HGV flows of less than 30%	Change in total traffic or HGV flows of 30-60%	Change in total traffic or HGV flows of >60-90%	Change in total traffic or HGV flows over 90%
Non-motorised user amenity	Change in total traffic or HGV flows of less than 30%	Change in total traffic or HGV flows of 30-60%	Change in total traffic or HGV flows of >60-90%	Change in total traffic or HGV flows over 90%
Fear & intimidation on & by road users	Change in total traffic or HGV flows of less than 30%	Change in total traffic or HGV flows of 30-60%	Change in total traffic or HGV flows of >60-90%	Change in total traffic or HGV flows over 90%
Road user & pedestrian safety	Change in total traffic or HGV flows of less than 30%	Change in total traffic or HGV flows of 30-60%	Change in total traffic or HGV flows of >60-90%	Change in total traffic or HGV flows over 90%

6.3.33 The level of the effect is judged on the relationship of the magnitude of impact to the assessed sensitivity of the receptor. Table 6.4 provides a matrix of significance. Please note that the level of effects within the table has had the term 'Substantial' changed to 'Major' to be in line with other parts of the ES.

Table 6.4: Level of Effects				
Sensitivity of Receptor	**Magnitudes of Impact**			
	Negligible	**Minor**	**Moderate**	**Substantial**
Negligible	Negligible	Negligible	Negligible	Minor
Minor	Negligible	Negligible	Minor	Moderate
Moderate	Negligible	Minor	Moderate	Major
Substantial	Minor	Moderate	Major	Major

6.3.34 Potential effects are therefore concluded to be negligible, minor, moderate or major. Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate or major beneficial or adverse level. The application of the criteria has been based on professional judgement, both in terms of the extent of the impact, which has been quantified where possible, and the sensitivity of the receptor.

6.4 Baseline Conditions

Local Highway Network

6.4.1 Halterworth Lane forms the western boundary of the Site. It functions as a local access collector road, providing access to several residential side roads as well as providing direct residential driveway frontage. Halterworth Lane links Bolney Road to the south with the A3090 Winchester Road to the north, both of which are local distributor roads connecting Romsey with the A27 and Winchester respectively. Its junctions with both roads are priority controlled.

6.4.2 Halterworth Lane is a two-way single carriageway road that is predominantly residential in nature with street-lit footways on both sides of the road and is subject to a 30mph speed limit. A signed 6'-6" except for access width restriction is in place for the length of Halterworth Lane.

6.4.3 The roads in the vicinity of the Site benefit from footways, with the exception of Highwood Lane to the east which forms a circular loop road in conjunction with Halterworth Lane, and the A27 which is more strategic in nature acting as a semi-orbital route around the southern side of Romsey.

6.4.4 A more detailed description of the local highway network is provided in Section 3 of the TA and TP (Appendices 6.1 and 6.2 respectively).

Highway Safety

6.4.5 Section 9.1 of the TA provides a highway safety review using collision data purchased from Hampshire Constabulary for the five-year period 1st September 2018 and 31st August 2023. The accident study area matches the assessment study area. There were 34 accidents during this period with 24 classed as 'slight' and 10 classed as 'serious'. The collisions resulted in 44 casualties, which are typically defined as people requiring medical treatment directly related to the collisions. No fatal accidents occurred and no accident blackspots were identified. No accidents occurred within the vicinity of the proposed Site accesses. The majority of accident causation factors relate to driver, rider or pedestrian error.

Existing Traffic Conditions

6.4.6 Section 4 of the TA (Appendix 6.1) provides details of the traffic surveys undertaken to provide the baseline traffic flows for use in this assessment and the junction capacity assessment detailed in Section 8 of the TA.

6.4.7 In summary, manual classified counts (MCCs) and queue length surveys were undertaken on Tuesday 7th November 2023 at the junctions listed at paragraph 6.3.7.

6.4.8 The MCCs and queue length surveys were undertaken by an independent traffic survey specialist during the hours of 07:00 to 10:00 and 14:45 to 19:00 to ensure that the network peaks were surveyed and the morning (AM) and evening (PM) peak hours could be determined which were calculated to be as follows:

- AM peak: 08:00-09:00; and
- PM peak: 16:15-17:15.

6.4.9 In was established that the PM peak for the first seven junctions listed at paragraph 6.3.9 was 16:15-17:15, however, for the M271/A3057/Coldharbour Lane (Romsey Road roundabout) the PM peak was found to be 18:00-19:00, as such the later peak has been used to assess this junction.

6.4.10 The observed AM and PM peak traffic flows form the 2023 Baseline peak hour flows.

6.4.11 The 2023 Baseline flows were validated using automatic traffic counters (ATCs) which were installed for 7 days from Tuesday 7th November 2023 to Wednesday 13th November 2023 at the following locations:

- Halterworth Lane (Northern Site Frontage);
- Halterworth Lane (Southern Site Frontage);
- Botley Road (South-East of Halterworth Lane);
- A27 (South-West of Botley Road/Premier Way); and
- Botley Road (South-East of A27/Premier Way).

6.4.12 Section 4.2 of the TA (Appendix 6.1) presents a validation exercise that compares the MCC based flows and the ATC based flows in line with DfT TAG Unit M1.2. All flows are within statistically recognised degrees of tolerance and there therefore valid for assessment purposes. Furthermore, the MCC flows were predominantly higher than the ATC flows, meaning that the eventual impact assessment detailed in Section 8 of the TA and this Chapter should be considered to be particularly robust.

6.4.13 The local ATCs have been used to factor the peak hour flows to 24-hour AADT flow which form the basis of the assessment in this Chapter, supplemented by the peak hour impact assessment presented in Section 8 of the TA.

6.4.14 Speeds recorded by the ATCs installed on Halterworth Lane have also been used in the proposed Site access design detailed in Section 5.2 of the TA (Appendix 6.1).

2023 Baseline Traffic Flows

6.4.15 A summary of the AADT flows and heavy vehicle proportions on the links in the study area is presented in Table 6.5.

Table 6.5	**AADT Flows & Heavy Vehicle % - 2023 Baseline**		
Link Ref	**Link Description**	**24hr AADT**	**Heavy %**
1	A3090 Winchester Road to the West of Halterworth Lane	9314	0.58%
2	A3090 Winchester Road to the East of Halterworth Lane	5816	0.71%
3	Halterworth Lane to the South of A3090 Winchester Road	6457	0.32%
4	Halterworth Lane to the North of Highwood Lane	6449	0.13%
5	Halterworth Lane to the West of Highwood Lane	2488	0.50%
6	Highwood Lane to the East of Halterworth Lane	4324	0.10%
7	Jenner Way to the West of Halterworth Lane	372	1.11%
8	Halterworth Lane to the South of Jenner Way	2637	0.31%
9	Halterworth Lane to the North of Proposed Northern Site Access	2761	0.00%
10	Proposed Northern Site Access (with Development only)	0	0.00%
11	Halterworth Lane to the South of Proposed Northern Site Access	2761	0.00%
12	Halterworth Lane to the North of Proposed Southern Site Access	2728	0.00%
13	Proposed Southern Site Access (with Development only)	0	0.00%
14	Halterworth Lane to the South of Proposed Southern Site Access	2728	0.00%
15	Halterworth Lane to the North of Botley Road	2650	0.62%
16	Botley Road to the West of Halterworth Lane	7469	1.17%
17	Botley Road to the East of Halterworth Lane	7825	0.86%
18	Botley Road to the North of A27	15929	1.49%
19	Botley Road to the East of A27	17507	1.78%
20	Premier Way to the South of A27	1893	1.72%
21	A27 to the West of Botley Road	10574	1.80%
22	Botley Road to the West of Rownhams Lane	17446	1.68%
23	Botley Road to the East of Rownhams Lane	11583	1.93%
24	Rownhams Lane to the South of Botley Road	6861	1.02%
25	A27 to the West of A3057	13232	3.10%
26	A27 to the East of A3057	9706	2.66%
27	A3057 to the South of A27	14040	3.29%
28	A3057 to the North of M271	13672	2.60%
29	A3057 to the East of M271	9089	1.21%
30	M271 to the South of A3057	12885	2.69%
31	Coldharbour Lane to the West of A3057	89	0.00%

2028 Future Baseline Traffic Flows

6.4.16 The supporting TA (Appendix 6.1) provides all of the relevant background traffic data and detailed analysis of the operational performance of the study network. The links

and junctions have been assessed for future operation and capacity. The assessment included an evaluation of the traffic likely to be generated by the committed developments as detailed in the Methodology section of this Chapter.

6.4.17 Appropriate traffic growth factors have been derived from TEMPro and NRTP and applied to the 2023 Baseline flows to form the 2028 Future Baseline traffic flows. A summary of these flows in AADT format and HGV% is shown in Table 6.6. The two proposed site accesses are included in the table for completeness but the respective traffic flows are shown as zero as they will only exist with the development in place.

Table 6.6	**AADT Flows & Heavy Vehicle % - 2028 Future Baseline**		
Link Ref	**Link Description**	**24hr AADT**	**Heavy %**
1	A3090 Winchester Road to the West of Halterworth Lane	9483	0.57%
2	A3090 Winchester Road to the East of Halterworth Lane	5924	0.70%
3	Halterworth Lane to the South of A3090 Winchester Road	6578	0.31%
4	Halterworth Lane to the North of Highwood Lane	6573	0.13%
5	Halterworth Lane to the West of Highwood Lane	2534	0.49%
6	Highwood Lane to the East of Halterworth Lane	4402	0.09%
7	Jenner Way to the West of Halterworth Lane	372	1.11%
8	Halterworth Lane to the South of Jenner Way	2687	0.31%
9	Halterworth Lane to the North of Proposed Northern Site Access	2815	0.00%
10	Proposed Northern Site Access	0	0.00%
11	Halterworth Lane to the South of Proposed Northern Site Access	2815	0.00%
12	Halterworth Lane to the North of Proposed Southern Site Access	2778	0.00%
13	Proposed Southern Site Access	0	0.00%
14	Halterworth Lane to the South of Proposed Southern Site Access	2778	0.00%
15	Halterworth Lane to the North of Botley Road	2695	0.61%
16	Botley Road to the West of Halterworth Lane	7609	1.15%
17	Botley Road to the East of Halterworth Lane	7970	0.84%
18	Botley Road to the North of A27	16222	1.46%
19	Botley Road to the East of A27	17823	1.75%
20	Premier Way to the South of A27	1924	1.69%
21	A27 to the West of Botley Road	10765	1.77%
22	Botley Road to the West of Rownhams Lane	17768	1.65%
23	Botley Road to the East of Rownhams Lane	11793	1.90%
24	Rownhams Lane to the South of Botley Road	6982	1.00%
25	A27 to the West of A3057	13468	3.05%
26	A27 to the East of A3057	9880	2.61%
27	A3057 to the South of A27	14297	3.23%
28	A3057 to the North of M271	13921	2.55%
29	A3057 to the East of M271	9258	1.19%
30	M271 to the South of A3057	13117	2.65%
31	Coldharbour Lane to the West of A3057	89	0.00%

Sensitive Receptors

6.4.18 The 31 links in the study area have been classified based on the receptor sensitivity descriptions provided in Table 6.2. This link sensitivity classification is provided in Table 6.7 with a plan provided as Appendix 6.3 'Study Area Link Sensitivity Plan'.

Table 6.7 Study Area Sensitivity

Link Ref	Link Description	Sensitivity	Reason
1	A3090 Winchester Road to the West of Halterworth Lane	Moderate	Residential & bus route
2	A3090 Winchester Road to the East of Halterworth Lane	Moderate	Adjacent to St Swithun Church (minor) & bus route
3	Halterworth Lane to the South of A3090 Winchester Road	Moderate	Bus route and approach to level crossing
4	Halterworth Lane to the North of Highwood Lane	Moderate	Bus route and approach to level crossing
5	Halterworth Lane to the West of Highwood Lane	Moderate	Residential & bus route
6	Highwood Lane to the East of Halterworth Lane	Substantial	Approach to King Edward VI Prep School
7	Jenner Way to the West of Halterworth Lane	Moderate	Residential
8	Halterworth Lane to the South of Jenner Way	Moderate	Residential & bus route
9	Halterworth Lane to the North of Proposed Northern Site Access	Moderate	Residential & bus route
10	Proposed Northern Site Access (With Development only)	Moderate	Future Residential
11	Halterworth Lane to the South of Proposed Northern Site Access	Moderate	Residential & bus route
12	Halterworth Lane to the North of Proposed Southern Site Access	Substantial	Close to Halterworth Primary School
13	Proposed Southern Site Access (With Development only)	Moderate	Future Residential
14	Halterworth Lane to the South of Proposed Southern Site Access	Substantial	Close to Halterworth Primary School
15	Halterworth Lane to the North of Botley Road	Substantial	Close to Halterworth Primary School
16	Botley Road to the West of Halterworth Lane	Moderate	Residential & bus route
17	Botley Road to the East of Halterworth Lane	Moderate	Residential & bus route
18	Botley Road to the North of A27	Moderate	Residential & bus route
19	Botley Road to the East of A27	Moderate	Approach to employment area & bus route
20	Premier Way to the South of A27	Moderate	Employment area
21	A27 to the West of Botley Road	Moderate	Approach to employment area
22	Botley Road to the West of Rownhams Lane	Moderate	Residential & bus route
23	Botley Road to the East of Rownhams Lane	Moderate	Residential & bus route
24	Rownhams Lane to the South of Botley Road	Moderate	Residential & bus route
25	A27 to the West of A3057	Negligible	Extra urban highway
26	A27 to the East of A3057	Negligible	Extra urban highway
27	A3057 to the South of A27	Negligible	Extra urban highway
28	A3057 to the North of M271	Negligible	Extra urban highway
29	A3057 to the East of M271	Negligible	Extra urban highway
30	M271 to the South of A3057	Negligible	Extra urban highway
31	Coldharbour Lane to the West of A3057	Negligible	Country Lane

Limitations

6.4.19 One limitation is that the traffic flows are demand flows and do not take into account any delay or the effects of delay such as drivers choosing different routes. Use of demand flows should however be considered to be worst-case in traffic impact assessment terms.

6.4.20 A second limitation is that the assessment does not fully take into account changing travel patterns such as increased levels of working from home and flexible working, nor does it take into account any modal shift from private car use to more sustainable methods of travel.

6.4.21 The assessment does not consider the effects of any public transport and infrastructure improvements. The assessment should therefore be considered to be a worst-case.

6.4.22 The assessment also does not consider the effects of any expansion of Halterworth Primary School as it does not form part of this application. The Applicant is however willing to provide a parcel within the Site for such expansion should this be required by the local education authority.

6.4.23 Another limitation is that the assessment is based on a limited amount of traffic survey data from traffic surveys undertaken in early November 2023. It therefore does not consider any seasonal variation in traffic flows, however, November is traditionally one of the busiest months in the UK given that the often inclement winter weather and low temperatures sees an increase in private car use compared to walking, cycling and public transport use which generally involve greater 'exposure to the elements'.

6.4.24 The cumulative assessment uses traffic flows presented in the respective Transport Assessments, however where the respective study areas do not fully overlap with the study area of this assessment, committed development traffic has been assigned on a worst-case basis, for example, assigning traffic to Halterworth Lane rather than Highwood Lane which facilitates the same routing north and south of the Site.

6.5 Assessment of Effects

Design Solutions and Assumptions

6.5.1 The proposed Site accesses, illustrated in Drawings P21004-001C and P21004-002B in Appendix E of the TA (Appendix 6.1), have been designed in accordance with national and local design guidance. Visibility splays based on observed 85th percentile speeds and in accordance with MfS guidance are achievable within the existing public

highway. The proposed accesses are therefore safe and suitable to serve the Proposed Development.

6.5.2 Whilst subject to a future reserved matters application, it is intended that the two proposed accesses will be connected internally which follows national guidance in terms of well-connected streets and allows the Proposed Development to still be accessed in the unlikely event of a blockage at one of the accesses and during roadworks. The internal road layout will be expected to be based on MfS design guidance meaning that the layout will focus on the needs of pedestrians, cyclists and public transport users, create a sense of place and community, create permeable streets offering good quality connections and will recognise the needs of people of all ages and abilities.

6.5.3 As detailed in the TA, the Applicant is willing to provide a number of parking spaces in the form of laybys for use by parents and guardians for school drop-off and pick-up. This will be discussed further with HCC Highways.

6.5.4 Uncontrolled crossings consisting of dropped kerbs and tactile paving will be provided at the two access junctions, both across the access road and across Halterworth Lane, which will aid pedestrian movements, particularly buggy and wheelchair users and people with visual impairment.

6.5.5 The incorporation of public footpath 198/15/1 into the Proposed Development will help to reduce any impacts on its existing users. The footpath will also be supplemented by a separate pedestrian access onto Halterworth Lane south of the southern proposed Site access along with an internal network of footpaths, both alongside the internal roads and dedicated paths that will offer more scenic routes, though the detail of this infrastructure will be subject to a subsequent reserved matters application(s).

6.5.6 A Travel Plan (Appendix 6.2) produced on behalf of the Applicant will begin the travel planning process with the aim being to help to promote and encourage travel by sustainable modes. The Travel Plan will be updated at the reserved matters stage and post-occupation. Targets to reduce single occupancy private car travel and increase sustainable modes of travel have been set to help achieve sustainable modal shift. The Travel Plan will be monitored annually by a Travel Plan Coordinator for a period of 5-years from an agreed point post occupation and the targets updated accordingly.

6.5.7 Further details of the proposed access arrangement are provided in Section 5 of the TA (Appendix 6.1).

6.5.8 It has been assumed that modern sustainable construction practices will be adopted during the construction phase.

6.5.9 For assessment purposes, the assumption has been made that 60% of the development traffic will use the proposed southern Site access with 40% using the proposed northern Site access, with this being based on the approximate balance of the developable areas of the Site.

6.5.10 Further assumptions relevant to specific assessment phases can be found detailed in the assessment of effects section.

Assessment of Effects

Construction Phase

6.5.11 The TRICS Construction Traffic Research Report (2008) notes how, in recent years, the UK construction industry has been reducing the costs and increasing the efficiency associated with construction traffic as it has moved toward competitive tendering procurement creating pressure to optimise the supply chain. Efficiencies have been created by developing and enhancing techniques and working practices including:

- Supply chain optimisation;
- Load optimisation;
- Consolidation centres;
- Just in Time deliveries;
- 4th party logistics (outsourcing); and
- Delivery booking (deliveries by pre-arranged time slots).

6.5.12 In addition to the above, modern sustainable construction practices will mean that as much of the existing material on the Site will be reused which will minimise the need for additional fill materials to be brought and removed to/from Site by HGVs.

6.5.13 These efficiencies reduce the number of vehicles generated during the construction phase, and to some extent, the distance travelled by them. Nevertheless, the construction phase of the Site will result in a temporary increase of heavy goods vehicles (HGVs), light goods vehicles (LGVs) and cars carrying construction workers, materials and equipment on roads surrounding the Site.

6.5.14 The TRICS report groups the typical vehicle types associated with construction, these being:

- Car/pick up/3.5 ton van;

- 7.5 ton box van/panel van;
- Low loader and articulated HGVs;
- Ready mix concrete truck;
- Mobile crane;
- Skip lorry; and
- 32 tonne tipper truck.

6.5.15 It is difficult to predict the precise number of construction vehicles at this outline application stage due to the varying work practices of different housebuilders/construction companies, with the end builder(s) not likely to be known until post-determination. Similarly, the volume of earth moving equipment, particularly tipper trucks removing or delivering material from/to the Site, will be dependent on the existing and builder's desired levels on the Site. This is reflected in the TRICS report which states that:

> *'…at outline application stage, the degree of certainty required for such calculations (related to the variables of materials, speed and type of construction and site logistics) is frequently not available as the construction methods and programme may not be finalised and contractors not appointed.'*

6.5.16 Construction traffic will vary per phase with the initial stages generally requiring greater use of HGVs for excavation, site clearance and ground level remodelling, such as tipper trucks and excavators with the latter generally transported on low loader articulated vehicles. Later stages will generate more HGVs used to transport construction materials, such as low loaders carrying bricks, prefabricated timber structures (roof supports) etc. and a greater number of site staff. Excavating equipment tends to remain on-site until the need for it ceases. It is useful to note that undeveloped sites such as this tend to require less remedial works and less material to be removed from Site, limiting the need for high numbers of HGVs during the initial stages of construction.

6.5.17 The typical hours of construction operation are expected to be between 07:00-19:00 Monday to Friday and 07:00-13:00 on Saturdays although the precise hours will be determined in the Construction Traffic Management Plan (CTMP) to be submitted at the reserved matters stage. It has been assumed that construction will not take place on Sundays or Bank Holidays, as per standard construction practice, unless specifically agreed with TVBC.

6.5.18 Construction traffic will be spread across these time periods which start and end outside of the local network peak hours minimising the impact in terms of traffic flow volume and highway network capacity. The TRICS report notes:

'…in general, construction traffic will have minimal impact on traffic, except where temporary road closures or re-routing is required. Construction traffic normally generates less vehicle movements than the agreed use of a new development.'

6.5.19 The proximity of the Site to the A27 and A3057 which collectively provide connection to junction 3 of the M27, will be conducive to the safe movement of construction traffic, minimising the impact on local residential areas and other land uses.

6.5.20 The development is forecast to generate 1,152 AADT trips when fully constructed and occupied with the number of construction trips likely to be less than this based on the above TRICS statement.

6.5.21 The likely number of trips associated with construction traffic can be forecast based on the project value using a calculation provided in the Building Research Establishment (BRE) report Construction Site Traffic, The Next Big Thing (2003). The report suggests that 29.4 trips are made per £100,000 of project value. Adjusting this 2003 figure to October 2023 using the Bank of England Inflation Calculator[1] takes it to £174,786.87. The anticipated project value provided by the Applicant is approximately £130,000,000. Using this figure it is predicted that the Site will generate 23 two-way vehicle trips per day excluding weekends as a worst-case (it is likely that some construction traffic will be present on Saturdays) across the 90-month construction period, which is equivalent to slightly fewer than 2 two-way trips per hour across a 12-hour working day. It is acknowledged that there may be some peaks in construction traffic activity but this will be balanced by troughs.

6.5.22 The TRICS report indicates that approximately 20% of construction trips are made by cars or light goods vehicles and 80% by heavy good vehicles (HGVs). Applying these percentages to the above construction trips results in a daily two-way forecast of 5 light vehicles and 18 heavy vehicles.

6.5.23 The expected routing will be agreed in the CTMP, but heading to the Site the routing is likely to be exiting the M27 at junction 3, then travelling north by the A3057, then north-east by the A27 and north-west onto Halterworth Lane via Botley Road. The reverse of this journey is likely to be made heading from the Site.

[1] https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator accessed 19/12/23

6.5.24 The majority of the links on this route have negligible to moderate sensitivity, the impact will be temporary in nature and the low numbers of HGVs forecast are likely to be within the typical daily fluctuation in HGV flow, particularly given the presence of industrial areas such as Abbey Park Industrial Estate. These low figures will result in a temporary negligible adverse effect (not significant) on: severance of communities; road vehicle driver delay and passenger delay; non-motorised user delay; non-motorised user amenity; fear and intimidation on and by road users; and road user and pedestrian safety during the construction phase.

6.5.25 Links 12, 14 and 15, however, are of substantial sensitivity given their proximity to the primary school, therefore a temporary minor adverse effect (not significant).

Operational Phase

6.5.26 The likely vehicular trip generation for the Site has been calculated using the TRICS database on the basis of 270 dwellings. In order to allow for a particularly robust assessment, trip rates for open market housing (private houses) have been applied to 100% of the development with no adjustment made to account for the affordable housing element, which typically generates less traffic.

6.5.27 The trips associated with the operational phase of the Proposed Development are shown in Table 6.8.

Table 6.8	AADT Flows & Heavy Vehicle % - Development Flows		
Link Ref	**Link Description**	**24hr AADT**	**Heavy %**
1	A3090 Winchester Road to the West of Halterworth Lane	168	<1%
2	A3090 Winchester Road to the East of Halterworth Lane	209	<1%
3	Halterworth Lane to the South of A3090 Winchester Road	377	<1%
4	Halterworth Lane to the North of Highwood Lane	394	<1%
5	Halterworth Lane to the West of Highwood Lane	394	<1%
6	Highwood Lane to the East of Halterworth Lane	0	<1%
7	Jenner Way to the West of Halterworth Lane	0	<1%
8	Halterworth Lane to the South of Jenner Way	394	<1%
9	Halterworth Lane to the North of Proposed Northern Site Access	377	<1%
10	Proposed Northern Site Access	463	<1%
11	Halterworth Lane to the South of Proposed Northern Site Access	537	<1%
12	Halterworth Lane to the North of Proposed Southern Site Access	537	<1%
13	Proposed Southern Site Access	689	<1%
14	Halterworth Lane to the South of Proposed Southern Site Access	775	<1%
15	Halterworth Lane to the North of Botley Road	770	<1%
16	Botley Road to the West of Halterworth Lane	180	<1%
17	Botley Road to the East of Halterworth Lane	786	<1%
18	Botley Road to the North of A27	775	<1%
19	Botley Road to the East of A27	324	<1%
20	Premier Way to the South of A27	0	<1%
21	A27 to the West of Botley Road	340	<1%
22	Botley Road to the West of Rownhams Lane	333	<1%
23	Botley Road to the East of Rownhams Lane	245	<1%

Table 6.8	AADT Flows & Heavy Vehicle % - Development Flows		
Link Ref	**Link Description**	**24hr AADT**	**Heavy %**
24	Rownhams Lane to the South of Botley Road	88	<1%
25	A27 to the West of A3057	0	<1%
26	A27 to the East of A3057	340	<1%
27	A3057 to the South of A27	340	<1%
28	A3057 to the North of M271	349	<1%
29	A3057 to the East of M271	63	<1%
30	M271 to the South of A3057	286	<1%
31	Coldharbour Lane to the West of A3057	0	<1%

6.5.28 The heavy vehicle percentages are less than 1% for each link. It should be remembered that many heavy vehicle trips travelling to/from the Proposed Development will already be present on the network making other trips.

6.5.29 These Proposed Development trips have been added to the 2028 Future Baseline flows forming the 2028 Future Baseline plus Development flows. A summary of these flows in AADT format and HGV% is shown in Table 6.9.

Table 6.9	AADT Flows & Heavy Vehicle % - 2028 Future Baseline plus Development		
Link Ref	**Link Description**	**24hr AADT**	**Heavy %**
1	A3090 Winchester Road to the West of Halterworth Lane	9651	0.56%
2	A3090 Winchester Road to the East of Halterworth Lane	6133	0.67%
3	Halterworth Lane to the South of A3090 Winchester Road	6955	0.30%
4	Halterworth Lane to the North of Highwood Lane	6967	0.12%
5	Halterworth Lane to the West of Highwood Lane	2928	0.42%
6	Highwood Lane to the East of Halterworth Lane	4402	0.09%
7	Jenner Way to the West of Halterworth Lane	372	1.11%
8	Halterworth Lane to the South of Jenner Way	3081	0.27%
9	Halterworth Lane to the North of Proposed Northern Site Access	3192	0.00%
10	Proposed Northern Site Access	463	0.00%
11	Halterworth Lane to the South of Proposed Northern Site Access	3352	0.00%
12	Halterworth Lane to the North of Proposed Southern Site Access	3315	0.00%
13	Proposed Southern Site Access	689	0.00%
14	Halterworth Lane to the South of Proposed Southern Site Access	3553	0.00%
15	Halterworth Lane to the North of Botley Road	3465	0.48%
16	Botley Road to the West of Halterworth Lane	7789	1.12%
17	Botley Road to the East of Halterworth Lane	8756	0.76%
18	Botley Road to the North of A27	16997	1.39%
19	Botley Road to the East of A27	18147	1.72%
20	Premier Way to the South of A27	1924	1.69%
21	A27 to the West of Botley Road	11105	1.71%
22	Botley Road to the West of Rownhams Lane	18101	1.62%
23	Botley Road to the East of Rownhams Lane	12038	1.86%
24	Rownhams Lane to the South of Botley Road	7070	0.99%
25	A27 to the West of A3057	13468	3.05%
26	A27 to the East of A3057	10220	2.52%
27	A3057 to the South of A27	14637	3.15%
28	A3057 to the North of M271	14270	2.49%
29	A3057 to the East of M271	9321	1.18%
30	M271 to the South of A3057	13403	2.59%
31	Coldharbour Lane to the West of A3057	89	0.00%

6.5.30 In line with the 2023 IEMA Guidelines, the percentage impact of the Proposed Development traffic has been calculated for the future year of 2028. A summary of the AADT differences is shown in Table 6.10 below. Note that AADT differences have not been presented for the proposed Site accesses as they do not exist in the baseline.

Table 6.10	**AADT Flow Differences - 2028 Future Baseline plus Development**			
		AADT Difference		**Link**
Link Ref	**Link Description**	**Absolute**	**%**	**Sensitivity**
1	A3090 Winchester Road to the West of Halterworth Lane	168	1.77%	Moderate
2	A3090 Winchester Road to the East of Halterworth Lane	209	3.53%	Moderate
3	Halterworth Lane to the South of A3090 Winchester Road	377	5.73%	Moderate
4	Halterworth Lane to the North of Highwood Lane	394	5.99%	Moderate
5	Halterworth Lane to the West of Highwood Lane	394	15.55%	Moderate
6	Highwood Lane to the East of Halterworth Lane	0	0.00%	Substantial
7	Jenner Way to the West of Halterworth Lane	0	0.00%	Moderate
8	Halterworth Lane to the South of Jenner Way	394	14.66%	Moderate
9	Halterworth Lane to the North of Proposed Northern Site Access	377	13.39%	Moderate
10	Proposed Northern Site Access	463	N/A	N/A
11	Halterworth Lane to the South of Proposed Northern Site Access	537	19.08%	Moderate
12	Halterworth Lane to the North of Proposed Southern Site Access	537	19.33%	Substantial
13	Proposed Southern Site Access	689	N/A	N/A
14	Halterworth Lane to the South of Proposed Southern Site Access	775	27.90%	Substantial
15	Halterworth Lane to the North of Botley Road	770	28.57%	Substantial
16	Botley Road to the West of Halterworth Lane	180	2.37%	Moderate
17	Botley Road to the East of Halterworth Lane	786	9.86%	Moderate
18	Botley Road to the North of A27	775	4.78%	Moderate
19	Botley Road to the East of A27	324	1.82%	Moderate
20	Premier Way to the South of A27	0	0.00%	Moderate
21	A27 to the West of Botley Road	340	3.16%	Moderate
22	Botley Road to the West of Rownhams Lane	333	1.87%	Moderate
23	Botley Road to the East of Rownhams Lane	245	2.08%	Moderate
24	Rownhams Lane to the South of Botley Road	88	1.26%	Moderate
25	A27 to the West of A3057	0	0.00%	Negligible
26	A27 to the East of A3057	340	3.44%	Negligible
27	A3057 to the South of A27	340	2.38%	Negligible
28	A3057 to the North of M271	349	2.51%	Negligible
29	A3057 to the East of M271	63	0.68%	Negligible
30	M271 to the South of A3057	286	2.18%	Negligible
31	Coldharbour Lane to the West of A3057	0	0.00%	Negligible

6.5.31 As can be seen from Table 6.10, the impact of the development traffic on all links is less than the respective 30% negligible IEMA trigger in the 2028 assessment year. The closest links to this threshold are links 14 (27.9%) and 15 (28.57%) which are Halterworth Lane between the proposed southern Site access and Botley Road where the Proposed Development traffic is at its most concentrated. Both links are of

'substantial' sensitivity. In Table 6.4, a 'negligible' impact (change in traffic total traffic flow of <30%) occurring on receptors of 'substantial' sensitivity leads to a 'minor' adverse effect (not significant) on links 14 and 15 as well as link 12 which is also of substantial sensitivity but experiences a lower percentage increase (19.33%). Link 6 is the only other link of substantial sensitivity in the study area, but no development traffic is forecast to be added to it. A negligible impact occurring on receptors/links of 'negligible', 'minor' and 'moderate' sensitivity i.e. all other links, leads to a 'negligible' adverse effect (not significant).

6.5.32 Magnitudes of impact related to road vehicle driver delay and passenger delay can be compared to the magnitudes of the other impacts, for instance, 30 seconds of delay being comparable to a change in total traffic of 30%, up to 60 seconds of delay being comparable with a change in total traffic of up to 60% etc. As such, the impact on all links is negligible adverse (not significant).

6.5.33 These figures will result in a negligible adverse effect (not significant) on 28 of the 31 links and a minor adverse effect (not significant) on links 12, 14 and 15 on: severance of communities; road vehicle driver delay and passenger delay; non-motorised user delay; non-motorised user amenity; fear and intimidation on and by road users; and road user and pedestrian safety during the operational phase.

6.6 Mitigation

Construction Phase

6.6.1 A construction Traffic Management Plan (CTMP) will be required at the reserved matters stage following a planning condition to be expected as part of this outline application. The CTMP will be prepared by the housebuilder/contactor who will have a greater degree of certainty over the likely number of construction trips and phasing of the build-out and will include measures to reduce the impact of such traffic on the local highway and PRoW networks. These measures are likely to include, but not limited to, hours of Site operation/access, provision of wheel washing facilities, parking strategies for construction workers and measures to protect road and PRoW users during construction.

6.6.2 It is important to consider the working hours, routing, noise, vibration, dust, odour and debris or mud on the highway. The ways these will be monitored and mitigated by the housebuilder/contractor are, but not limited to, the following:

- Working Hours and Routing

- Ensuring that traffic to/from the Site adheres to the agreed routes to ensure traffic nuisance is not inadvertently caused;
- HGV traffic to be scheduled to reduce the number of vehicles waiting to gain access to the Site at any one time, while reasonable space will be provided on Site to minimise the queuing or waiting of HGVs outside the Site boundary; and
- All deliveries will be undertaken within approved hours with no deliveries or Site operations to occur on a Sunday, public or Bank Holiday without the prior written consent of the planning authority; and
- All deliveries can be undertaken outside of the drop-off and pick-up times of Halterworth Primary School.

- Noise and Vibration
  - Use of well-maintained vehicles and equipment; and
  - Enforcement of the designated Site access point(s) and travel routes.
- Dust, Odour, Debris and Mud
  - Loading and unloading of materials to be undertaken within the enclosed Site boundary;
  - Wheel-washing of all vehicles egressing the Site;
  - Cleaning of the highway local to the Site; and
  - Minimise mud, litter and debris in general.

Monitoring

6.6.3 The CTMP will be updated by the housebuilder and/or their principle contractor and provided to HCC and TVBC for review at appropriate intervals. Should any issues occur, the document will be amended as necessary.

Operational Phase

6.6.4 Mitigation for the operational phase in addition to the embedded mitigation is not required in EIA terms. The Applicant is, however, willing to fund the upgrade of two bus stops on Halterworth Lane and two bus stops on Botley Road, which will be of benefit to public transport users.

6.6.5 Whilst the section of PRoW 198/15/1 within the Site will be incorporated into the Development Proposals and upgraded with improved surfacing and signage as part of

the design solutions, the Applicant is willing to provide funding to allow HCC to upgrade the section of this PRoW where it passes beyond the Site boundary running east to Highwood Lane, providing a greater degree of permeability and amenity for pedestrians.

6.6.6 In order to improve accessibility and safety for visually impaired pedestrians and better define local crossing points, the Applicant is willing to provide tactile paving at Halterworth Lane's junctions with Bolney Road, Montford Heights, Benedict Close, Saxon Way, Seward Rise, Jenner Way and Hestia Close, as well as at the existing dropped kerb crossing on Halterworth Lane between Highwood Lane and Jenner Way.

6.6.7 The Applicant is also willing to provide parking areas within the Site for school drop-off/pick-up trips and for visitors to the Proposed Development.

6.6.8 The benefits of the above operational phase mitigation measures have not been fully assessed as the provision is subject to further discussions with HCC.

6.7 Residual Effects

Construction Phase

6.7.1 The CTMP will help to reduce the impact, particularly on those links closest to the Site, including the substantial receptor links 12, 14 and 15, where the construction traffic impact will be at its most concentrated. Whilst the level of construction traffic has been shown to result in a temporary minor adverse effect on these three links, and a negligible adverse effect on the other links on the likely construction traffic route, it is recognised that heavy vehicles travelling to and from the Site during school drop-off and pick-up times during the school term has potential to add to the effects being considered by this chapter. Should construction related deliveries be timed to avoid such times, the impact on these links will be reduced, helping to ensure that a temporary negligible adverse effect (not significant) on: severance of communities; road vehicle driver delay and passenger delay; non-motorised user delay; non-motorised user amenity; fear and intimidation on and by road users; and road user and pedestrian safety during the construction phase would be incurred.

Operational Phase

6.7.2 No changes to the negligible to minor adverse effects during the operational phase are forecast, though the mitigation offered in the form of bus stop upgrades and school/visitor parking will help to further reduce the impact of the Proposed Development.

6.8 Assessment of Cumulative Effects

Construction Phase

6.8.1 Given the locations of the other local committed developments, it is unlikely that construction traffic associated with these other committed developments will share the most sensitive links in the study area (12, 14 and 15). The more strategic links in the study area that will provide construction routes to these committed developments are already regularly used by HGVs. It will take a considerable increase on the other links in the study area (i.e. excluding links 12, 14 and 15) to increase the level of impact to anything greater than a minor adverse effect.

6.8.2 Furthermore, there is potential for the CTMP to be integrated with those of other local developments so that more intensive periods of construction can be staggered as much as possible to minimise the effects.

6.8.3 These low traffic volumes will result in a negligible adverse effect (not significant) on: severance of communities; road vehicle driver delay and passenger delay; non-motorised user delay; non-motorised user amenity; fear and intimidation on and by road users and road user and pedestrian safety. As per the full assessment, the impact will be temporary in nature.

Operational Phase

Inter-cumulative effects

6.8.4 The trips associated with the committed developments have been added to the 2028 Future Baseline plus Development flows to form the 2028 With Development flows (cumulative scenario). A summary of these flows in AADT format and HGV% is shown in Table 6.11.

Table 6.11	**AADT Flows & Heavy Vehicle % - 2028 with Development (Cumulative)**		
Link Ref	**Link Description**	**24hr AADT**	**Heavy %**
1	A3090 Winchester Road to the West of Halterworth Lane	10179	0.53%
2	A3090 Winchester Road to the East of Halterworth Lane	6157	0.67%
3	Halterworth Lane to the South of A3090 Winchester Road	7508	0.28%
4	Halterworth Lane to the North of Highwood Lane	7528	0.11%
5	Halterworth Lane to the West of Highwood Lane	3268	0.38%
6	Highwood Lane to the East of Halterworth Lane	4624	0.09%
7	Jenner Way to the West of Halterworth Lane	372	1.11%
8	Halterworth Lane to the South of Jenner Way	3421	0.24%
9	Halterworth Lane to the North of Proposed Northern Site Access	3532	0.00%
10	Proposed Northern Site Access	463	0.00%
11	Halterworth Lane to the South of Proposed Northern Site Access	3692	0.00%
12	Halterworth Lane to the North of Proposed Southern Site Access	3655	0.00%
13	Proposed Southern Site Access	689	0.00%
14	Halterworth Lane to the South of Proposed Southern Site Access	3893	0.00%

Table 6.11	AADT Flows & Heavy Vehicle % - 2028 with Development (Cumulative)		
Link Ref	**Link Description**	**24hr AADT**	**Heavy %**
15	Halterworth Lane to the North of Botley Road	3801	0.43%
16	Botley Road to the West of Halterworth Lane	9237	0.95%
17	Botley Road to the East of Halterworth Lane	10409	0.64%
18	Botley Road to the North of A27	18939	1.28%
19	Botley Road to the East of A27	20778	1.70%
20	Premier Way to the South of A27	3701	2.51%
21	A27 to the West of Botley Road	13411	1.64%
22	Botley Road to the West of Rownhams Lane	20732	1.62%
23	Botley Road to the East of Rownhams Lane	13889	1.91%
24	Rownhams Lane to the South of Botley Road	7850	0.89%
25	A27 to the West of A3057	15589	2.74%
26	A27 to the East of A3057	15117	2.21%
27	A3057 to the South of A27	18270	2.84%
28	A3057 to the North of M271	17844	2.20%
29	A3057 to the East of M271	9930	1.11%
30	M271 to the South of A3057	16486	2.33%
31	Coldharbour Lane to the West of A3057	89	0.00%

6.8.5 In line with the 2023 IEMA Guidelines, the percentage impact of the Cumulative traffic compared to the 2028 Future Baseline has been calculated. A summary of the AADT differences is shown in Table 6.12 below. Note that AADT differences have not been presented for the proposed Site accesses as they do not exist in the baseline.

Table 6.12	AADT Flow Differences - 2028 With Development (Cumulative)			
		AADT Difference		**Link**
Link Ref	**Link Description**	**Absolute**	**%**	**Sensitivity**
1	A3090 Winchester Road to the West of Halterworth Lane	696	7.34%	Moderate
2	A3090 Winchester Road to the East of Halterworth Lane	233	3.93%	Moderate
3	Halterworth Lane to the South of A3090 Winchester Road	930	14.14%	Moderate
4	Halterworth Lane to the North of Highwood Lane	955	14.53%	Moderate
5	Halterworth Lane to the West of Highwood Lane	734	28.97%	Moderate
6	Highwood Lane to the East of Halterworth Lane	222	5.04%	Substantial
7	Jenner Way to the West of Halterworth Lane	0	0.00%	Moderate
8	Halterworth Lane to the South of Jenner Way	734	27.32%	Moderate
9	Halterworth Lane to the North of Proposed Northern Site Access	717	25.47%	Moderate
10	Proposed Northern Site Access	463	N/A	N/A
11	Halterworth Lane to the South of Proposed Northern Site Access	877	31.15%	Moderate
12	Halterworth Lane to the North of Proposed Southern Site Access	877	31.57%	Substantial
13	Proposed Southern Site Access	689	N/A	N/A
14	Halterworth Lane to the South of Proposed Southern Site Access	1115	40.14%	Substantial
15	Halterworth Lane to the North of Botley Road	1106	41.04%	Substantial
16	Botley Road to the West of Halterworth Lane	1628	21.40%	Moderate
17	Botley Road to the East of Halterworth Lane	2439	30.60%	Moderate
18	Botley Road to the North of A27	2717	16.75%	Moderate

Table 6.12	AADT Flow Differences - 2028 With Development (Cumulative)			
		AADT Difference		Link
Link Ref	Link Description	Absolute	%	Sensitivity
19	Botley Road to the East of A27	2955	16.58%	Moderate
20	Premier Way to the South of A27	1777	92.36%	Moderate
21	A27 to the West of Botley Road	2646	24.58%	Moderate
22	Botley Road to the West of Rownhams Lane	2964	16.68%	Moderate
23	Botley Road to the East of Rownhams Lane	2096	17.77%	Moderate
24	Rownhams Lane to the South of Botley Road	868	12.43%	Moderate
25	A27 to the West of A3057	2121	15.75%	Negligible
26	A27 to the East of A3057	5237	53.01%	Negligible
27	A3057 to the South of A27	3973	27.79%	Negligible
28	A3057 to the North of M271	3923	28.18%	Negligible
29	A3057 to the East of M271	672	7.26%	Negligible
30	M271 to the South of A3057	3369	25.68%	Negligible
31	Coldharbour Lane to the West of A3057	0	0.00%	Negligible

6.8.6 As can be seen from Table 6.12, the greatest cumulative impact is forecast to occur on link 20 which is one of the accesses to Abbey Park Industrial Estate. However, this increase is solely associated with committed developments with no traffic from the Proposed Development added to this link. It is therefore the responsibility of the other applicants to address any environmental impact on this link and no cumulative effect associated with the Proposed Development will occur.

6.8.7 The second greatest cumulative impact is forecast to occur on link 26 which has negligible sensitivity. This minor impact on a link of negligible sensitivity results in a negligible adverse effect (not significant).

6.8.8 A minor impact is also forecast on links 11, 12, 14, 15 and 17. Links 11 and 17 have moderate sensitivity, therefore the minor impact results in a minor adverse effect (not significant).

6.8.9 Links 12, 14 and 15 are of substantial sensitivity given the proximity to Halterworth Primary School. The minor impact results in a major adverse effect which is significant. However it is important to recognise that the sensitivity of these links is due to the presence of the primary school, and it is during the school drop-off and pick-up periods which last for around 30-minutes each during term time only when the links should be considered to be of substantial sensitivity. When the primary school is closed or not generating traffic either side of these times, the sensitivity of these links would be moderate with the associated level of effect being minor adverse which is not significant. It should also be noted that much of the traffic from the committed developments has been assigned to Halterworth Lane, but in reality a proportion of this traffic will travel via Highwood Lane to the east, so the impact is likely to be lower than that assessed.

6.8.10 Whilst more traffic will be added to links 12, 14 and 15 as a result of cumulative growth, the Proposed Development is to provide improved crossing facilities as embedded mitigation which will help to reduce the cumulative impact.

6.8.11 The overall effect is therefore considered to be not significant.

Intra-cumulative effects

6.8.12 An assessment of traffic impact on ecological receptors is not required as detailed in paragraph 6.3.18. The effects on noise and air quality are assessed within the respective standalone reports submitted in support of the application. No other intra-cumulative effects are anticipated.

6.9 Summary

6.9.1 In line with national guidance, this assessment has been undertaken based on the impact of the Proposed Development and cumulatively with local committed developments, some of which are yet to receive planning consent.

6.9.2 The construction and operational impacts of the Proposed Development have been assessed in accordance with the requirements of the relevant guidance.

6.9.3 Embedded mitigation is to be provided through the design of the proposed Site accesses which conform with national and local guidance, the commitment to the Travel Plan process, the provision of improved crossing facilities on Halterworth Lane and the incorporation of an existing public footpath into the Site.

6.9.4 Additional mitigation is offered including a CTMP, additional parking for school trips and visitors and bus stop upgrades on Halterworth Lane and Botley Road.

6.9.5 Through the quantitative and qualitative analysis presented in this Chapter, it has been demonstrated that the impact of the Proposed Development during the construction stage will result in a temporary negligible adverse effect which is not significant, while the impacts during the operational phase will result in a range from a negligible to minor adverse effects which are not significant.

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7. ECOLOGY

7.1 Introduction

7.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of Ecology and nature conservation in the context of the Site and surrounding area. In particular, it considers the likely significant effects of the proposed development on the Statutory Designated Sites within the local area and on the flora and fauna within the Site and the immediate surrounding area.

7.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 10).

7.2 Legislation, Policy and Guidance

7.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 7.1.

Legislative Framework

7.2.2 The applicable legislative framework is summarised as follows:

- The Conservation of Habitats and Species Regulations (CHSR) 2017 (as amended);
- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- Protection of [redacted] Act (PBA) 1992;
- Natural Environment and Rural Communities (NERC) Act 2006;
- Hedgerow Regulations 1997; and
- Environment Act 2021.

Planning Policy

7.2.3 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (NPPF) 2023; and
- Test Valley Adopted Local Plan (2011 - 2029): Policies E5 Biodiversity and E6 Green Infrastructure.

Guidance

7.2.4 The applicable guidance is summarised as follows:

- Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition) - The Bat Conservation Trust (2016);
- Bird Census Techniques (2nd edition) – Bibby et al. (2000);
- British Standard BS8596:2015 Surveying for Bats in Trees and Woodland;
- Great Crested Newt Mitigation Guidelines – English Nature (2001);
- Guidance for Ecological Impact Assessment in the UK and Ireland (Version 1.2) – Chartered Institute of Ecology and Environmental Management (2022);
- The UK Habitat Classification User Manual (Version 1.1.) – Butcher et al. (2020); and
- British Standards (2013) BS 42020:2013 Biodiversity. Code of practice for planning and development.

7.2.5 Most protected species groups and survey types have specific published guidance that, along with Natural England / Department for Environment, Food and Rural Affairs (Defra) standing advice published on the www.gov.uk, are the industry standards, and each is referenced briefly under the relevant heading in the methodology section below and in more detail in the associated Appendices (7.2 – 7.8).

7.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

7.3.1 This Ecological Impact Assessment (EcIA) includes:

- Baseline studies of the Site;
- Likely effects on designated sites, flora and fauna arising from the Proposed Development;
- Significance of these effects;
- Mitigation measures, where appropriate;
- Assessment of residual effects; and
- Biodiversity Net Gain (BNG).

Effects Not Considered within the Scope

7.3.2 No hydrological links occur between the Site and the nearby designated sites of nature conservation interest, Emer Bog SAC, any pollution events or increases in surface water during construction and operational phases would be localised and due to the

intervening distances and lack of linking ditches, no impacts are expected upon the designated sites from changes in hydrology. This is not assessed further.

7.3.3 Two built structures on Site, B1 and B2, were open, wooden and metal made structures in a dilapidated condition, that were in use for stabling and storage. These were assessed as offering negligible bat roosting potential and no further surveys have been recommended prior to their removal.

7.3.4 Certain protected/notable species/faunal groups were not considered as part of this assessment due to the lack of suitable habitat, connectivity and/or conditions on Site as determined by the desktop survey and Site visits. These include wintering birds and invertebrates.

Extent of the Study Area

7.3.5 For the purposes of this chapter, the term 'Site' refers to all land within the red line boundary as shown in Figures 1 and 2 at Appendix 7.10 and in Appendix 7.2 Figure 3.

7.3.6 The desk-based study included the following search areas for Biodiversity information:

- 15km around the Site for sites of International Importance e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites.
- 2km around Site for sites of National or Regional Importance e.g. Sites of Special Scientific Interest (SSSIs) and species records e.g. protected and notable species including those listed under Section 41 of the NERC Act 2006.
- 1km around Site for sites of County Importance e.g. Local Wildlife Sites (LWS).

7.3.7 The Site comprises approximately 12.8ha of pastoral grassland, with boundary hedgerows with trees and treelines, see Appendix 7.2 Habitat Assessment for further details.

Consultation Undertaken to Date

7.3.8 Table 7.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter.

7.3.9 No formal EcIA consultation has taken place prior to this ES Chapter being written.

Table 7.1: Summary of Consultation Undertaken to Date

Organisation	Individual(s)	Meeting Date and other forms of Consultation	Summary of Outcome of Discussion
Hampshire Biological Information Centre (HBIC)	Nicole Hawkings Ecologist	Data within 2km of Site received via email on 2nd February 2021	Data received: • Protected Species Inventory

Table 7.1: Summary of Consultation Undertaken to Date			
Organisation	**Individual(s)**	**Meeting Date and other forms of Consultation**	**Summary of Outcome of Discussion**
			• Invasive Non-native Species Inventory • Protected Areas Map

Assessment Methodology

7.3.10 The method of baseline data collection, including species-specific surveys, and assessment is in accordance with current guidance and industry best practice. Full details are provided in the appended species and habitats assessment reports Appendix 7.2 – 7.8.

7.3.11 In summary, the assessment of significant ecological effects, in accordance with CIEEM EcIA guidance, involves:

- Establish Baseline – this is based on desk study and field surveys which describes the existing and potential Important Ecological Features (IEFs) within the zones of influence specified. More detail is provided in Appendices 7.2-7.8.
- Determine the Scale of Importance of Ecological Features – importance is determined using geographical frames of reference: Site, Local, Country, Regional, National and International. This assessment is based on a variety of factors, including statutory protection, statutory designation, conservation status, abundance and rarity.
- Assess Significant Ecological Effects – based on the importance of the ecological feature (NERC, UK BAP, WCA 1981, CSHR 2017, BOCC), magnitude of the impact and sensitivity of the features considered. This is description-based rather than applying a matrix which considers construction and operation effects only where relevant and is also based on professional judgment. The assessment assumes the proposed layout, intrinsic mitigation and routine ecological mitigation normally conditioned, and these are outlined clearly.
- Mitigation – This will be based on the mitigation hierarchy: avoidance, mitigation, compensation and enhancement. Any further mitigation measures required will be outlined to ensure residual effects are lowered to a level considered acceptable. Enhancements will seek biodiversity net gain in line with the NPPF and the future Environment Act (2021) aspirations. Monitoring will be considered where applicable.

- Future Baseline and Residual Effects – final conclusion statements for the short, medium and long term.

Significance Criteria

7.3.12 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate or major beneficial or adverse level. Features with a value of Local or above represent 'Important Ecological Features' (IEFs) and those of Site value or below are not IEFs but could still be considered significant in a Site context, which is based on professional judgment.

7.3.13 The impacts of the Proposed Development, both in isolation and cumulative, have been predicted based on the different stages and processes of the development. The ecological significance of these impacts is based on the likely effect on the structure, function or conservation status of the IEF.

7.4 Baseline Conditions

7.4.1 The location of nature conservation sites and records of protected and notable species within 2km of Site are shown in Figure 2 of Appendix 7.2.

Designated Sites

7.4.2 There are six internationally designated sites within 15km of Site (Table 7.2).

Table 7.2: International Designations within 15km

Designated Area	Distance from Site boundary	Designation Reason
Emer Bog SAC	1.4km East	This designated bog habitats are situated within a wet hollow, supporting scattered willow Salix sp. scrub as well as open bogland supporting species including bottle sedge *Carex rostrata*, marsh cinquefoil *Potentilla palustris*, common cotton grass *Eriophorum angustifolium* and bogbean *Menyanthes trifoliata*. Rush pastures on the edges of the bog support White sedge *Carex curta*, soft *rush Juncus* effuses and sharp flowered rush *J. acutiflorus*, as well as the two bog moss species *Sphagnum fimbriatum* and *S. squarrosum.*
Solent and Southampton Water Ramsar/SPA	5.7km South	This designated area stretches along the southern coastline, comprising estuaries, harbours, extensive mudflats and saltmarsh habitats. These habitats support a diverse assemblage of invertebrates, which in turn provides important summer and wintering grounds for a number of wading bird species including Dark-bellied Brent Goose Branta *b.bernicla*, Mediterranean gull *Larus melanocephalus*, and Roseate Tern *Sterna dougallii.* It

Table 7.2: International Designations within 15km		
		additionally qualifies under Article 4.2 of the Directive (79/409/EEC), as the area regularly supports at least 20,000 waterfowl species.
Solent Maritime SAC	6km South	This area is designated as a SAC for its coastal Annex I habitats, primarily coastal plain estuaries, four bar built estuaries, Spartina swards *Spartinion maritimae* and Atlantic salt meadows *Glauco-Puccinellietalia maritimae*. Notably the spartina maritime swards is the only site in the UK to support smooth cord grass *Spartina alterniflora*, and one of only two sites where significant populations of small cord grass *Spartina maritima* are found. The Solent contains the second largest expanse of Atlantic salt meadows in the UK, including a diverse range of maritime flora including sea-purslane *Atriplex portulacoides*, common sea-lavender *Limonium vulgare* and cordgrass *Spartina spp.*
New Forest Ramsar/SPA/SAC	7.4km South-west	The New Forest qualifies as a Ramsar wetland, due to it supporting the highest concentration of intact valley mire habitat in Britain, providing important habitat for a diverse assemblage of wetland plants and animals, including a number of rare or scarce wetland invertebrates. The area also qualifies as a SAC primarily for supporting eleven Annex I listed habitat types, including Northern Atlantic wet heath, European dry heath, old acidophilous oak woodland, and bog woodland, as well as two Annex II listed species: southern damselfly *Coenagrion mercuriale* and stag beetle *Lucanus cervus*. Finally, the area is designated as an SPA under Article 4.1 of the Directive (79/409/EEC) as it supports populations of European Importance of breeding birds, including Dartford warbler *Sylvia undata*, nightjar *Caprimulgus europaeus* and woodlark *Lullula arborea,* in addition to wintering populations of European importance for Hen Harrier *Circus cyaneus*.
Mottisfont Bats SAC	7.5km North west to the nearest woodland compartment under the designation	Comprised of a mixture of woodland types including hazel coppice, broadleaved plantation and coniferous plantation. It is important for supporting one of only six known barbastelle *Barbastella barbastellus* maternity sites in the UK, and the only known site in Hampshire. In addition to this it provides an important breeding, roosting, commuting and feeing habitats for a variety of UK bat species.

Table 7.2: International Designations within 15km		
River Itchen SAC	8.2km East	Designated as a good example of a sub-type 1 chalk river, dominated by aquatic vegetation including pond water crowfoot *Ranunculus peltatus,* stream water crowfoot *R. penicillatus spp. pseudofluitans* and river water crowfoot *R. fluitans.* These vegetation communities provide important habitats for white clawed crayfish *Austropotamobius pallipes,* otter *Lutra lutra,* Southern damselfly *Coenagrion mercuriale* and bullhead *Cottus gobio.*

Statutory Sites of National Conservation Value

7.4.3 Two Sites of Special Scientific Interest (SSSIs) are identified within a 2km radius of the Site boundary; Baddersley Common and Emer Bog SSSI, and The River Test SSSI. In addition to this there was one Local Nature Reserve (LNR); Tadburn Meadows identified.

7.4.4 As part of the Emer Bog SAC designation detailed above, Baddesley Common SSSI is located 1.4km east from the Site boundary. This supports a mosaic of damp acidic grassland, heathland and developing woodland habitat across a valley. These habitat mosaics are rich in flora including petty whin *Genista anglica*, purple moor-grass *Molinia caerulea*, dwarf gorse *Ulex minor*, meadow thistle *Cirsium dissectum* and cross-leaved heather *Erica tetralix.*

7.4.5 The River Test is located approximately 1.5km north-west from the Site boundary and designated as a good example of a stream over chalk substrate. It is one of the most species rich lowland river systems in England, supporting brook water crowfoot *Ranunculus penicillatus var. pseudofluitans,* blunt flowered water-starwort *Callitriche obtusangula*, opposite leaved pondweed *Groenlandia densa*, and shining pondweed *Potamogeton lucens*. Further flood pastures and fen meadows are associated with this river habitat which support species diversity including marsh marigold *Caltha palustris*, water avens *Geum rivale*, carnation sedge *Carex panicea*, adders tongue *Ophioglossum vulgatum* and southern marsh orchid *Dactylorhiza praetermissa*.

7.4.6 Tadburn Meadows LNR is located approximately 0.165km west of the Site boundary. This is designated for its mosaic of wetland habitats including fen meadows, inundated grassland and freshwater habitats. In addition to this there is areas of wet willow and alder *Alnus glutinosa* woodland habitats. These habitats provide important areas for

common spotted orchids *Dactylorhiza fuchsii*, European water voles *Arvicola amphibius*, kingfishers *Alcedo atthis* and green woodpeckers *Picus viridis.*

Non-Statutory Designations

7.4.7 The desk study undertaken with HBIC, identified fifteen non-statutory designated Local wildlife sites (LWS) within a 1km radius of the Site boundary. These are detailed in Table 7.3.

Table 7.3: Non-statutory Designated Sites within 1km of the Site

Local Wildlife Site	Distance	Bearing	LWS Selection Criteria and Rationale
Tadburn Stream Woodland and Meadow	165m	West	A mixture of open freshwater, fen grassland and important woodland habitats.
Woodley Grange Western Meadow	290m	North	Area of inundated grassland, fen and good quality semi-improved grassland habitats.
Woodley Grange Eastern Meadow	380m	North	Designated for inundated grassland and fen habitats, with some of the grassland area showing improvement through poor management.
Cramp moor Glebe	520m	North-east	Site designated for agriculturally unimproved grassland.
Ganger Wood	550m	North	Mixture of ancient semi-natural woodland, as well as other areas of semi-natural woodland with ancient woodland indicators present.
Ganger Swamp	585m	North	Semi-natural woodland habitat on wet and inundated soils.
Beggarspath Wood	615m	South-West	Designated for a mixture of woodland types including ancient woodland, wet woodland areas and agriculturally unimproved grasslands.
Ganger Wood Meadow	625m	North	Area designated for its wet grassland and fen meadow habitats, as well as important woodland habitats.
Small Copse, extra Romsey	665m	North	Designated for ancient semi-natural woodland with area of wet woodland present.
Ganger Farm Meadow	680m	North	Farm area of good quality semi-improved and unimproved grassland habitats. There are also areas of damp inundated and few meadow grasslands.

Table 7.3: Non-statutory Designated Sites within 1km of the Site			
Local Wildlife Site	**Distance**	**Bearing**	**LWS Selection Criteria and Rationale**
Parkers Moor/Luzborough Plantation	685m	South	Designated as an area of ancient woodland with additional areas of notable wet woodland present.
Ganger Wood Strip	720m	North	Designated for ancient semi-natural woodland with area of wet woodland present.
Gypsy's Copse	750m	East	Area of semi-natural woodland with ancient woodland indicators, as well as the notable species wood horsetail *Equisetum sylvaticum.*
Cramp Moor	880m	North-east	Designated for agriculturally unimproved grassland.
Warren Farm Copse	900m	East	Area of semi-natural woodland with ancient woodland indicators, with areas of wet woodland present including the notable species wood horsetail.

Habitats

7.4.8 The habitats within the Site are summarised below and shown in Figure 3 at Appendix 7.10, a more detailed assessment can be seen within the Habitats Assessment (Appendix 7.2).

Modified grassland

7.4.9 The majority of the Site comprises modified grassland, intensively sheep grazed resulting in short tight swards, with species that are indicative of grassland improvement. A limited herbaceous composition was concentrated around the field margins, which consisted of common species. Areas of disturbed ground within the Site has species such as annual meadow grass *Poa annua,* germander speedwell *Veronica chamaedrys,* ground ivy *Glechoma hederacea* and dandelion *Taraxacum officinale agg*.

7.4.10 A small compartment of unmanaged grassland and scrub was present adjacent the Public Right of Way (PRoW) entrance off Halterworth Lane, in the north-western extent of the Site (*Figure 3 – TN1 (Appendix 7.10*). Further sparse scrub vegetation was recorded around the peripheries of the field compartments comprised of bramble, blackthorn, elder *Sambucus nigra* and hawthorn *Crateagus monogyna.*

7.4.11 Tall ruderal species were sporadically recorded throughout the species poor semi-improved grassland compartments and on borders of the Site, including broadleaved

dock, cow parsley, common nettle *Urtica dioica,* spear thistle *Cirsium vulgare* and creeping thistle *Cirsium arvense*.

7.4.12 Two built structures were identified in the northern western field compartment, associated with areas of hardstanding and bare ground.

7.4.13 Ephemeral species were recorded along the PRoW including annual meadow grass, green alkanet, creeping buttercup and shepherd's purse. In addition to this, a number of established hedgerow ground flora species were recorded in associated with hedgerow H1 (Figure 3 at Appendix 7.10) including wood avens *Geum urbanum,* lesser celandine *Ficaria verna*, bluebell *Hyacinthoides sp.* and cuckoopint *Arum maculatum.*

7.4.14 The majority of the ten hedgerows on Site were lacking in structure and woody species diversity. Hedgerows H1 and H4 (Figure 3 at Appendix 7.10) were considered 'important' under the ecological criteria of the Hedgerow Regulations 1997. In contrast, the majority of the other hedgerows onsite were not considered important under the Hedgerow Regulations due to them forming residential boundaries or being semi-defunct field boundaries.

7.4.15 The majority of the hedgerows onsite qualified as NERC S41 habitats of principal importance, as they supported a canopy composition of 80% native species. The exception to this were mixed species hedgerows along the residential boundaries, H2, H3, H5 and H10 (Figure 3 at Appendix 7.10).

Protected and Notable Species

7.4.16 The Site is considered to have the potential to support the following species/groups:

- [redacted];
- Bats;
- Breeding birds;
- Great crested newts (GCN) *Triturus cristatus;*
- Hazel dormice *Muscardinus avellanarius;*
- Reptiles; and
- Hedgehog.

7.4.17 Full details of the further surveys completed in 2021 are provided in the appended reports (Appendix 7.3 – 7.8), however, *Table 7.4* summarises the key findings during such specific surveys.

Table 7.4: Protected/Notable Species Surveys Summary	
Species/ Group	**Site Suitability and Survey Results**
[redacted]r (***Appendix 7.3***)	Sensitive data which are not displayed in this document. The Protection of [redacted]s Act 1992 requires development proposals to have regard for this species**.** **This species is of Local importance and therefore an Important Ecological Feature (IEF).**
Bats (*Appendix 7.4*)	**Trees** – Trees T1, T4, T5-T8, T11-T13 (Figure 3 at Appendix 7.10) support moderate bat roosting potential and trees T2, T3, T9 and T10 support low bat roosting potential. These trees are present on the boundaries of the Site and will be retained and buffered by the proposals. No further surveys needed. A sensitive lighting scheme will be adopted, therefore **No impact to trees supporting roosting opportunities for bats.**
	Buildings – Two wooden structures were present on Site, in use for storage and stabling, which lacked any suitable bat roosting features as they were exposed to light and weather conditions. **Negligible potential for roosting bats and no constraints are posed to their removal.**
	Habitat Use - Common Bat species - The hedgerows and trees provide some foraging and commuting habitats. Transect and automated static surveys have identified moderate numbers of common and widespread species throughout the Site, particularly along boundary features. The eastern boundary hedgerows in particular, H6, H7 (Figure 3 at Appendix 7.10) and the central Hedgerow H1 had a higher encounter numbers than the rest of the Site. The Site provides some foraging and commuting habitat for an assemblage of common and widespread bat species and is therefore considered to be of **Local importance.** **The bat assemblage using the Site is of Local importance and therefore an IEF.**
	Annex II Bat species – Barbastelle bats were recorded on the static detectors in low numbers, making up only 0.69% of total registrations on the static detectors, with manual activity surveys detected barbastelle only on two occasions across the ten surveys. Barbastelles used the central hedgerow H1 (Figure 3 at Appendix 7.10) and the eastern boundary hedgerows H6 and H7. The Site provides limited foraging and commuting habitat for barbastelle bat species and is therefore considered to be of **Local importance.**
Birds (*Appendix 7.5)*	Breeding bird surveys were completed in spring 2021. The range of habitats present onsite provided foraging and breeding opportunities for an assemblage of generalist species typical of hedgerow, grassland and urban edge habitats. **The Site is therefore considered to be of Local importance for breeding birds, which are therefore IEFs.**
Dormice (Appendix 7.6)	The hedgerows and treelines onsite were predominantly gappy and non-continuous providing limited corridors of movement across the Site. Surveys did not identify any evidence of hazel dormice, and so it is likely they are absent from the Site and immediate surroundings. **Dormice do not pose a constraint to the proposals.**
Reptiles (*Appendix 7.7*)	The hedgerow bases and associated scrub provided sub-optimal foraging habitat for common and widespread reptiles. Presence / likely absence reptile surveys undertaken recorded no reptile species. **Reptiles do not pose a constraint to the proposals.**
GCN	**Breeding Habitat** – No ponds or waterbodies are present within the Site nor within 500m.
	Foraging and Refuge Habitat –No records of GCN were returned for within 1km of the Site and given the lack of ponds in the surrounding landscape it is likely that GCN are absent from the Site and immediate surroundings. **GCN do not pose a constraint to the proposals.**

Table 7.4: Protected/Notable Species Surveys Summary	
Hedgehog	On Site habitats provide some foraging opportunities for hedgehog, with commuting habitat provided by the boundary hedgerows. Records were returned, with the closest being c.100m to the northeast, although no sightings have been recorded on Site during surveys. It is considered likely that hedgehogs could use the habitats on Site. **The hedgehog population is of Local Importance and therefore an IEF.**

Sensitive Receptors

7.4.18 The suite of surveys has demonstrated that the proposals have the potential to affect a range of IEFs**.** These are summarised in Table 7.5 and assigned a geographic context based on survey results, relevant legislation and policy. The Solent Maritime SAC and River Itchen have been scoped out from further assessment, as detailed in the HRA.

7.4.19 The Solent Maritime SAC has been screened out from all ecological pathways due to distance and a lack of public access to the qualifying features that would cause direct damage to the ecological resources. The proposed development is outside of the Impact Risk Zone for the SSSI units that the SAC area encompasses. There will be No Likely Significant Effect on this SAC as a result of the proposed development, and it will no longer be discussed.

7.4.20 The development is outside of the River Itchen catchment, and within the catchment of the River Test. There will be No Likely Significant Effect on this SAC as a result of the proposed development, and it will no longer be discussed.

7.4.21 The 2023 IEMA Guidelines also make reference to 'sensitive areas' with reference to EIA Regulation 2. Examples of such sensitive areas include Sites of Special Scientific Interest (SSSI) and Areas of Outstanding Natural Beauty (AONB). Whilst there are such sensitive areas in the vicinity of Romsey, the annual average daily traffic (AADT) of the Proposed Development and cumulative developments in combination would not exceed 1,000 AADT on roads that pass within 200m of these sensitive areas, which is the criteria used in Air Quality Assessments, therefore such areas have not been included in this assessment as sensitive receptors.

Table 7.5: Important Habitat Features (IEFs) on Site and within Local Area			
Important Ecological Feature	**Relevant Legislation/ Policy**	**Geographic Scale**	**Rationale**
New Forest SAC	Habitats Directive, NPPF, Local Plan	International (SAC/SPA/RAMSAR)	These sites are located within the 15km search area for Statutory Designated Sites of International Importance designated for their biodiversity value.
Mottisfont Bat SAC			
Emer Bog SAC			

Table 7.5: Important Habitat Features (IEFs) on Site and within Local Area			
Solent and Southampton Water Ramsar/SPA			
Solent Maritime SAC			
River Itchen SAC			
SSSI and LWS	Habitats Directive, NPPF, Local Plan	National (SSSI, LNR) County (LWS)	Two SSSIs: Baddesley Common and the River Test. One LNR: Tadburn Meadows and fifteen Local wildlife sites are designated for their biodiversity value.
Hedgerows	NERC S41	Local	All hedgerows with exception of residential boundary hedgerows H2, H3, H5 and H10 were identified as habitats of principal importance as they comprised >80% native woody species.
Hedgerows (H1 and H4)	HREGS 1997, NPPF	Local	Two hedgerows (H1 and H4) were considered 'important' under the Hedgerow Regulations 1997.
Mature trees (within hedgerows)	NPPF	Local	This habitat represents an area of structural diversity that would take several decades to replace were it lost
[redacted]	PBA	Local	See confidential Appendix 7.3
Bats	CHSR, WCA Sched 5	Local	Low levels of common and widespread bat species activity recorded (Appendix 7.4).
Annex II Bats: Barbastelle	CHSR, WCA Sched 5	County	Low levels of Annex II bats –These were concentrated along hedgerows in central and eastern boundary features.
Birds	WCA	Local	On-site habitats, predominately hedgerows and treelines, provided suitable habitat for an assemblage of common and widespread urban edge/generalist species.
Hedgehogs	NERC S41	Local	No evidence found on Site but known in local area.

Where NPPF = National Planning Policy Framework 2021; NERC S.41 = Natural Environment and Rural Communities Act 2006 Section 41; CHSR = Conservation of Habitats and Species Regulations 2017 (as amended); WCA = Wildlife and Countryside Act 1981 (as amended).

Limitations

7.4.22 Ecological surveys have been carried out in accordance with the appropriate guidance. However, the species list provided within Appendix 7.2 should not be regarded as exhaustive. In addition, the absence of certain protected/notable species evidence does not mean there is no potential for them to use the Site. All ecology surveys undertaken were at an appropriate level/time to provide sufficient information to

enable classification and assessment of the major habitat types and the likely presence or absence of legally protected and notable species.

7.5 Assessment of Effects

Design Solutions and Assumptions

7.5.1 From the outset and following review of the ecological baseline, the potential effects arising from the Proposed Development have been considered in the design process to avoid or minimise, where possible, potential adverse effects on IEFs.

7.5.2 The proposals sought ecological input during an early phase of the design process to ensure that the impacts on ecological receptors, which include valuable habitat types will be kept to a minimum. BNG calculations have been completed (see Appendix 7.8) to ensure that a net gain can be achieved, and the results of faunal surveys have been used to ensure negative impacts are kept to a minimum.

7.5.3 The proposed scheme includes the following intrinsic ecological avoidance, mitigation and enhancement measures:

- The provision of Green infrastructure (GI).
- The mature trees will be retained and have their root protection areas (RPA) adequately buffered in line with the Arboricultural Impact Assessment (FPCR, 2023).
- The retained hedgerows will be protected from damage, and will exist outside of property ownership, to protect them from damage and to allow sufficient room for management regimes.
- Roads will be kept as narrow as possible where they will create breaches in hedgerows. Hedgerow loss will be avoided unless required for access and/or health and safety (H&S) (visual splays etc).
- Proposals include additional tree planting within the development area, with them included along streets and around the Site peripheries.
- The provision of a wildlife pond (a habitat currently not represented on Site) in open space on the northern boundary.

Assessment of Effects

7.5.4 The status of the IEFs identified on Site have been reviewed against the proposals and intrinsic mitigation to determine whether there are any impact pathways and whether any of these will lead to a likely significant effect. The requirement for additional mitigation measures above the intrinsic mitigation has been considered for each of

the IEFs where they can reduce the scale of negative effects or encourage a positive effect. Details are set out in Table 7.6 as per CIEEM guidance.

7.5.5 An assessment of the effects of the proposals on the surrounding internationally protected sites has been outlined in the shadow Habitat Regulations Assessment (see Appendix 7.9) and should be referred to for full details. However, a high-level summary of the assessment of impacts is provided in Table 7.6.

Table 7.6: Assessment of Effects on Important Ecological Features	
IEF: The Emer Bog SAC	
Assessment of Impacts	The construction phase of development is unlikely to have a direct impact on the SAC given the intervening distance (as detailed in the sHRA) Whilst there may be some increase in visitor pressure, it is considered extremely unlikely to lead to a significant effect due to its distance with no connecting PRoW and the GI provision on Site. This will include areas of GI for early morning and late evening dog walks, immediate opportunities for exercise and play. The Site lies outside of the critical catchment and wider catchment identified in the Emer Bog and Baddesley Common Hydrological Desk Study (Environmental Project Consulting Group, 2017[1]) that screens for proposals that would need an assessment to demonstrate that any changes to surface and/or groundwater would not adversely affect the site's hydrology.
Predicted Effect	**Construction Phase: Negligible (not significant)** **Operational Phase: Negligible (not significant)**
Mitigation	None
Enhancement	None
Residual Effects	**Construction and Operational Phase: Negligible (not significant)**
IEF: The Solent and Southampton Water Ramsar / SPA	
Assessment of Impacts	The proposals fall outside the 5.6km zone of influence for the Solent SPA designation[2]. As the Site is 5.7km from the Solent, recreational effects are unlikely and no mitigation measures are required. In accordance with the Bird Aware Solent Mitigation Strategy[3], the Site has no supporting habitats that are used by Solent Waders & Brent geese, so there is no effect on the SPA designated bird species. The Test Valley lies within the catchment of the River Test and the River Itchen, which flow into the Solent. As a result, the Proposed Development has been subject to a nutrient neutrality assessment, which has found there would be increases in the nutrient levels that could have an effect on the Ramsar/SPA.
Predicted Effect	**Construction Phase: Negligible (not significant)** **Operational Phase - Recreational: Negligible (not significant)** **Operational Phase – Nutrients: Mid- to Long-term Minor Adverse Effect at a national scale (significant)**
Mitigation	The Nutrient Neutrality Assessment and Mitigation Strategy[4] concludes the total nutrient budget that the Proposed Development will have an effect and therefore the total nutrient credits required to offset these effects will be provided via financial

1 Allen R.H (2017). Emer Bog and Baddesley Common – Hydrological Desk Study. Prepared on behalf of Hampshire and Isle of Wight Wildlife Trust and Test Valley Borough Council. [Online]. Available at: https://www.testvalley.gov.uk/planning-and-building/guidance/solent-southampton-water-special-protection-area.

2 provided on the Test Valley Borough council website (see document titled '5.6km Solent SPA Buffer Map'),

3 https://birdaware.org/solent/wp-content/uploads/sites/2/2021/10/Solent_Recreation_Mitigation_Strategy.pdf

4 NUTRIENT NEUTRAL ASSESSMENT & MITIGATION STRATEGY Report Ref: NNAMS/329.Nutirentneutral 2023.

IEF: The Solent and Southampton Water Ramsar / SPA	
	contributions to the LPA. All details are provided within the Nutrient Neutrality report and a summary provided in the HRA, Appendix 7.9.
Enhancement	None
Residual Effects	**Construction and operational Phase: Negligible (not significant)**
IEF: The New Forest SAC	
Assessment of Impacts	The construction phase of development is unlikely to have a direct impact on the SAC given the intervening distance. In accordance with advice from Natural England and the HRA of the Test Valley Borough Local Plan DPD, a net increase in housing development within 13.6km of the New Forest SPA is likely to result in impacts to the integrity of the New Forest SAC, through a consequent increase in recreational disturbance. The Proposed Development is approximately 7.4km from the New Forest SAC and within the recognised ZOI.
Predicted Effect	**Construction Phase: Negligible (not significant)** **Operational Phase: Mid- to Long-term Minor Adverse Effect at a national scale (significant)**
Mitigation	The New Forest Recreation Mitigation Framework[5], outlines a number of options for which a proposed development can mitigate its recreational impact on the New Forest SAC, either by providing Suitable Alternative Greenspace (SANG), by a bespoke mitigation package or through financial contribution (per dwelling) to offset proposed impacts. As a result of the limited space available within the redline boundary, provision of SANG is not achievable and therefore the Proposed Development will provide a financial contribution to the mitigation measures, which would be secured through a Section 106 agreement with the LPA.
Enhancement	None
Residual Effects	**Construction and operational Phase: Negligible (not significant)**
IEF: Mottisfont Bats SAC	
Assessment of Impacts	Mottisfont Bats SAC designated for significant numbers of barbastelle bats is present 7.5km north of the Site, to the nearest designated woodland compartment. A report for Natural England[6] concluded a distance extending 7.5km from the SAC boundary should be used to identify plans that would be likely to have an impact upon habitats used by the Mottisfont barbastelles. Therefore, land use and development which leads to the loss of or changes to these habitats within the 7.5km zone of influence (ZOI) around the SAC should be considered to be likely to have a significant effect on the Mottisfont Bats SAC. The Site is 7.5km from the Mottisfont Bats SAC and therefore lies on the boundary of the Mottisfont Bats' ZOI. The construction and operational phases of the Proposed Development is unlikely to have a direct impact on the SAC given the intervening distances from the Site. There are no direct green links from the Site to the SAC and the sites are separated by the residential environs of Romsey. The Proposed Development therefore is not considered to directly or indirectly affect the populations of bats using the Mottisfont Bat SAC, given the Site is not considered to offer functionally linked habitat. Low numbers of Barbastelle bats have been recorded on Site and these will be mitigated as outlined in the bats section below.
Predicted Effect	**Construction Phase: Negligible (not significant)**

[5] Test Valley Borough Council, New Forest International Nature Conservation, Designations: Recreational Mitigation, Framework Supplementary Planning Document, Nov 2021
[6] Jonathan Cox Associates (2010), Mottisfont Bats Special Area of Conservation (SAC) Protocol for Planning Officers.

	Operational Phase: Negligible (not significant)
Mitigation	None – see mitigation recommended in Bats section
Enhancement	None
Residual Effects	**Construction and Operational Phase: Negligible (not significant)**
IEF: Local Wildlife Site's	
Assessment of Impacts	The construction phase of development is not expected to have a direct impact on any LWSs due to the intervening distance between the Site with no connective habitat or road links. It is also considered unlikely that the proposals would lead to a significant effect on any of the LWS's as a result of increased visitor pressure as the proposals include areas of GI providing immediately accessible walking routes that will be attractive for residents. The CEMP produced for the scheme will further reduce the likelihood of indirect effects on these sites.
Predicted Effect	**Construction and Operational Phase: Negligible (not significant)**
Mitigation	None
Enhancement	None
Residual Effects	**Construction and Operational Phase: Negligible (not significant)**
IEF: Hedgerows (H1, H4, H6, H7, H8 & H9)	
Assessment of Impacts	The development proposals will retain and buffer the majority of the hedgerows onsite, with small gaps being made for access through hedgerows H1 and H4. Additional planning and management of these hedgerows will ensure minimal loss in diversity and functionality. No likely significant effect is anticipated on this habitat type, due to the limited loss and additional hedgerow planting and enhancement proposed. It is recognised that there will be a short-term loss in the overall presence of mature hedgerows while compensatory planting establishes, but this is not considered to be significant given the small-scale loss and the overall abundance of hedgerow and tree line habitats in the local area.
Predicted Effect	**Construction and Operational Phase: Short-term Minor Adverse Effect at a Site Scale (not significant)**
Mitigation	In order to maintain the integrity of the retained hedgerows and avoid their degradation through individual residential management (i.e. removal of sections, excessive cutting by homeowners), existing hedgerows will not be incorporated into gardens and will instead be managed as part of the site-wide green infrastructure. All hedgerows will be protected from damage during the construction phase via protective fencing in accordance with BS 5837 (2012) Trees in Relation to Design, Demolition and Construction and as indicated by the Arboricultural Impact Assessment.
Enhancement	The hedgerows will be brought into specific management to enhance their biodiversity value and longevity. to create species-rich hedgerow features.
Compensation	To compensate for the partial losses in hedgerows H1 and H4, native hedgerow planting will take place throughout the Site, in excess of that to be lost and this will use a mix of native species to create species-rich hedgerow features.
Residual Effects	**Construction Phase: Short – to Mid term Minor Beneficial Effect at a Site Scale (not significant)** **Operational Phase: Mid- to Long-term Minor Beneficial Effect at a Site Scale (not significant)**
IEF: Mature trees	

Assessment of Impacts	The mature trees will be retained with sufficient buffers for RPA and will not be included within garden boundaries. During construction works, all woodlands will be protected through RPA measures and protective fencing in accordance with BS 5837 (2012) Trees in Relation to Design, Demolition and Construction and as indicated by the Arboricultural Impact Assessment. Indirect impacts during construction, such as pollution, and increased light levels post-development have the potential to negatively affect the health of the trees and their function as a habitat for wildlife. Direct impacts during the operational phase could be damage to existing and new specimens through recreational activities.
Predicted Effect	**Construction Phase: Short-term Minor Adverse at a Site Scale (not significant)** **Operational Phase: Long-term Minor Adverse at a Site Scale (not significant)**
Mitigation	Measures to prevent damage and pollution during construction will be outlined in the CEMP and will include protective fencing. Measures to protect the trees during the operational phase would be covered by regular monitoring and management. Any dead or dying specimens would be replaced.
Enhancement	None
Residual Effects	**Construction and Operational Phase: Negligible (not significant)**
IEF: Bats (Appendix 7.4)	
Assessment of Impacts	The majority of commuting and foraging habitats (hedgerows and tree lines) will be retained within the GI (see above). The small losses of hedgerow H1 and H4 for access are considered to be minimal and still likely to be used by bats. The loss of some habitats might have a detrimental effect on the bats utilisation of the Site, particularly the scrub areas, and this could reduce the overall availability of foraging habitat for bats in the short term. Only a small percentage of the registrations were barbastelle bats (0.69%), with little evidence of foraging behaviour recorded, with most records comprising one or two registrations from bats passing by, commuting through or around the Site. The lack of any consistent pattern in the occurrence of Barb registrations on a given night, provides further evidence that the hedgerows that are lost, are not a key part of a commuting route for the local population and its partial loss to facilitate the Site access is unlikely to have a negative impact, given the other hedgerows will be retained and buffered providing alternative routes around the Site. Lighting during the construction phase during nocturnal hours could affect foraging and commuting bats. Proposals will increase light levels on Site through the introduction of street lighting, which would reduce the suitability of retained hedgerows and created habitats. Besides some mature trees, the habitats used on Site by bats are widely available in the surrounding area. However, the Site is used by light-sensitive Annex II species (Barbastelle) will be impacted negatively through lighting that illuminates commuting corridors, without suitable lighting mitigation. Thirteen trees with potential to support roosting bats were identified and will be retained and buffered by the proposals. The buildings onsite had negligible potential to support roosting bats and so do not pose a constraint.
Predicted Effect	**Construction Phase: Short-term Minor Adverse at Site Scale (not significant)** **Operational Phase: Long-term Minor Adverse at a Local Scale (not significant)**

Mitigation	The GI, buffers and sensitive lighting scheme will reduce impacts to local bat assemblages, as detailed in *Appendix 7.4*. Any lighting needed during the construction phase will be kept to a minimum and directional only, as outlined for the development below. The lighting and layout of the development will be designed to minimise light-spill on nearby habitats, this will be set out in a lighting plan, which will form part of a subsequent reserved matters application. This will include the maintenance of dark corridors along retained and newly created habitats through buffers between light sources and commuting routes used by bats for foraging and commuting. The lighting of any footpaths will be at low level and be in accordance with the Bat Conservation Trust bat lighting guidance including: • The avoidance of direct lighting and light spillage on nearby green infrastructure using directional lighting. • The use of low pressure sodium lights which emit one light wavelength and attract less insects. • Restricting the height of the light columns to reduce horizontal spill. • Installing low wattage LED security lighting on properties close to green infrastructure during construction to avoid future homeowners installing unsuitable lighting for bats. Two SuDS will be incorporated into the proposals, along with a small wildlife pond, which will provide habitat that is not currently represented on-site. Unmanaged grassland within the SUDs and the pond habitat will provide opportunities for invertebrates, increasing their abundance and diversity, and thereby increasing foraging opportunities for bats. All retained hedgerows will be buffered from the built environment by greenspace and native shrub and tree planting. In accordance with the BNG assessment, the extent of hedgerows will be increased and managed specifically for wildlife value.
Enhancement	Bat boxes (Schwegler or similar design) will be installed on retained mature trees and new dwellings will have bat measures incorporated (bat bricks etc), which will increase roosting opportunities.
Residual Effects	**Construction Phase: Short-term Minor Adverse at a Site Scale (not significant)** **Operational Phase: Negligible to Minor Beneficial mid- to long-term at a Local Scale (not significant)**
IEF: Birds (Appendix 7.5)	
Assessment of Impacts	The Site supports an assemblage of common and widespread species that are able to adapt to residential environs and as such, while there may be changes in the overall bird assemblage utilising the Site with more opportunities for urban species such as starling, swallow and house sparrow, this is not anticipated to be a significant effect. Construction activities during breeding bird season could negatively impact nesting birds within habitats on Site. Residential development usually leads to an increase in the local cat population and therefore an increased risk of predation.
Predicted Effect	**Construction Phase: Minor Adverse at a Site Scale (not significant)** **Operational Phase: Minor Adverse at a Site Scale (not significant)**
Mitigation	Vegetation removal will be avoided during breeding bird season (March to August inclusive) or will be carried out immediately following a nesting bird check by a suitably qualified ecologist. New tree and shrub planting will include thorny species to provide some protection against cats. Where sections of hedgerow are to be lost, new hedgerows will be planted through the Site that will include fruit and nut species to aid foraging.

	Management measures will also ensure that a good hedgerow structure is created, which will also limit predation by cats and increase nesting opportunities
Enhancement	The inclusion of green infrastructure planting and the maturation of gardens will lead to additional opportunities for a range of species. A mixture of nest boxes, such as the 1B Schwegler nest box or similar woodcrete design will increase nesting opportunities. Nest boxes specifically designed for urban species such as house sparrow, house martin and starling will also be provided. These also provide protection against predators.
Residual Effects	**Construction Phase: Minor Beneficial mid- to long-term at a Site Scale (not significant)** **Operational Phase: Minor Beneficial mid- to long-term at a Site Scale (not significant)**
IEF: Badgers (Appendix 7.3)	
Assessment of Impacts	Please see confidential Appendix 7.3. Prior to works an updated badger survey will be completed.
Predicted Effect	
Mitigation	
Enhancement	
Residual Effects	
IEF: Hedgehog	
Assessment of Impacts	No evidence was found on Site; however, they are known in the local area. Proposals will lead to a greater variety of foraging resources for hedgehog with the creation of new habitats, including hedgerows, grassland and wetland creation. There is an increased risk of road fatalities with newly created roads; however, this is not expected to be significant given the low-density and slow speeds of traffic anticipated. There is also an increased risk of hedgehogs becoming trapped within newly constructed gardens and a reduction in commuting ability.
Predicted Effect	**Construction phase: Negligible (not significant)** **Operation Phase: Negligible (not significant)**
Mitigation	All newly created garden fences and boundary treatments will feature a 'hedgehog highway' formed by a 13cm x 13cm hole in strategic locations to allow this species to move through the Site and into the surrounding area. The highway and adjacent habitat will be designed in such a way that it discourages hedgehogs from crossing newly constructed roads e.g. through planting and fencing that creates corridors parallel and away from roads. Excavations during construction will not be left open overnight or will be supplemented with a means of escape in case any nocturnal animals fall in and become trapped. Open pipework during construction will be capped overnight to prevent trapping animals.
Enhancement	None
Residual Effects	**Construction phase: Negligible (not significant)** **Operational: Minor Beneficial long term at a Site Scale (not significant)**

7.6 Biodiversity Net Gain Assessment

7.6.1 The development framework has been assessed using the DEFRA Metric Version 4.0. Details of this assessment are provided in Appendix 7.8. Based on proposing habitats that are readily achievable and commonplace in residential development of this type,

the BNG calculations will result in a 10.11% gain in habitat units and 22.01% gain in hedgerow units. This will be achieved through the enhancement of existing retained habitats and through the creation of native species-rich grasslands, mixed scrub, hedgerows and a wildlife pond.

7.7 Mitigation

7.7.1 Mitigation and enhancement measures have been detailed in Table 7.6 above.

Mechanisms for Securing

7.7.2 The following core documents will secure the mitigation, compensation and enhancement measures outlined above, which can be secured through appropriately worded pre-commencement planning conditions:

- Construction and Environmental Management Plan (CEMP): This pre-commencement document contains the necessary Method Statements to ensure protected species are not unlawfully harmed during ground clearance, earthworks and construction, in addition to other environmental protection methods.
- Habitat Management and Monitoring Plan (HMMP): this provides planting/landscape information that includes both the landscape and ecology features and their management for an appropriate period. The document will include ecological enhancement and management information as appropriate to demonstrate how the biodiversity net gain measures will be delivered and can also include the final Ecological Mitigation and Enhancement Plan that shows location of wildlife boxes and other proposed features.
- A lux contour lighting plan produced by a qualified lighting engineer at Reserved Matters in consultation with an ecologist. The lighting scheme should meet the target Lux levels on the habitat features described in the impact assessment below, to ensure the features described remain accessible to light-sensitive bats.

7.8 Residual Effects

7.8.1 There are no significant residual effects to IEFs as a result of the Proposed Development. Please see Table 7.6 above.

7.9 Assessment of Cumulative Effects

7.9.1 A review of planning applications in the surrounding area was undertaken to identify approved and foreseeable developments which could give rise to significant

cumulative ecological effects in combination with the Proposed Development. The list of schemes considered for cumulative effects are included in Chapter 2.

Intra-cumulative effects

7.9.2 This type of cumulative effect has been scoped out as the only potential effect is with regards to the traffic numbers and air quality, whereby there will be no significance, with rationale outlined in section 7.9.8.

Inter-cumulative effects

Recreation

7.9.3 There will be an increase in the number of residents in the area given the proposed developments outlined in Chapter 2. As such, there will be an increase in the potential number of visitors to nearby designated sites. New employment areas are less likely to lead to an increase in recreational disturbance, except for those sites in close proximity.

7.9.4 The Draft Test Valley SPD for the New Forest provides a strategic approach for managing recreational disturbance due to cumulative impacts from new developments. This Site along with other proposed/approved developments in the area will provide a financial contribution that is in proportion to the scale of development.

7.9.5 In addition, the Site and proposed/consented developments provide areas of open space for recreation within their red line boundaries, which include footpaths and open spaces, which encourage more regular use of such features. This is not additional mitigation for the SANG payment proposed, however, it is important for dog walking which can be localised and will reduce the need to travel to designated sites in the wider area.

7.9.6 As such, the implementation of appropriate mitigation measures, including financial contributions to the New Forest SANG and the provision of open space within all residential developments, will mean in combination impacts from the Site will be negligible (not significant).

Air Quality

7.9.7 An increase in car usage and traffic associated with new residential developments has the potential to increase air quality and increase nutrient deposition on designated sites. However, as technologies advance there will be reduce reliance on fossil fuelled cars so emissions will drop.

7.9.8 The 2023 IEMA Guidelines also make reference to 'sensitive areas' with reference to EIA Regulation 2. Examples of such sensitive areas include Sites of Special Scientific Interest (SSSI) and Areas of Outstanding Natural Beauty (AONB). Whilst there are such sensitive areas in the vicinity of Romsey, there is a lack of major roads that run between the Site and the designated sites in the area. There is also a lack of designated features within the zones associated with major roads. Air quality assessments have shown there will be no increase in nutrient nitrogen deposition and airborne NOx concentrations on any of the nearby protected sites resulting from the Proposed Development. The annual average daily traffic (AADT) of the Proposed Development and cumulative developments in combination would not exceed 1,000 AADT on roads that pass within 200m of these sensitive areas, which is the criteria used in Air Quality Assessments, therefore such areas have not been included in this assessment as sensitive receptors.

7.9.9 Given the above, in-combination air quality impacts will be negligible (not significant).

Biodiversity

7.9.10 Legislation and policy will ensure each development granted planning will include sufficient mitigation, compensation and enhancement to protect and benefit the habitats and species they support as well as secure appropriate management in the long-term. NPPF (2023) clearly states that the development should achieve a measurable net gain in biodiversity. As a result, cumulative impacts on biodiversity will be minor beneficial at Local / County scale (not significant).

7.10 Summary

7.10.1 The suite of ecology surveys identified a range of IEFs on the Site and within ZoI's. The impacts of these were assessed against the proposals for a residential development of Land at Halterworth Lane, Romsey for 270 dwellings and associated infrastructure.

7.10.2 The assessment has demonstrated that in the absence of mitigation, proposals would lead to minor adverse effects, at a local level (not significant). This did not apply to designated sites where predicted effects were minor adverse at an international and county level (significant).

7.10.3 A combination of intrinsic mitigation, targeted mitigation, compensation, and enhancement detailed within this EcIA and appendices, have demonstrated that the proposals will lead to mid- to long-term, minor beneficial effects on most IEFs.

7.10.4 In addition, the BNG calculation using the metric V4.0 has concluded that for habitats there will be a net gain of 2.39 units (10.11%), as well as a net gain for linear feature

such as hedgerows where there will be 1.97 units (22.01%). The Site will have additional habitats created that will benefit biodiversity, particularly fauna species, although these are not necessarily represented with the metric.

8 WATER ENVIRONMENT

8.1 Introduction

8.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of Water Environment in the context of the Site and surrounding area during construction and operation.

8.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 10).

8.2 Legislation, Policy and Guidance

8.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 8.1.

Legislative Framework

8.2.2 The applicable legislative framework is summarised as follows:

- The Water Framework Directive (WFD), 200/60/EC.
- Land Drainage Act 1991.
- Water Resources Act 1991.
- Flood Water Management Act 2010.
- WRC (2012) Sewers for Adoption, 7th Edition.
- Office of the Deputy Prime Minister, The Building Regulations, 2010, Part H, as amended.

Planning Policy

8.2.3 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (NPPF) (2023).
- A Better Quality of Life – A Strategy for Sustainable Development for the United Kingdom.
- Test Valley Borough Council Local Plan (2011 to 2029)
    - Policy E7: Water Management – '*Development will be permitted provided that it does not result in the deterioration of and, where possible, assists in improving water quality and be planned to support the attainment of the requirements of the Water Framework Directive'*

- Test Valley Borough Council Local Development Scheme (2022).
- Test Valley Borough Council Strategic Flood Risk Assessment (SFRA) and associated mapping.

Guidance

8.2.4 The applicable guidance is summarised as follows:

- Planning Practice Guidance ID: 7, Flood Risk and Coastal Change 2015.
- Making Space for Water, July 2004.
- CIRIA (2004a) Interim Code of Practice for Sustainable Drainage Systems.
- CIRIA (2004b) Report C609B, Sustainable Drainage Systems – Hydraulic, Structural and Water Quality Advice.
- CIRIA (2004c) Funders Report CP/102 Development and Flood Risk – Guidance for the Construction Industry.
- CIRIA (2015) Report C753, The SuDS Manual (extracts of the most relevant tables and information referring to Pollution hazard indices for different land use classifications, indicative SuDS mitigation indices for discharges to surface waters and Relationships between Site Pollution Index (SPI) and receiving water quality are included in Appendix 8.4).
- CIRIA C624 Development and Flood Risk – Guidance for the Construction Industry.
- CIRIA (1999) C502 Environmental Good Practice on Site.
- CIRIA (2001) C532 Control of Water Pollution from Construction Sites.
- Test Valley Borough Council Strategic Flood Risk Assessment (SFRA) and associated mapping.
- BRE DG 365 (2016) Soakaway Design.
- BS 8582 (2013). Code of practice for surface water management for development sites.
- BS EN 752 (2008) Drain and Sewer Systems Outside Buildings.
- Building Regulations (2010). Drainage and Waste Disposal – Part H.
- British Water Code of Practice (2013). Flows and Loads – 4, 2013.
- Environment Agency Pollution Prevention Guidelines.

- DEFRA (2015). Non-Statutory Technical Standards for Sustainable Drainage Systems. Department for Environment, Food & Rural Affairs.
- Design Manual for Roads and Bridges (DMRB 2020) CD 530 Design of Soakaways.
- Design Manual for Roads and Bridges (DMRB 2019) LA 104 Revision 1. Environmental Assessment and Monitoring.
- Environment Agency (2016). https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances
- Environment Agency (2017). Protect Groundwater & Prevent Groundwater Pollution.
- Environment Agency Pollution Prevention Guidelines.
- Kent County Council (2000). The Soakaway Design Guide.
- LASOO (2016). Non-Statutory technical Standards for Sustainable Drainage – Practice Guidance Local Authority SUDS Officer Organisation.
- UKSuDS.com (2015). Sustainable Drainage Guidance.

  http://www.uksuds.com/drainagecalculation-tools/greenfield-runoff-rate
- WRc (2012). Sewers for Adoption (7th Edition).

8.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

8.3.1 This Chapter describes the policy context, input data and methods used to assess the Proposed Development in terms of the baseline hydrology and flood risk at the Site, and the potential impacts of the Proposed Development; accounting for the measures that will be adopted to prevent, reduce, mitigate or offset the identified impacts. Potential impacts relate primarily to flood risk and to the management of surface water, which (in turn) requires consideration of water quality.

8.3.2 The assessment covers the construction and ongoing operation of the Proposed Development and identifies those aspects of the proposals that have the potential to affect the existing baseline conditions. This includes the demolition of existing buildings in the northern extent of the Site. It does not consider end-of-life decommissioning /demolition, since for most developments some more localised redevelopment / rebuilding within the Site is likely beyond the 75-year life of a typical commercial / residential development.

8.3.3 The assessment addresses the following:

- Changes to natural drainage patterns.
- Effects on runoff rates and volumes.
- Effects on erosion and sedimentation.
- Effects on surface and groundwater water quality.
- Effects on water resources (both private and public water supplies).
- Effects on flooding and impediments to flow.
- Pollution risk.

8.3.4 This Chapter:

- Establishes the existing flood risk and drainage baseline from desk studies, dedicated surveys and consultation.
- Identifies the assumptions used and limitations encountered in compiling the environmental information. Identifies the potential direct and indirect environmental effects arising from the development on both onsite and offsite flood risk and drainage.
- Identifies the mitigation measures required to prevent, reduce, or offset the resulting potential impacts.
- Assesses the residual impacts following mitigation, and the potential cumulative impacts with other developments; and
- Highlights any necessary monitoring required.

8.3.5 The assessment comprises the following:

- Consultation with statutory bodies on existing hydrological conditions of the Site and surrounding areas.
- Detailed desk study and Site visits to establish the existing baseline conditions.
- Evaluation of the significance of these effects by consideration of the Site, the potential magnitude of the impact (i.e. magnitude of change) and the probability of these effects occurring.

Effects not considered within the Scope

8.3.6 This assessment covers the construction and operation of Proposed Development and identifies those aspects of the proposals which have the potential to affect the existing

baseline situation. It does not consider decommissioning/demolition since for such developments, some more localised redevelopment and rebuilding within the site is likely beyond the 75-year life of this type of development.

Extent of the Study Area

8.3.7 A Site description can be found in Chapter 3.

8.3.8 The study area is comprised of two agricultural (grassed) land parcels 2, hereafter referred to as the 'northern parcel' and the 'southern parcel' bounded by residential dwellings and Halterworth Lane to the west; residential dwellings and Halterworth Primary School to the south; and agricultural land to the north and east.

Consultation Undertaken to Date

8.3.9 Table 8.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter.

Table 8.1: Summary of Consultation Undertaken to Date

Organisation	Individual(s)	Meeting Date and other forms of Consultation	Summary of Outcome of Discussion
Environment Agency	Aimee Etheridge – Partnership and Strategic Overview Team, Hampshire and Isle of Wight	Consultation Email; Sent – 5th September 2023 Received Response – 11th October 2023	Product 4: Detailed Flood Risk Assessment Map, including flood zones, defences and storage areas, areas benefiting from defences, statutory main river designations, historic flood event outlines and more detailed information from our computer river models (including model extent, information on one or more specific points, flood levels, flood flows) Product 5: reports, including flood modelling and hydrology reports and modelling guidelines. Product 6: Model Output Data, including product 5 Product 7: Calibrated and Verified Model Input Data (CaVMID), including product 5.
Southern Water	n/a	13th October 2023 (email / online query).	Asset Plans and Capacity Check

Data

8.3.10 Flood risk and drainage infrastructure data was obtained from the organisations listed in Table 8.2.

Table 8.2: Environmental Data Sources

Organisation	Data Source	Summary of Data or Discussion
Gladman Developments Ltd	• Detailed topographic survey	• Survey data, to meters above Ordnance Datum (m AOD)
Enzygo Ltd	• Site walkover • Soakaway testing • Groundwater monitoring	• Observations and photographs • Soakaway test letter, including summary of ground and groundwater conditions, soakaway results, trial pit location plan, and trial pit logs. • Groundwater monitoring (December 2022, ongoing to December 2023), including borehole location plan and logs
Environment Agency	• Online flood mapping and data • Product 4, 5 and 6 flooding data	• Flood Map for Planning • Long Term Flood Risk Assessment for Locations in England • Catchment Data Explorer • Main River Map • Reduction in risk of flooding from rivers and sea • Climate change allowances for peak river flow and peak rainfall in England • Modelled flood levels, node location plan and flood mapping. • Flood defence asset map and maintenance/condition • Romsey Model (modelling files and modelling report)
Southern Water	• Asset plans.	• Sewer and Mains asset plans
National Soils Resources Institute (NSRI)	• Online mapping	• Soilscapes mapping
British Geological Survey (BGS)	• Online mapping	• Geology viewer • Borehole records

Table 8.2: Environmental Data Sources		
Organisation	**Data Source**	**Summary of Data or Discussion**
Landmark's Promap	• Online mapping (data purchase)	• Flood Data Package
Geosmart	• Online mapping (data purchase)	• Groundwater Flood Risk Map
DEFRA	• Online mapping	• Magic Map - Source Protection Zone (SPZ), Aquifer Designation, and Designated Sites
Hampshire County Council (HCC)	• Online mapping and reporting	• Strategic Flood Risk Assessment (SFRA) Mapping
River Levels UK	• Online mapping	• Map of Flood Warning and Alert Areas

Assessment Methodology

8.3.11 The method of baseline data collection and assessment is in accordance with current guidance and industry best practice.

8.3.12 Baseline surveys have been undertaken, including a site walkover to confirm land use, topography, and existing drainage networks (including the presence of watercourses). In addition, desktop studies have been undertaken to establish sewer constraints, and statutory surface water and river flood mapping have been obtained.

Significance Criteria

8.3.13 Level of effect is a function of receptor sensitivity and magnitude of change (impact). The criteria for sensitivity, magnitude and effect are included in Appendix 8.2 in tables 1, 2 and 3 respectively.

8.3.14 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate or major beneficial or adverse level on the following factors:

- Geographical extent.
- Rate of change.
- Reversibility of the effect.
- Probability of the effect.
- Duration of the effect.
- Size and magnitude of the effect.
- Sensitivity/importance/substitutability of the receptor.

8.3.15 The value or sensitivity of a receptor is largely determined by its quality, rarity, and the scale at which the attribute is deemed important. This can be at a local level (e.g. on the Proposed Development Site or immediately adjacent); district level (beyond the Application Site boundary but within the district); county level; regional/national level; or international level.

8.3.16 Any effect that is assessed as Major or Moderate Adverse or Beneficial is significant in terms of EIA regulations and so should be considered during the decision-making process.

8.3.17 The assessment concludes whether, following mitigation, the residual significance of the mitigated impacts of the operation and construction of the development will be major, moderate, minor, negligible adverse or beneficial, or whether there will be no change. This assessment relies on professional judgement.

8.3.18 Several potential impacts could have a direct or indirect effect on flood risk and water quality. These effects may be transitional but could also be more permanent.

8.3.19 Short to medium-term impacts are normally associated with the physical construction phase of a development, whereas long-term impacts are normally associated with a fully occupied and post-development scheme.

8.4 Baseline Conditions

8.4.1 The following describes the baseline conditions of the Site and surrounding area with regards to the Water Environment. In addition, it describes potential receptors.

8.4.2 The Site is bound by the following features. This chapter focuses primarily on this aspect of the Site.

- Residential dwellings and Halterworth Lane to the west and north-west.
- Residential dwellings and Halterworth Primary School to the south.
- Agricultural land to the north and east.

Topography

8.4.3 The Northern Parcel generally falls in a west/northwest direction from 39.98 metres Above Ordnance Datum (m AOD) in the southwest corner, to 36.57m AOD in the northwest corner. The fall of 3.41m over 290m gives a gradient of 1:85.

8.4.4 The Southern Parcel generally falls west/southwest from 39.78m AOD along the eastern boundary, to 38.12m AOD along the southwest boundary. The fall of 1.66m over 313m gives a gradient of 1:189.

Rainfall

8.4.5 HR Wallingford's 'Greenfield Runoff Rate Estimation Tool' indicated that the Standard Average Annual Rainfall (SAAR) 6190 for the Site is 790mm/year.

Soils and Geology

8.4.6 The Site is underlain by freely draining loamy soils.

8.4.7 Most of the Site is underlain by River Terrace Deposits 5 – sand and gravel. The southwestern and northwestern corners of the Site are underlain by a small band of Head – gravel, sand, silt and clay.

8.4.8 The bedrock beneath the Site is Earnley Sand Formation – sand, silt, and clay.

Hydrogeology

8.4.9 The Sustainable Urban Drainage System (SuDS) Infiltration Potential Mapping shows most of the Site is in the mapped extent where there is high potential for infiltration. The northwestern and southwestern corners of the Site are in the mapped extent of moderate infiltration potential. The southeastern corner is in the mapped extent of low infiltration potential.

8.4.10 BGS online borehole records shows groundwater was encountered in four of five boreholes located to the north west of the Site, between depths of 0.25 and 10.05 metres below ground level (m bgl).

8.4.11 Soakaway Testing and Borehole Logs were carried out on Site. This showed the infiltration was high on Site and the groundwater table was located at between 9-12mbgl.

8.4.12 The Site is not located in a groundwater Source Protection Zone (SPZ).

8.4.13 The Site is located above a Secondary A Aquifer (bedrock and superficial drift). The eastern boundary is above a Secondary Undifferentiated Aquifer.

Watercourses

8.4.14 The Environment Agency online river map does not identify any watercourses within or around the Site boundary.

8.4.15 The Site walkover did not observe any watercourses or ditches within or bounding the Site.

8.4.16 The nearest watercourse is Tadburn Lake conveying flows southwest approximately 250m northwest of the Site at its closest point.

Sewerage

8.4.17 Southern Water assets plans show there is a Ø150mm foul sewer network serving the residential development bounding the Site to the west. This foul sewer is also oriented north south along Halterworth Lane. The residential development west of Halterworth Lane is served by another Ø150mm foul sewer network and a Ø150mm and Ø225mm surface water network. The houses bounding the Site along the southern boundary are also served by a Ø150mm foul sewer. The topographic survey shows a manhole associated with this sewer oriented northwest just within the southern boundary of the Site.

Designated Sites

8.4.18 The online DEFRA Magic Map (England and Wales) shows the nearest designated sites include Tadburn Meadows (Local Nature Reserve [LNR]) located approximately 0.165km west of the Site, Baddesley Common and Emer Bog (Special Area of Conservation [SAC] and Site of Special Scientific Interest [SSSI]) located approximately 1.4km to the east of the Site, and the River Test (SSSI) located approximately 2km to the west of the Site.

8.4.19 The Site will not be hydrologically connected to any of these designated sites, so would not be considered at sensitive receptors.

Fluvial Flooding

8.4.20 The risk of fluvial flooding to the Site is assessed as negligible as per the assessment in the FRA (Appendix 8.3). The FRA has been submitted as a standalone document in support of the Planning Application.

Groundwater Flooding

8.4.21 The risk of groundwater flooding is assessed as negligible above ground but low below ground, as per assessment in the FRA.

Surface Water Flooding

8.4.22 The risk of surface water flooding is assessed as negligible for most of the Site, with areas of low risk associated with surface water ponding in the south west of the Site as per the FRA.

Sewer Flooding

8.4.23 The risk of flooding from sewers is assessed as negligible for most of the Site but low along the reaches of the identified asset.

Reservoir

8.4.24 The risk of flooding from reservoirs is assessed as negligible, as per the Environment Agency long term flood risk mapping and FRA.

Study Catchment

8.4.25 It is likely that drainage will initially be infiltration until the soil infiltration capacity is exceeded or perched groundwater is raised in the superficial deposits, and overland flow is generated. Overland flows would follow the topography of the Site towards the topographic low points.

8.4.26 The Site resides within the Tadburn Lake Water Body, which is within the Test Lower and Southampton Streams Operational Catchment, Test and Itchen Management Catchment, and South East River Basin District (RBMP).

8.4.27 The Site naturally drains to the Water Body, which has a catchment area of ~20.5km^2. The 12.8ha (0.128km^2) Site accounts for 0.6% of the receiving catchment area.

8.4.28 Good ecological status of a water body will be achieved when a series of criteria, including good chemical status, is achieved. The achievement of good chemical status is dependant on meeting agreed Environmental Quality Standards (EQS), including EGS for Priority Substances defined by the Water Framework Directive (WFD).

8.4.29 The Environment Agency classifies rivers in accordance with the WFD ecological status classification scheme under the South East RBMP.

8.4.30 The WFD status of the Tadburn Lake Water Body is shown in Table 8.3 below:

Table 8.3: EU WFD status (2015, 2019 & 2022)

EU Water Framework Directive Status (2015)		**EU Water Framework Directive Status (2019)**		**EU Water Framework Directive Status (2022)**		**Objectives**
TADBURN LAKE						
Parameter	**WFD Status**	**Parameter**	**WFD Status**	**Parameter**	**WFD Status**	**Status (2023)**
Ecological	Moderate	Ecological	Moderate	Ecological	Moderate	Good by 2027
Chemical	Good	Chemical	Fail	Chemical	n/a	Good by 2063

Water Quality Sampling

8.4.31 The catchment data explorer on the Environment Agency website lists the nearest Environment Agency water sampling point to the Site as 'Tadburn Lake' upstream of the Site (X:438336, Y:121976) and with potential hydraulic connectivity. There is a

sampling point downstream along the River Test, but Tadburn Lake is considered more relevant to the Proposed Development. Data was taken from the Environment Agency Catchment Data Explorer values for the Tadburn lake Water Body.

8.4.32 The data was collated (2000-2017) and the mean values for the main parameters are summarised below:

- Ammonia (mgN/l) : 0.0005
- Dissolved Oxygen (% saturation) : 86.95
- Nitrates (mg/l) : 0.94
- Phosphates (mg/l) : 0.039
- Nitrites (mg/l) :0.014

8.4.33 When assessed against sensitivity criteria in Tadburn Lake Water Body is of low sensitivity.

8.4.34 The Proposed Development has the potential to impact on the receiving watercourse (Tadburn Lake), which are discussed further in the 'Water Quality' subsection.

Sensitive Receptors

8.4.35 The value or sensitivity of a receptor is largely determined by its quality, rarity, and the scale at which the attribute is deemed important. This can be at a local level (e.g. on the Proposed Development Site or immediately adjacent); district level (beyond the Application Site boundary but within the district); county level; regional/national level; or international level.

8.4.36 The sensitivity of the receptor depends on its capacity to accommodate the potential form of change and to recover if it is affected.

8.4.37 The sensitivity of the receiving water environment is defined in Appendix 8.2 and is based on guidance provided in Table A4.3 (Volume 11, Section 3, Part 10, Annex IV) of the Design Manual for Roads and Bridges (DMRB) (Highways Agency, 2009[1]) and on the author's professional judgement.

8.4.38 The receiving environment post development is the Sand aquifer below with infiltration proposed across the Site, although some surface flows could be generated from designed lateral flows from infiltration basins. These are likely to flow and infiltrate to ground and much will reach groundwater. There may be some return flow to the surface.

[1] Design Manual for Roads and Bridges: Geotechnics and Drainage, Highways Agency, November 2009

8.4.39 When assessed against the sensitivity criteria in Table 1 of Appendix 8.2, the groundwater is of Low sensitivity.

Table 8.4 – Identified Development Receptors	
Receptors	**Receptor Sensitivity**
Aquifer/Groundwater (Water Quality, Flood Risk)	Low
Surface Water (Water Quality [Tadburn lake], Hydrology (Flood Risk))	Low

Limitations

8.4.40 It is assumed that third party reports and data consulted for the application are factually correct, unless otherwise identified and corrected in the Environmental Statement (ES). Otherwise, there are no identified limitations.

8.5 Assessment of Effects

Design Solutions and Assumptions

8.5.1 The assessment scenarios listed in Table 8.5 are based on the development details provided in Chapter 4 'Development Description' and are those considered likely to result in significant effects on the identified receptor. The effects described are worst-case and, as such effects of higher (adverse or beneficial) level are unlikely to arise.

8.5.2 Developing the Site using industry best practice, including a Construction Environment Management Plan (CEMP) or equivalent represents embedded risk mitigation. The CEMP will integrate the core arrangements for health and safety, quality, and environmental management for the construction phase. This integrated approach ensures that environmental aspects are considered at all stages of the design and construction process.

8.5.3 Mitigation measures are designed in to reduce the potential for impacts on Flood Risk, Hydrology, and Water Quality. These measures are considered standard industry practice for this type of development and are listed below and will reduce risk to low or negligible.

Flood Risk

- No below surface habitable buildings (i.e. basements).
- Set finished floor levels a minimum of 150mm above external levels.
- Lined attenuation pond to prevent groundwater ingress.
- Adoption of a surface water management strategy.
- Provide a development free easement (3m either side) of onsite public foul water sewer assets, or re-direct through the Site boundary.

Drainage (Operation Phase)

8.5.4 Surface water runoff from the Proposed Development would be attenuated on-site up to and including the 1 in 100-year event, plus 45% climate change.

8.5.5 A SuDS drainage scheme is proposed to manage excess runoff from the development, comprising an infiltration basin designed to maintain runoff at pre-development rates.

8.5.6 It is proposed that foul flows are discharged to the public foul sewer along Halterworth Lane.

Drainage (Construction Phase)

8.5.7 To control environmental issues during the construction process, a Construction Environmental Management Plan (CEMP) will be developed. The CEMP will form part of the project management plan, which will integrate the core arrangements for health and safety, quality, and environmental management for the construction phase. This integrated approach ensures that environmental aspects are considered at all stages of the design and construction process. This will manage surface water and foul drainage, thereby mitigating the potential for impacts on hydrology, flood risk, and water quality:

- Good environmental practice based on legal responsibilities and guidance in accordance with the general overarching guidance on good environmental management in PPG1 (Environment Agency, 2013) and more specific guidance including:
    - CIRIA C650 (2005) Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors.
    - CIRIA C648 (2006) Control of Water Pollution from Linear Construction Projects; and PPG21.
- Minimise where practicable production of silt and contaminated water by, for example:
    - Dewatering and pumping of excavations and subsequent disposal of water; Runoff from exposed ground and stockpiles; Utilised plant and wheel washing to supress silt;
    - Site roads; Fuel spillages; and Waste storage and disposal. Mitigation in accordance with PPG5 guidance and maintenance in or near water (Environment Agency, 2014) and CIRIA C650 and as set out in the project Code of Construction Practice (CoCP).

- The maintenance and management of the Site during the construction phase will be essential in preventing surface water flooding of the Proposed Development Site. It is also key in ensuring the prevention of sediment and pollutants entering nearby watercourses.
- The construction phase will be undertaken in accordance with the following with the following good practice guidelines:
    - CIRIA Environmental Good Practice on Site (C502) (1999).
    - CIRIA Control of Water Pollution from Construction Sites (C532) (2001).
    - Environment Agency Pollution Prevention Guidelines.

Assessment of Effect

8.5.8 This section outlines the parameters on hydrology, surface water drainage and surface and groundwater that have been assessed; and summarises the likely effects of the Proposed Development during the construction and operational phases. Receptor sensitivity, magnitude of impact and significance of (unmitigated) effect, as shown in Table 8.5, were assessed using the methodology in Appendix 8.2.

8.5.9 Changes in sediment / chemical / pollutant run off from the Proposed Development would be negligible are limited to a 'local' scale.

Table 8.5: Flood Risk and Drainage Assessment Scenarios						
Potential Effects	**Description of Potential Effects**	**Direct/ Indirect**	**Receptor Sensitivity**	**Magnitude**	**Level of Effect**	**Significance of Effect**
Construction Phase						
The impacts of construction may affect surface water quality	• Ground disturbance may indirectly affect surface waters by sediment in any runoff entering a drain or watercourse thereby affecting surface water quality. • Incidents because of spillage of pollutants to the ground surface. • Loss of chemicals and fuels stored on site. Incidents that result in the loss of pollutants to surface water from vehicles transporting construction materials or products or waste materials to and from the Site. • The WFD status of surface waters may be affected.	Indirect	Low	Minor	Minor Adverse	Not Significant
The impacts of construction that may affect temporary flood risk.	• The construction of temporary or permanent structures introduces impermeable areas and increases runoff volumes. Soil permeability may also decrease due to soil compaction. • Regrading of the ground profile/topography could remove/introduce flow paths and direct flood water to areas previously not at risk of flooding.	Direct / Indirect	Low	Minor	Minor Adverse	Not Significant
The impacts of construction that may cause disturbance or contamination of groundwater in the Secondary A Aquifer	• Spillage of pollutants to the ground surface could infiltrate into superficial deposits. • Loss of chemicals and fuels stored on Site. Incidents that result in the loss of pollutants to groundwater from vehicles transporting construction materials or products or waste materials to and from the Site. • Construction activities such as piling, and excavation could create new pathways for pollutants to move from the surface to the aquifer	Direct	Low	Minor	Minor Adverse	Not Significant
Impacts of construction that may affect groundwater	• Regrading of the ground surface could lower the elevation of some areas resulting in a reduced unsaturated zone thickness. Impacts would be greater where groundwater monitoring has shown groundwater levels are close to ground level however this is	Direct	Low	Minor	Minor Adverse	Not Significant

Table 8.5: Flood Risk and Drainage Assessment Scenarios						
Potential Effects	**Description of Potential Effects**	**Direct/ Indirect**	**Receptor Sensitivity**	**Magnitude**	**Level of Effect**	**Significance of Effect**
levels and flood risk.	associated with perched groundwater. There will be a 2-3m unsaturated zone as the groundwater table is at 9-12mbgl.					
Operation Phase						
Impacts of the development site may affect natural drainage patterns and surface water flood risk	• Low permeability areas such as roads, car parks and roof structures reduce the ability of the Site to accept rainfall volumes. • Efficient site drainage such as guttering and highway drainage increase the Site sensitivity to rainfall and reduce response time to rainwater reaching the receptor vs a greenfield piece of land. • The Site layout removes/introduces flow paths and directs floodwater to areas not previously at risk of flooding.	Direct / Indirect	Low	Minor	Minor Adverse	Not Significant
Impacts of the development site may affect surface water quality	• Incidents because of spillage of pollutants to the ground surface. • Loss of chemicals and fuels stored within the development. Incidents that result in the loss of pollutants to surface water from vehicles, in the form of oil/fuel and chemicals.	Direct /Indirect	Low	Minor	Minor Adverse	Not Significant
Impacts of the development site may affect surface water quality	• Removal of intensive arable agricultural practices as present on the current site may affect surface waters by reducing nitrate or agrichemical runoff and so contribute to the objectives of the Nitrates Directive.	Indirect	Low	Low	Minor Beneficial	Not Significant
Impacts of the Proposed Development that may cause disturbance or contamination of groundwater.	• Incidents because of spillage of pollutants to the ground surface. • Spillage of chemicals and fuels stored within the Proposed Development. Incidents that result in the spillage of pollutants to groundwater from vehicles, in the form of oil/fuel and household chemicals such as detergents.	Direct /Indirect	Low	Low	Minor Adverse	Not Significant

Table 8.5: Flood Risk and Drainage Assessment Scenarios						
Potential Effects	**Description of Potential Effects**	**Direct/ Indirect**	**Receptor Sensitivity**	**Magnitude**	**Level of Effect**	**Significance of Effect**
	• Removal of intensive arable agricultural practices as present on the current site may indirectly affect groundwater by reducing nitrate runoff and contributing to the objectives of the Nitrates Directive.					

8.6 Mitigation

8.6.1 Table 8.5 assessed all effects as not significant therefore, once embedded mitigation has been considered this would remain the case and no additional measures would be required.

8.7 Residual Effects

8.7.1 Residual effects remain as set out within Table 8.5. There will be no significant residual effects.

8.8 Assessment of Cumulative Effects

Intra-cumulative effects

8.8.1 The application of embedded mitigation measures ensures that likely significant effects on shared receptors are unlikely.

Inter-cumulative effects

8.8.2 There are 17 developments in the area which have been considered in the cumulative assessment, these are detailed in Chapter 2 of this ES.

8.8.3 Other sites may potentially discharge surface water to the same catchment as the Proposed Development Site and, if so, may impact on water quality and runoff within the catchment if surface water was managed ineffectively.

8.8.4 All new approved developments will comply with DEFRA non-statutory guidance, the NPPF and PPG ID7 Guidance and CIRIA C753 guidance on surface water discharge rates, volume control and water quality control to minimise individual impacts on the aquatic environment.

8.8.5 The Proposed Development incorporates its own drainage strategy and flood risk abatement techniques, and it can be expected that the development will be constructed in-line with the requirements of the NPPF and Technical Guidance to the NPPF, requiring that new developments attenuate surface water run-off to pre-development run-off rates. It is, therefore, expected there will not be any cumulative impacts as any new developments would also need to meet national policy and attenuate surface water run-off to pre-development run-off rates and minimise impacts from the developments.

8.9 Summary

8.9.1 The impacts on hydrology and flood risk for the Proposed Development have been assessed in line with NPPF, UKCP09 and all other relevant legislation, guidance, planning policy and technical documentation.

8.9.2 The assessment has shown that there are no significant effects arising from the Proposed Development following the implementation of the proposed embedded mitigation measures.

9 SOCIO-ECONOMICS

9.1 Introduction

9.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of socio-economic effects in the context of the Site and surrounding area.

9.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 10).

9.2 Legislation, Policy and Guidance

9.2.1 The relevant legislation, policy and guidance for the assessment of socio-economic effects are listed below.

Legislative Framework

9.2.2 The applicable legislative framework is summarised as follows:

- The Town and Country Planning Act 1990;
- Planning and Compulsory Purchase Act 2004; and
- Localism Act 2011.

Planning Policy

National Planning Policy

9.2.3 The National Planning Policy Framework (NPPF) December 2023 places a strong emphasis on sustainable development and for the planning system to support economic growth. Economic, environmental and social gains are sought jointly and simultaneously through the plan-making and development management processes in order to achieve sustainable development.

9.2.4 Paragraph 8 outlines three core objectives in relation to overarching economic, social and environmental objectives that planning should follow.

"a) An Economic Objective - Proactively help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
b) A Social Objective - Proactively support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed, beautiful

and safe places with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being"; and,
c) An Environmental Objective - to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy".

9.2.5 Paragraph 20a) states that strategic policies should make sufficient provision for "*housing (including affordable housing), employment, retail, leisure and other commercial development*".

9.2.6 Paragraph 69 outlines that "*strategic policy-making authorities should have a clear understanding of the land available in their area through the preparation of a strategic housing land availability assessment. From this, planning policies should identify a sufficient supply and mix of sites, taking into account their availability, suitability and likely economic viability*."

9.2.7 Paragraph 96 states that planning policies and decisions should aim to achieve healthy, inclusive and safe places and beautiful buildings which:

"*b) are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of beautiful, well-designed, clear and legible pedestrian and cycle routes, and high quality public space, which encourage the active and continual use of public areas; and*
c) enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling."

Local Planning Policy

9.2.8 The applicable local planning policy is summarised as follows:

- Test Valley Borough Revised Local Plan DPD.
    - Policy SD1- Presumption in Favour of Sustainable Development
    - Policy COM1- Housing Provision 2011-2029
    - Policy COM7- Affordable Housing
    - Policy COM15- Infrastructure
    - Policy LHW1- Public Open Space
    - Policy LHW4-Amenity

- Policy CS1- Community Safety

Guidance

9.2.9 The applicable guidance for this assessment is as follows:

- Planning Practice Guidance (Department for Levelling Up, Housing and Communities (DLUHC), 2019; and
- Test Valley Borough Council Affordable Housing Supplementary Planning Document (AH SPD), 2020

9.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

9.3.1 This chapter describes the methods used to assess the potential effects, the baseline conditions currently existing at the Site and surroundings, the potential direct and indirect impacts of the development arising from the proposed new housing development and the mitigation measures required to prevent, reduce or offset the impacts and the residual effects.

9.3.2 The scope of the assessment of socio-economic effects has been determined having regard to current best practice and professional judgement drawn from recent experience from other similar projects. In line with this, the assessment covers the construction and operational phases of the Proposed Development and addresses the following socio-economic issues:

- Population
- Employment and Economic Activity;
- Housing;
- Education (early years, primary and secondary provisions);
- Primary Healthcare (GP surgeries and dentists); and
- Public Open Space

9.3.3 The assessment of socio-economics effects primarily draws upon desk-based research. Key data sources have included:

- Office for National Statistics (ONS) data (Census, 2021 and 2011);
- Ministry of Housing, Communities and Local Government Data including housing Stock and completions;

- Department for Education's data covering School's capacity and pupil numbers;
- Department for Heath data on General Practitioner numbers and patient list sizes; and
- Local Authority publications including sports, leisure and green space audits.

Effects Not Considered within the Scope

9.3.4 The assessment of socio-economic effects covers only the construction and operational phases of the Proposed Development. It does not consider the pre-construction demolition phase or the post-operational decommissioning / demolition phase of the Proposed Development. It does not consider these phases as it is widely accepted that more localised redevelopment / rebuilding within the Site is likely beyond the 75-year life of a typical residential development.

9.3.5 Specific socio-economic effects not considered in the assessment include the effects of population change on demand for particular community facilities (such as libraries, community halls and places of worship). The assessment does not consider the effects of the Proposed Development on post 16 education opportunities. The assessment also excludes consideration of specific secondary socio-economic effects, including those associated with the construction workforce for the Proposed Development and the related services and facilities needed, and the impact on the local tourism industry or similar arising as a result of the increased population generated by the Proposed Development. These effects have been scoped out of the assessment for a variety of reasons, including that is considered that the Proposed Development is unlikely to give rise to significant socio-economic effects that will affect them and the lack of available baseline information necessary for the purpose of measuring potential impacts.

9.3.6 The Proposed Development is expected to have potential to support and generate employment during the pre-construction demolition phase. It is not possible, however, to confirm the exact quantum of employment opportunities likely to be created during the demolition phase due to the absence of precise demolition details. That notwithstanding and having regard to the expected limited nature of such works, it is considered that the employment generated by the pre-construction demolition phase of the Proposed Development would have a beneficial, negligible effect at a Local and Borough level.

Extent of the Study Area

9.3.7 The study area for the socio-economic impact assessment focuses primarily on the administrative area of the Romsey Tadburn ward, which in turn is within the town of Romsey situated in the Test Valley Borough.

9.3.8 In terms of the geographical extent of socio-economic effects, the following definitions have been adopted in this assessment:

- Local level: effects within the immediate area of the Site; and
- Borough level: effects within the Test Valley Borough.

9.3.9 Socio-economic effects will, in the main, be highly localised and therefore the study has largely focused on a radius of two miles from the centre of the Site, in some instances, this has been increased to 3 miles. This distance is considered to be appropriate given the appropriate school travelling distances for children at primary and secondary schools respectively and to reach essential healthcare facilities and community areas of open space.

9.3.10 The map below identifies the area assessed.

Figure 9.1 Map of study area (Google Earth, 2024).

Consultation Undertaken to Date

9.3.11 Table 9.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter. Copies of relevant correspondence are provided in Appendixes 9.1.

Table 9.1: Summary of Consultation Undertaken to Date			
Organisation	**Individual(s)**	**Meeting Date and other forms of Consultation**	**Summary of Outcome of Discussion**
Test Valley Borough Council (TVBC)	Sarah Barter (Senior Planning Officer)	Formal request for pre-application advice submitted on 21st August 2023. Full written response received on 16th October 2023. A pre-application meeting was held on Microsoft Teams on 24Th October 2023.	Pre-application discussion around planning, design, education and landscape matters. Timescales for the application were also set out alongside the engagement and consultation strategy proposed.
-	Public Consultation	Leaflet Drop to 1,252 households and businesses on Wednesday 29th November 2023	The comments received raised concerns with the capacity of the highway network, schools and health care facilities.
Halterworth Primary School	Julie Bray (Headteacher)	Introductory letter sent on 21st August. Microsoft teams meeting held on 17th November 2023 to discuss the initial proposals.	Discussions centred around scope of the proposals setting aside 1.09ha of land to be gifted to Halterworth Primary School for extension, which was welcomed. The provision of car parking and boundary treatments was also discussed.

Assessment Methodology

9.3.12 Baseline data has been collected from Government and reliable sources. It is acknowledged throughout the industry that the sources are reliable and most suitable for data collection.

9.3.13 The potential direct and indirect impacts upon the baseline conditions from the Proposed Development have been considered. Mitigation has been taken into account and the subsequent residual effects alongside the cumulative impacts.

Significance Criteria

9.3.14 Sensitive socio-economic receptors include the following: characteristics of the existing population, such as age and household composition; the community infrastructure and facilities required by the population, including education, public open space, and healthcare; the economic activity and labour market of the existing

population, including the level of employment and unemployment and type of occupation; the local economy, and the provision and supply of housing at a district level.

9.3.15 Socio-economic receptors are not sensitive to change in the same way as environmental receptors. Sensitivity is based upon measurable indicators set out above and the importance of the receptor in policy terms.

Table 9.2: Sensitivity	
Sensitivity	**Evidence for Sensitivity Assessment**
High	Evidence of direct and significant socio-economic challenges. Accorded a high priority within national and local policy.
Medium	Some evidence of socio-economic challenges. Medium priority within national and local policy.
Low	Little evidence of socio-economic challenges. Low priority within national and local policy.
Negligible	No Socio-economic challenges. Not considered to be a priority within national and local policy.

9.3.16 The magnitude of the impacts has been determined based upon the predicted deviation from the baseline, both before and after mitigation. The criteria for the assessment of magnitude for socio-economic impacts is shown below:

Table 9.3: Magnitude	
Magnitude of Impact	**Description**
Substantial	Proposal would have a large change to existing socio-economic conditions
Moderate	Proposals would cause a moderate change to existing socio-economic conditions
Minor	Proposals would cause a minor change to existing socio-economic conditions
Negligible	No discernible change in baseline conditions

9.3.17 The significance of the effects of the scheme are considered both in the construction phase and the operational phase of the development. The assessment contextualises both the receptor and the magnitude of change which is set out in Table 9.4 below:

Table 9.4: Significance Criteria					
Magnitude of impact		**Sensitivity of receptor**			
		High	**Medium**	**Low**	**Negligible**
	Substantial	Major	Major	Moderate	Negligible
	Moderate	Major	Moderate	Minor	Negligible
	Minor	Moderate	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

9.3.18 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate or major beneficial or adverse level. Where relevant professional judgment has been used when determining the level of effect based on recent experience of projects of a similar nature.

9.4 Baseline Conditions

9.4.1 This section looks at the baseline conditions and outlines the demographics and economic profile of the town of Romsey and the local authority area for the Test Valley Borough. These are then compared with the region (Hampshire) and England to set the evidence within context.

Population

9.4.2 The Office for National Statistics (ONS) population figures show that the population of the ward of Romsey Tadburn was 5,900[1] at the time of the 2021 census. This represents 4.52% of the population of Test Valley Borough.

9.4.3 Romsey Tadburn does only represent a small proportion of the borough however the boundary lies adjacent to the town boundary of Romsey. At the time of the 2021 Census the population of the built-up area of Romsey is 19,900, which is 15.24% of the borough's population.

9.4.4 At 20.2% Romsey Tadburn has a smaller percentage of young people (aged 0-19) than the borough average of 22.6%. By 2029,it is predicted that the proportion of young people will decrease and is likely to be lower than the borough average.

9.4.5 At 18.6%, Romsey Tadburn has a smaller percentage of young adults (aged 20-39) than the borough average of 19.5%. The proportion of young adults living in the ward is

[1] Census 2021

expected to increase by 1.3% between 2022 and 2029, in contrast to the expected fall of 0.9% across the borough.

9.4.6 Middle aged residents (aged 40-69) constitute 39.7% of Romsey Tadburn's population, which is slightly lower than the borough average of 40.0%. This is forecast to decrease to 38.8% by 2029, 1.0% below the expected 2029 borough average.

9.4.7 At 21.6%, Romsey Tadburn has a higher percentage of those aged 70 and over, 3.7% above the borough average. By 2029 this percentage is forecast to decrease by 0.3%, in contrast to the rate of increase of 2.2% that is forecast for the borough as a whole.

Table 9.5: Population by age group- ONS Census 2021

Age Group	Romsey Tadburn (%2021)	Test Valley (%2021)	England (%2021)
0-14	14.6	17.1	17.3
15-64	56.5	61.8	64.1
65+	28.8	21.3	18.4

9.4.8 The population of Romsey Tadburn ward differs in some respects from the borough and national averages. As such, it is considered to be low to medium sensitivity to change from population increase. The population of Test Valley Borough is considered to be low sensitivity to change from population increase.

Labour Market and Employment

9.4.9 The ONS data for employment has been used to identify the industries in which the population are employed.

9.4.10 Table 9.6 below illustrates the occupation groups in which the population is employed.

Table 9.6: Employment by occupation-ONS Census 2021

Occupation	**Romsey Tadburn (%2021)**	**Test Valley (%2021)**	**England (%2021)**
Managers, directors and senior officials	13.3	15.8	12.9
Professional occupations	26.1	20.5	20.3
Associate professional and technical occupations	14.7	14.1	13.3
Administrative and secretarial occupations	9.5	10.7	9.3
Skilled trades occupations	8.7	9.9	10.2
Caring, leisure and other service occupations	9.4	8	9.3
Sales and customer service occupations	6.8	6.3	7.5
Process, plant and machine operatives	4.4	5.9	6.9
Elementary occupations	7.1	8.8	10.5

9.4.11 In line with the rest of the borough and country, the most common occupation group in which people are employed is professional occupations. This is followed associate professional and technical occupations which differs to the trend of the Test Valley statistics but similar to the country.

9.4.12 Romsey Tadburn's unemployment rate is low when compared to the rest of the borough and country. Data taken from the ONS census from 2021 shows an unemployment rate of 1.9% compared with 2.2% in Test Valley and 3.5% across England.

Table 9.7: Employment activity- ONS census 2021

Employment activity	Romsey Tadburn (%2021)	Test Valley (%2021)	England (%2021)
Economically active: In employment	55.2	61.7	57.4
Economically active: Unemployed	1.9	2.2	3.5
Economically inactive	42.9	36.1	39.1
Not in employment: Worked in the last 12 months	9.1	12.3	13.2
Not in employment: Not worked in the last 12 months	77.6	71.1	61.1
Not in employment: Never worked	13.3	16.6	25.6

9.4.13 While it may differ in some respects from the borough and national averages, the labour market and employment profile of Romsey Tadburn ward and Test Valley Borough are considered to be of low to medium sensitivity to change from population increase.

Housing

9.4.14 The 2021 Census estimated that the number of households within Romsey Tadburn is 2,700. The number of households in Test Valley was 54,700.

9.4.15 Taken from the household projections published in 2016, the number of households is set to increase across Test Valley by 16,000 by 2039.

9.4.16 In the Test Valley Local Plan, the total potential additional housing land requirement for the period 2011 to 2029 is 10,584. The Local Plan states a need for further housing, with 58% of families requiring market housing by 2026. The Test Valley Borough Council Affordable Housing SPD (2020) states that by 2031, 557 households are expected to fall into housing need. Further, the Local Plan sets an ambitious requirement of building a minimum of 5,929 new homes between 2020 and 2029 and with a policy aim to achieve 40% onsite affordable housing delivery wherever it is possible to do so.

9.4.17 When considered in the context of the housing targets contained within the Local Plan, and given the expected rise in population across the borough, housing provision in Test Valley at a ward, parish and borough level is considered to be of high sensitivity to change.

Education

Early Years and Childcare

9.4.18 There are six early years and childcare establishments within a two-mile radius of the Proposed Development. Not all of these establishments provide figures for capacity or number of pupils on the roll. However, it is worth noting that unlike in schools, children on nursery rolls do not all attend at the same fixed time and nurseries may have greater flexibility in terms of capacity. The full list of establishments within the two-mile catchment is shown in the Table 9.8 and identified on Figure 9.2.

Table 9.8: Early Years & Childcare provision within 2 miles of the Proposed Development

Establishment	Postcode	Approx. distance from the Site (miles)	Ages
Bright Horizons North Baddesley Day Nursery and Preschool	SO52 9DT	1.9 miles north	3 months- 5 years
Chatterbox Community Pre-School	SO51 9AD	0.3 miles south west	2 years- 4 years
Bright Horizons Romsey Day Nursery and Preschool	SO51 0BX	1.3 miles south east	3 months- 5 years
Woodley Pre-School	SO51 7JT	1.8 miles north west	2 years and 9 months- 5 years

Figure 9.2 Early Years and Childcare establishments within 2 miles (Google Earth, 2024)

9.4.19 There are also a number of other early years and childcare establishments located just outside of the 2 mile catchment area used. These establishments include:

- Abbotswood Pre-school and Day Nursery, SO51 7LF (2.2 miles north west)
- Little Sunlights Nursery, SO51 8ZB (2.2 miles west)
- Bright Horizons Chilworth Day Nursery and Preschool, SO16 7PT (3.3 miles south east)

9.4.20 Further to the nursery schools and pre-schools there are an additional six registered childminders within a three mile radius from the Site.

9.4.21 There is an absence of data to confirm the degree of spare capacity or otherwise in early years and childcare provision within the study area. As such, and to ensure a worst case assessment, it is considered that early years and childcare services in the study area are of high sensitivity to population change.

Primary Schools

9.4.22 There are six primary schools (including infant and junior schools) within a two-mile radius of the Proposed Development Site, as shown on Figure 9.3.

9.4.23 These vary in terms of overall capacity and the number of places available based on current school rolls, but the current net capacity and numbers on roll (NOR) of the primary schools is show in Table 9.9 below.

9.4.24 It is clear that based on the most up to date data available, there are 167 surplus places available across these primary schools.

Table 9.9: Primary provision within 2 miles of Proposed Development[2]

Primary school	Type	Postcode	Approx. distance from Site (miles)	Net capacity	NOR	Surplus/ Capacity places
Halterworth Primary School	Academy converter	SO51 9AD	Under 0.1 mile (south west)	436	435	1
Cupernham Infant School	Community school	SO51 7JT	1.9 miles (north west)	270	252	18
Cupernham Junior School	Community school	SO51 7JT	1.9 miles (north west)	360	340	20
North Baddesley Infant School	Community school	SO52 9EE	1.9 miles (south east)	320	299	21
North Baddesley Junior School	Community school	SO52 9EP	2.0 miles (south east)	334	316	18
Romsey Primary School	Community school	SO51 7PH	1.5 miles (west)	420	331	89

[2] https://www.get-information-schools.service.gov.uk/Search?SelectedTab=Establishments

Figure 9.3 Infant and Primary Schools within 2 miles (google earth 2024)

9.4.25 In view of the above, it is considered that primary school provision in the study area is of medium sensitivity to population change.

Secondary Schools

9.4.26 There are two secondary schools within a two-mile radius of the Proposed Development Site, as shown on Figure 9.4. These vary in terms of overall capacity and the number of places available based on current school rolls, but the current net capacity and numbers on roll of the secondary schools is show in Table 9.10 below.

Table 9.10 Secondary provision within 2 miles of Proposed Development[3]

Secondary school	Type	Postcode	Approx. distance from Site (miles)	Net capacity	NOR	Surplus/ Capacity places
The Romsey School	Academy converter	SO51 8ZB	1.9 miles (west)	1173	1151	22
The Mountbatten School	Academy converter	SO51 5SY	0.8 miles (south)	1424	1465	-41

[3] https://www.get-information-schools.service.gov.uk/Search?SelectedTab=Establishments

Figure 9.4 Secondary Schools within 2 miles Google Earth, 2024

9.4.27 Secondary school provision in the study area, having regard to the above, is considered to be of high sensitivity to changes in population.

Healthcare

GP surgeries

9.4.28 There are three GP surgeries within 2 miles of the Site. These are listed at Table 9.11. The closest GP surgery is located 1 mile west from the Site (Alma Road Surgery). According to the NHS Digital data, Alma Road Surgery has 15,476 patients with eight doctors. This equates to 1,934 patients per GP.

Table 9.11: GP provision within 2 miles of Proposed Development[4]

Name of GP Practice	Distance from Site	No of patients	No of FTE GP's	Patients per FTE GP
Alma Road Surgery	1 mile west	15,476	8	1,934
Abbeywell Surgery	1.4 miles west	18,023	13	1,386
North Baddesley Surgery	1.8 miles south west	9,728	7	1,389
Total	-	43,227	28	1,544 (average)

[4] https://www.nhs.uk/service-search/find-a-gp/results/SO51%209AD

9.4.29 Across the three GP surgeries there are 43,227 patients registered and 28 GPs. This is equivalent to 1,544 patients per GP. According to the NHS find a service, the three GP surgeries located within 2 miles of the Proposed Development are currently accepting new patients[5].

9.4.30 There is no ratio of patients to GPs that is universally accepted as a standard assumption to estimate new healthcare needs for residential development. That notwithstanding, the NHS London Healthy Urban Development Units (HUDU) Planning Contribution Model Guidance Notes (2009) sets out a nationally applicable standard ratio, based on guidance by the Royal College of GPs, of 1,800 people per one full-time GP.

9.4.31 Taking this into account, and based on the existing ratio of patients to GPs in the study area and to assume a worst-case assessment, it is considered that GP provision is of high sensitivity to changes in population.

Dental surgeries

9.4.32 Within 3 miles of the Proposed Development Site there are 6 dental surgeries, these are listed at Table 9.12 below. Based on data available across six dental practices there is a total of 25 dentists. Currently none of these practices are accepting new NHS patients as standard, half are accepting NHS patients for specialist dental care if referred by another medical expert. This is not exclusive to Romsey, NHS dental services are declining with nationally there being a decrease in the number of dentists performing NHS activity[6] and only 23.1% of adults being seen by an NHS dentist in the Test Valley Borough. NHS dental services in the area are therefore considered to be of high sensitivity to changes in population.

Table 9.12: Dental provision within 2 miles of Proposed Development[7]

Name of Dental Practice	Distance from site	No of Dentists	Are they accepting new patients?
Beauchamp House Dental Surgery	1 mile west	5	Not accepting new NHS patients
The Heatherstone Practice	1 mile west	7	Not accepting new NHS patients

[5] https://www.nhs.uk/service-search/find-a-gp/results/SO519AD
[6] NHS Dental Statistics for England 2022-23, Annual Report https://digital.nhs.uk/data-and-information/publications/statistical/nhs-dental-statistics/2022-23-annual-report
[7] https://www.nhs.uk/service-search/find-a-dentist/results/SO51%209AD

Table 9.12: Dental provision within 2 miles of Proposed Development[7]			
Name of Dental Practice	**Distance from site**	**No of Dentists**	**Are they accepting new patients?**
Abbey Orthodontics	1.1 mile west	2	Only taking new NHS patients for specialist dental care by referral
mydentist, The Hundred, Romsey	1.2 miles west	6	Not accepting new NHS patients
Dental Department (Romsey)	1.3 miles west	4	Only taking new NHS patients for specialist dental care by referral
Hendrickse DH Ltd	1.5 miles south east	1	Only taking new NHS patients for specialist dental care by referral

Hospitals

9.4.33 There is one hospital within 1 mile of the Proposed Development Site, Romsey Hospital[8]. This hospital covers a number of services. However, it is not possible to obtain data on the existing capacity of the services. It is assumed that the hospital would have sufficient capacity to accommodate the increase in population arising from the Proposed Development. The increase in population will be of a negligible magnitude of impact in the context of hospital capacity, leading to a negligible adverse effect that will not be significant. As such, hospital capacity is not considered further in this assessment.

Public Open Space

9.4.34 Access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and wellbeing of communities. Table 9.13 shows the average existing provision of open space in hectares and hectares per thousand population across the Romsey Tadburn ward taken from the 2018 Test Valley Borough Council Public Open Space Audit 2018.

Table 9.13 Summary of existing areas of open space across Romsey Tadburn[9]			
Typology	**Existing Provision (ha)**	**Requirement (ha)**	**Balance (=/-) (ha)**
Outdoor sports facilities	0	5.15	-5.15
Parks and Gardens	1.09	2.06	-0.97
Informal Recreation Areas	5.17	4.12	1.05
Provision for children and teenagers	0.21	3.09	-2.88

[9] Public Open Space Audit, TVBC 2018

Table 9.13 Summary of existing areas of open space across Romsey Tadburn[9]			
Typology	**Existing Provision (ha)**	**Requirement (ha)**	**Balance (=/-) (ha)**
Allotments	0	1.03	-1.03
Total	6.47	15.45	-8.98

9.4.35 There is currently a deficit of open space cumulatively across all of the typologies (bar informal recreational areas) within the Romsey Tadburn ward which equates to an overall deficit of 8.98 ha.

9.4.36 Areas of recreation, green infrastructure and open space within the vicinity of the Proposed Development are outlined in Table 9.14.

Table 9.14: Areas of recreation, green infrastructure and open space within the vicinity of the Proposed Development[10]		
Name	**Park Facilities**	**Distance from the Site**
Whitenap Park, Botley Road	Park and Garden	0.5 mile south west
Tadburn Road	Informal Recreation space	0.9 mile south west
Whitenap Park, Botley Road	Informal Recreation space	0.5 mile south west
Montfort Park, Benedict Close	Informal Recreation space	0.2 mile west
Westering	Informal Recreation space	0.9 mile north west
Westering and St Blaize Road	Informal Recreation space	1.1 mile north west
Viney Avenue	Informal Recreation space	1.1 mile north west
Tadburn Meadow	Informal Recreation space	0.5 mile west
Selsden Avenue	Informal Recreation space	1.2 mile west
Whitenap Park, Botley Road	Provision for Children and Teenagers	0.5 mile south west
Viney Avenue	Provision for Children and Teenagers	1.1 mile north west
Chirk Close	Provision for Children and Teenagers	1.2 mile west
Tadburn Meadow	Provision for Children and Teenagers	0.5 mile west

9.4.37 As Romsey Tadburn ward is deficient in open space cumulatively across all of the typologies of open space, public open space is considered to be of medium to high sensitivity to population change.

Limitations

9.4.38 The assessment of effects is carried out against a benchmark of current socio-economic conditions. As with any data set these will change over time. The most recent data sets were used within this assessment.

9.4.39 Data used for the assessment has been a secondary source of information and has been derived from a number of sources. Data has been selected from the most reliable sources and, where available, Government datasets have been used. In circumstances

[10] Public Open Space Audit, TVBC 2018

where data that is not publicly available for specific local geographical scale, the next suitable geographical scale has been used.

9.4.40 When demand scenarios have been assessed the worst-case scenario has been used. Where in reality, new residents may already be using some of the services within the local area, including schools and health care facilities and therefore would not necessarily create more demand for the services.

Future Baseline

9.4.41 In the absence of the Proposed Development (i.e., a 'do nothing' scenario), the Site is expected to remain in its current use. The socio-economic baseline will, however, still change in the future. According to the ONS 2018-based sub-national population projections, for example, the population in Hampshire is forecast to increase by 2.4% by 2030 and by 4.8% by 2040.

9.5 Assessment of Effects

Design Solutions and Assumptions

9.5.1 Throughout the assessment, assumptions have been used in regard to estimating the requirements from the development site. The estimations have used the industry standard and regionally specific multipliers to create these assumptions.

9.5.2 For the purposes of this assessment the maximum parameter of 270 homes has been used to assess the potential socio-economic impacts of the Proposed Development. The precise quantum of built development will be established at the detailed design phase.

9.5.3 Further, the Proposed Development includes 1.09ha of land which is to be gifted to Halterworth Primary School, to allow for any future expansion when this is deemed necessary. The gifting of land will be secured by a section 106 legal agreement.

Assessment of Effects

9.5.4 The assessment of effects has been based upon the baseline conditions. The assessment has considered the construction effects, household spending impacts and population and labour supply impacts.

Construction Phase

Employment and associated economic effects

9.5.5 Based upon the development of 270 new homes on the Site, it has been estimated that the construction costs would be approximately £47.7 million.

9.5.6 Throughout the build out period there would be approximately 195 full equivalent (FTE) jobs created within construction. This increase of jobs would have a positive temporary impact due to an increase of jobs available for those in the associated construction sectors.

9.5.7 In addition to the jobs in construction an additional 266 FTE indirect jobs will be supported per annum. This would be a positive impact and would affect a wider population and not be limited to the local area. These jobs could be in supply chain, real estate, transportation and retail. Some of these impacts would be temporary through the construction phase however some jobs would continue throughout the occupation of the development due to increased expenditure.

9.5.8 Throughout the construction phase of the development the socio-economic effects would be positive due to the increase in jobs within the construction industry and indirect jobs. Based upon the number of jobs available within the borough this impact would be moderate during the construction phase of the development.

9.5.9 Taking account of the low to medium sensitivity of the labour market and employment profile of Test Valley, is it considered that the Proposed Development will have a moderate magnitude of impact that will lead to a moderate beneficial effect that is significant.

Operational Phase

Housing

9.5.10 The Proposed Development would create 270 new homes, of a range of dwelling types and sizes within the Romsey Tadburn ward, closely linked to the town of Romsey. Assuming all the homes were occupied this would equate to 270 households.

9.5.11 The receptor for new dwellings is both the parish of Romsey Tadburn and the borough of Test Valley. The sensitivity of the receptor is high due to the need for market and affordable homes across the borough.

9.5.12 The additional housing will go towards meeting the local housing need and meeting the council's annual need. This is particularly important in an area where there is a deficit in housing. The proposed 108 affordable homes would help address the need for affordable housing.

9.5.13 Within the ward there would be an increase of 270 new homes, and this would equate to an increase to the number of homes within the Test Valley borough. The change would be positive given the housing needs within Test Valley. Based upon the significance of the change, this would be a major benefit to those households wanting a home in Romsey.

9.5.14 The delivery of 270 new homes at this location would help meet the needs of the ward, parish and borough. Given the high sensitivity of housing provision in the ward, parish and borough area, this impact of moderate magnitude will have a major beneficial effect at the ward, parish and borough level that will be significant.

Labour Market

9.5.15 It is estimated that the population of the completed development would be 645 new residents. Of this population, it is estimated that there would be 227 economically active residents. This would be a direct and permanent change to the Site.

9.5.16 The increase in the working age population would result in a minor magnitude of impact at the ward (local) and borough level. Taking into account the low to medium sensitivity of the labour market receptor, the increase in working age population will have a minor, beneficial effect at the ward (local) and borough level that is not significant.

Economics

9.5.17 The proposed dwellings could generate a new population of 645 people (see above), 392 of these will be of working age, based on 60.7% of the total population of Test Valley being of working age (16-65). Based on data from the 2021 census, 73.4% of the population of the Romsey Extra parish are economically active, therefore 286 the proposed residents are estimated to be economically active. This would result in an increase in the working age population and proportion of 16.22% in the Romsey Extra Parish.

9.5.18 The population will have minor positive impacts on the economy through additional expenditure in the local area, and additional economically active residents will boost the labour supply locally. The increase in the working age population and proportion of which that is economically active, combined with the low to medium sensitivity of this receptor, will produce a moderate beneficial effect that is significant at the parish level. At a borough level, the net increase of 0.35% in economically active residents is of minor beneficial effect and is not significant.

Social and Community Infrastructure

Early Years and Childcare

9.5.19 The receptor for this effect is early years and childcare establishments within a 2 mile catchment area of the Site. Average pupil yields per home has been applied in line with the Hampshire County Council Planning Obligations: Explaining Contribution Calculations. For pre-school (ages 0-3) the average standard is 9 per 100 dwellings.

9.5.20 Based on the figure outlined above out of the 270 dwellings there would be 25 nursery and pre-school aged pupils.

9.5.21 The spaces available within these establishments is currently unknown as the data is unavailable. The addition of 25 children to the area's nurseries will result in an impact of minor to moderate magnitude. Given the high sensitivity of early years provision in the area, this will be a moderate to substantial, significant adverse effect in the absence of mitigation.

Primary School

9.5.22 The receptor for this effect is primary schools located within 2 miles of the Proposed Development. Average pupil yields per home has been applied in line with the Hampshire County Council Planning Obligations: Explaining Contribution Calculations. For Primary School (ages 4-11) the average standard is 30 per 100 dwellings.

9.5.23 Based on the figure outlined above out of the 270 dwellings there would be 81 primary school aged pupils.

9.5.24 Within the 2-miles radius there is currently a surplus of 167 places across six primary schools. Based on the number of pupils generated by the Proposed Development a surplus of 86 places would remain. The Proposed Development will, therefore, lead to a minor impact on primary school provision, which given the medium sensitivity of this receptor would result in a minor adverse effect that is not significant in the absence of mitigation.

9.5.25 The Proposed Development also includes land to be secured by legal agreement for the expansion of Halterworth Primary School, to allow for any future expansion of the school when this is needed. Should this land be utilised to provide additional primary school education capacity in the area, this would result in a beneficial effect.

Secondary School

9.5.26 The receptor for this effect are secondary schools located within 2 miles of the Proposed Development Site. Average pupil yields per home has been applied in line with the Hampshire County Council Planning Obligations: Explaining Contribution Calculations. For secondary school (ages 11-16) the average standard is 21 per 100 dwellings.

9.5.27 Based on the figure outlined above out of the 270 dwellings there would be 57 pupils aged 11 to 16 (secondary).

9.5.28 There are two secondary school facilities within 2 miles of the Site and as detailed earlier one of these, The Romsey School does currently have some limited capacity and the Mountbatten School is currently over capacity.

9.5.29 The sensitivity of the receptor is high and given that the estimated number of pupils generated from the Proposed Development exceeds the limited capacity at the Romsey School, it is considered the Proposed Development leads to a moderate impact that would be a major, significant adverse effect in the absence of mitigation.

Healthcare

GP Surgeries

9.5.30 The Site would accommodate an additional population of people and this would directly result in additional patients. However, this is a worst case scenario as it is likely that some of the patients will already be registered at surgeries within the 2 mile radius.

9.5.31 The GPs in the area are operating at higher capacity levels than the average for the rest of the borough. It is, therefore, considered that GP capacity in the study area is of high sensitivity to population increase.

9.5.32 The sensitivity of the receptor is high and given that the estimated number of patients generated from the Proposed Development may exceeds the capacity at GP surgeries it is considered the Proposed Development would result in a moderate impact on the existing GP provision. This results in a major, significant adverse in the absence of mitigation.

Dental surgeries

9.5.33 Within a 2 mile radius of the Site there are 6 dental surgeries. Currently none of these practices are accepting new NHS patients as standard, half are accepting NHS patients for specialist dental care if referred by another medical expert.

9.5.34 No set standards exist for NHS dental provision. A study undertaken by the University of Bath School of Health in 2004, however, suggested a standard of 2,000 patients per dentist. Using this standard as a guide, the predicted increase in population of 645 represents an increase in demand of 0.32 dentists. Despite being of minor magnitude impact and, the high sensitivity of dental provision, will lead to a moderate, significant adverse effect in the absence of mitigation.

Open space

9.5.35 The current situation shows a deficit of 8.98 ha of open space within Romsey Tadburn. The Proposed Development would provide a total of 4.45ha of Green Infrastructure onsite, which includes the provision of Sustainable Urban Drainage Systems and the wildlife pond.

9.5.36 The overall population of Romsey Tadburn will increase to 6,660 and the total amount of open space will increase by 4.45ha. This would equate to a total of 1.95 ha per 1000 population and therefore the development would have a 3.28ha provision, on Site above the policy requirement (see Table 9.15ha below).

Table 9.15: Proposed open space provision

Type of open space	Area (ha)	Local Plan Requirement	Provision above requirement (ha)
Parks and Gardens	0.49	0.4 ha per 1000 population = 0.26ha	0.23
Outdoor sports provision	Off site provision	1.0 ha per 1000 population = 0.65ha	Off site provision
Informal recreation areas	3.92	0.8 ha per 1000 population = 0.52ha	3.40
Provision for Children and young people	0.04	0.6 ha per 1000 population = 0.39ha	-0.35
Allotments	Off site provision	0.2 ha per 1000 population = 0.13ha	Off site provision
Total	**4.45**	**1.95**	**3.28**

9.5.37 Outdoor sports provision, allotments and provision for children and young people are in deficit. In line with the predicted population increase, there will be a minor increase in demand for such open sport types. Given the medium to high sensitivity of the open space receptor, and based on professional judgement drawn from experience of other similar projects, this will be a minor, adverse effect in the absence of mitigation that will not be significant.

9.5.38 There is an oversupply of parks and gardens within the ward, this typology of open space can be used for informal sports and recreation. Given that there is a surplus of open space, and that the overall provision of open space within the Proposed Development exceeds the policy requirement the estimated demand for open space from the increase in population would be met. Given the medium to high sensitivity of the open space receptor, this would lead to a moderate to substantial impact and a major, beneficial effect that is significant at the local scale. At the borough level, there would be a minor magnitude of impact leading to a moderate, beneficial effect that is significant.

9.6 Mitigation

Construction Phase

9.6.1 No mitigation would be required through the construction phase. The construction phase would create temporary job opportunities through the construction operations on site and indirect industries.

Operational Phase

9.6.2 The effect of the Proposed Development in terms of changes to population, the labour market, employment and housing during the operational phase of the development will be beneficial and, therefore, no mitigation measures are required.

9.6.3 Financial contributions will be secured through a section 106 legal agreement towards services (where required), such as education provision, healthcare, and public open space. This will ensure that there will no significant adverse effects on education, healthcare, and open space as a result of the Proposed Development. The implementation of this mitigation will be monitored through Test Valley Borough Council's existing planning obligations monitoring system.

9.7 Residual Effects

9.7.1 Where significant adverse effects for socio-economic receptors have been identified in the assessment, suitable mitigation measures (namely in the form of financial contributions) have been proposed. Following implementation of these mitigation measures, the significance of the effect for these receptors will be reduced to negligible and therefore not significant in EIA terms. In the instance of Primary Education, the mitigation does amount to an effect of positive benefit that is not significant in EIA terms.

9.7.2 Table 9.16 summarises those receptors which do have a residual significant effect.

Table 9.16 Summary of receptors

Significant residual effect	Receptor sensitivity	Impact magnitude	Nature	Duration	Degree of effect	Level of certainty
Labour Market - Generation of employment during construction phase of the Proposed Development	Low to medium	Moderate	Beneficial	Temporary	Moderate (Significant – local and borough Level)	Reasonable

Table 9.16 Summary of receptors						
Significant residual effect	**Receptor sensitivity**	**Impact magnitude**	**Nature**	**Duration**	**Degree of effect**	**Level of certainty**
Housing - Increased provision of housing in Test Valley	High	Moderate	Beneficial	Long Term	Major (Significant – local and borough Level)	Absolute
Open Space - Delivery of onsite public open space as part of the Proposed Development	Medium to high	Moderate to substantial	Beneficial	Long Term	Major (Significant – Local Level) Moderate (significant at borough Level)	Reasonable

9.8 Assessment of Cumulative Effects

Intra-cumulative effects

9.8.1 No intra-cumulative effects have been identified.

Inter-cumulative effects

9.8.2 In addition to the Proposed Development, the assessment has been extended to include additional sites. These are set out in Chapter 2 of this ES.

Construction Phase

9.8.3 Through the construction phase of each development, new construction jobs would be created. It can be assumed that not all developments will be developed at the same time, given that a number of the sites have started to be built, whereas others are currently at different stages of planning. Given this there may be a transfer of construction jobs across the local area.

9.8.4 The overall number of jobs is currently unknown, given the total sqft of each development is unavailable. However, based on the understanding that housing developments creation 19.9 FTE per annum for every £1 of construction costs[11], it is estimated that cumulatively this would result in 1040 direct construction jobs across an average 10 year build period. In reality the number of jobs would be created would be higher given the DIY retail element has not been factored into the calculation.

[11] Building Cost Information Service (BCIS) April 2022

9.8.5 Based upon the current number of jobs in construction across the borough (3,000 jobs), this would result in an increase of over 40%, this would be spread out over the course of the cumulative construction phase. Overall, this would result in a moderate beneficial effect that is significant.

9.8.6 The increased construction activity associated with the Proposed Development and other developments has the potential to lead to cumulative beneficial outcomes in employment creation and spending in the local authority economy through multiplier effects. The developments would cumulatively reinforce spending in the local economy through orders to suppliers and through employee's expenditure. It is considered that this would result in a moderate beneficial effect that is significant at the borough scale.

Operational Phase

9.8.7 Combined with the 270 dwellings provided by the Proposed Development, the identified other schemes have the potential to deliver 3,596 new homes. This will be a substantial beneficial impact at a local and borough level and a major, significant beneficial cumulative effect.

9.8.8 The increased population associated with the residential elements of the developments has the potential to lead to increase in demand for education, healthcare and other community facilities. Most of the developments, however, include community infrastructure and facilities to help meet these demands, including a range of public open space and community uses. In addition, all the developments will be required to make financial contributions through legal agreements towards community facilities and services that are not provided on site, similar to those discussed in the mitigation section above, including (as relevant) education, healthcare, sports pitches and public open space. These measures will prevent significant adverse cumulative effects on the area's community facilities and services.

9.9 Summary

9.9.1 This chapter considered the socio-economic effects of the Proposed Development.

9.9.2 There will be some significant effects on the socio-economic receptors considered at both at the local or borough level.

9.9.3 Suitable mitigation measures have been identified for particular socio-economic issues where impacts have been identified, particularly focused on education, healthcare and public open space. Following the implementation of the proposed mitigation measures, the effects of the Proposed Development on the socio-economic environment of the area at the all scales will not result in any adverse significant effects in EIA terms.

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10 SUMMARY OF RESIDUAL AND CUMULATIVE EFFECTS

10.1 Residual Effects

10.1.1 A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects, i.e. the mitigation measures, has been set out within each technical chapter. These measures have been used to reduce impacts to the lowest practicable level consistent with the overall objectives of the scheme.

10.1.2 Each technical chapter has assessed the effectiveness of these measures in order to identify the residual effects.

10.1.3 Following the implementation of the mitigation measures outlined within each technical chapter, the majority of residual environmental effects have been assessed as being not significant, as summarised within Table 10.1 below. Further details are provided within the relevant technical chapter.

Table 10.1: Summary of Significant Residual Effects

Technical Chapter	Significant Residual Effects?
Traffic and Transport	No
Ecology	No
Water Environment	No
Socio-Economics	Yes *(beneficial)*

10.1.4 As stated above within Table 10.1, the Proposed Development will result in beneficial significant residual effects in relation to socio-economics.

10.1.5 The construction phase of the Proposed Development will create approximately 195 full equivalent (FTE) jobs and 266 FTE indirect jobs. Owing to availability of jobs in the borough such generation is considered to result in a temporary significant beneficial effect at a borough Level. Whilst the effect is considered to be temporary some of the generated jobs would continue throughout the occupation of the development due to increased expenditure.

10.1.6 The Proposed Development would create 270 new homes of a range of dwelling types and sizes. The additional housing will go towards meeting the local housing need and meeting the council's annual need. Such provision is considered to result in a significant long-term beneficial effect at the ward, parish, and borough level.

10.1.7 The Proposed Development will provide a total of 4.45ha of Green Infrastructure onsite. Such provision is above policy requirement, and it is estimated that the demand for open space from the increase in population would be met. This is

considered to result in a significant long-term beneficial effect at the local and borough level.

10.2 Cumulative Effects

10.2.1 Schedule 4 of the EIA Regulations states that an ES must include a description of the likely significant effects of the development, including reference to possible cumulative effects.

10.2.2 When considering potential significant cumulative impacts, the assessments have (where appropriate) considered:

- Intra-cumulative effects (i.e. those occurring as a result of interactions between impacts of the Proposed Development in isolation); and
- Inter-cumulative effects (i.e. those occurring as a result of the Proposed Development in combination with other development).

10.2.3 An assessment of the potential cumulative effects was undertaken within each of the technical chapters.

10.2.4 A summary of the cumulative effects of the scheme are provided below and within Table 10.2, with further details provided within each technical chapter (Chapters 6 – 9).

Intra-cumulative effects

The EIA has taken into consideration where a significant residual impact is expected to occur on a particular receptor as a consequence of collective actions, aspects or impacts of the Proposed Development. These inter-relationships have been considered within each technical chapter as relevant and no significant intra-cumulative effects were identified.

Inter-cumulative effects

10.2.5 In relation to inter-cumulative effects, the EIA has considered committed developments in the area surrounding the Site which, in conjunction with the Proposed Development, could collectively impose a significant impact on the environment.

10.2.6 Further details on the schemes considered are set out within Chapter 2.

Table 10.2: Summary of Cumulative Effects	
Technical Chapter	**Summary of Cumulative Effects**
Traffic and Transport	When considering the cumulative effects during the construction phase, it is considered unlikely that the construction traffic associated with other committed developments will share the most sensitive links in the study area. Furthermore, a Construction Traffic Management Plan (CTMP) will be integrated with those of other local developments so that more intensive periods of construction can be staggered as much as possible to minimise the effects. These low traffic volumes will result in a negligible adverse temporary effects (not significant) during construction. The trips associated with committed developments have been added to the 2028 Future Baseline plus Development flows. The assessment found that during operation the greatest cumulative impact is forecast to occur on the Premier Way to the South of A27 link, which is one of the accesses to Abbey Park Industrial Estate. However, this increase is solely associated with committed developments with no traffic from the Proposed Development added to this link. It is therefore the responsibility of the other applicants to address any environmental impact on this link and no cumulative effect associated with the Proposed Development will occur. When considering the links which the Proposed Development will add traffic to, significant adverse cumulative effects are predicted to occur upon three links: Halterworth Lane to the North of Proposed Southern Site Access; Halterworth Lane to the South of Proposed Southern Site Access; and Halterworth Lane to the North of Botley Road. However, it is important to recognise that the sensitivity of these links is due to the presence of the Halterworth Primary School, and it is during the school drop-off and pick-up periods which last for around 30-minutes each during term time only when the links should be considered to be of substantial sensitivity. When the primary school is closed or not generating traffic either side of these times, the sensitivity of these links would be moderate with the associated level of effect being minor adverse which is not significant. It should also be noted that much of the traffic from the committed developments has been assigned to Halterworth Lane within the assessment, but in reality a proportion of this traffic will travel via Highwood Lane to the east, so the level of impact is likely to be lower than that assessed. Whilst more traffic will be added to the three links as a result of cumulative growth, the Proposed Development is to provide improved crossing facilities as embedded mitigation which will help to reduce the cumulative impact. All remaining links will not experience significant cumulative effects. The overall impact of the Proposed Development during operation is considered to be not significant.
Ecology	There will be an increase in the number of visitors to nearby designated sites owing to the cumulative schemes. However, the Proposed Development along with other proposed/approved developments will include financial

Table 10.2: Summary of Cumulative Effects	
Technical Chapter	**Summary of Cumulative Effects**
	contributions and the provision of open space within their boundaries to reduce the effects upon designated sites. New developments are likely to increase car usage and traffic, which can increase air quality and nutrient deposition on designated sites. The assessment found that daily traffic flows will not be high enough to trigger a further assessment, and in-combination air quality impacts will be negligible (not significant). It should also be noted that as technologies advance there will be reduced reliance on fossil fuelled cars so emissions will drop. When considering the cumulative effects of the Proposed Development on biodiversity, legislation and policy will ensure that each development granted planning will include sufficient mitigation, compensation and enhancement to protect and benefit the habitats and species they support as well as secure appropriate management in the long-term. In summary there will be no significant cumulative effects with respect to ecology.
Water environment	It is expected that the nearby developments will comply with the same strict planning guidance and regulations relating to the water environment to be acceptable in planning terms as the Proposed Development to minimise individual impacts on the aquatic environment and attenuate surface water run-off to pre-development run-off rates. As such, no significant cumulative effects are anticipated.
Socio-Economics	During construction of each development, new construction jobs would be created. However, it can be assumed that not all developments will be developed at the same time as the proposed developments considered on the list of cumulative schemes are all at different stages of planning. Hence construction workers can transfer from one site to another, maintaining a supply of work. Based upon the current number of jobs in construction across the borough (3,000 jobs), this would result in an increase of over 40% over the course of the Proposed Development's construction phase, resulting in a major beneficial effect on the borough that is significant. The increased construction activity associated with the Proposed Development and other developments has the potential to lead to cumulative beneficial outcomes in employment creation and spending in the local and local economy through multiplier effects. The developments would cumulatively reinforce spending in the local economy through orders to suppliers and through employee's expenditure. It is considered that this would result in a moderate beneficial effect that is significant. The cumulative sites would have a possibility to deliver 3,326 homes. Including the Proposed Development Site, this would increase to 3,596. These additional homes will help meet the local housing need of the district, and bring a major beneficial significant cumulative effect at the ward, parish and borough level. The increased population associated with the developments has the potential to lead to an increase in demand for education, healthcare and other

Table 10.2: Summary of Cumulative Effects	
Technical Chapter	**Summary of Cumulative Effects**
	community facilities. Most of the developments, however, include community infrastructure and facilities to help meet these demands, including a range of public open space and community uses. In addition, all the developments will be required to make financial contributions through legal agreements towards community facilities and services that are not provided on site, similar to the Proposed Development, including (as relevant) education, healthcare, sports pitches and public open space. These measures will prevent significant adverse cumulative effects on the area's community facilities and services.

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STATEMENT OF EXPERTISE

This Environmental Statement has been prepared by competent experts, and the following statement outlines this relevant expertise and qualifications of the EIA Co-ordinator and the lead author of each technical chapter.

EIA Coordination

The ES has been prepared and the EIA co-ordinated by Thomas Hackett BSc (Hons) PIEMA, Principal EIA Co-ordinator at Wardell Armstrong LLP. Thomas has a BSc (Hons) in Geography from the University of Derby. Thomas has over five years of professional experience working within the Environmental Planning sector, which includes co-ordinating EIAs and preparing Environmental Statements for a range of developments, including mixed-use / residential, renewable energy and waste projects. Thomas is also a Practitioner member of the Institute of Environmental Management and Assessment (IEMA).

Assistance in the preparation and co-ordination of the ES has been given by Hannah Plant BSc MSc GradIEMA, EIA Co-ordinator at Wardell Armstrong LLP. Hannah holds a BSc in Environmental Science and Physical Geography from Keele University, and a MSc in Environmental Management from Lancaster University. Hannah has experience of co-ordinating EIAs and preparing Environmental Statements for a range of developments.

The co-ordination of the EIA has been overseen, and the ES reviewed by Lauren Davison, BSc (Hons) MSc MRTPI, Technical Director at Wardell Armstrong LLP. Lauren has a BSc (Hons) in Natural Sciences from the University of Birmingham and an MSc in Planning from the University of Manchester. Lauren has over 11 years' experience in the co-ordination of EIAs and the preparation of Environmental Statements for a range of developments.

Wardell Armstrong LLP is a registrant of the IEMA EIA Quality Mark, demonstrating their commitment to excellence in their EIA activities. Lauren and Thomas manage Wardell Armstrong's registration to the EIA Quality Mark, ensuring the high standard of the scheme is adhered to.

Traffic and Transport

The Traffic and Access chapter has been prepared by David Stoddart, Associate Director at Prime Transport Planning. David has over 18 years' experience in transport planning consultancy, is a chartered member of the Chartered Institute of Logistics and Transportation (CILT), a member of the Chartered Institution of Highways and Transportation (CIHT) and

holds a BA (Hons) degree in Geography. David has experience of undertaking numerous Environmental Statements, Transport Assessments and Travel Plans for developments of varying land uses across the UK. This has included designing and deriving mitigation measures to address traffic impact and enhance the accessibility by sustainable modes of transportation.

This assessment has been overseen and approved by David Schumacher. David is a Director at Prime Transport Planning with over 30 years' experience in transport planning and traffic engineering and has worked in both the public and private sector during his time in the industry. While in the private sector he has promoted schemes ranging from major infrastructure projects including new roads etc. to private development projects including city/town centre regeneration schemes, major housing developments, large scale commercial developments, new health facilities and numerous sports stadia across the UK and Europe. As Director, David is responsible for the strategic input to the numerous projects that the company are currently engaged on. David is also an expert witness on highways matters who has represented various clients at Public Inquiries across the UK.

Ecology

The ecology chapter has been prepared by Abigail Upham, Principal Ecologist at FPCR Ltd. Abigail has over 10 years' experience in ecological consultancy, and holds a BSc (Hons) degree in Environmental Conservation. Abigail has experience of undertaking numerous ecological surveys and assessments and making recommendations for ecological mitigation and enhancements for habitats and species across a range of sites and development projects in the UK.

All work was overseen by David Harper, Director of FPCR Ltd, with over 20 years of experience in Ecological Consultancy and who is a full a full member of the Chartered Institute for Ecology and Environmental Management (CIEEM).

Water Environment

The Water and Environment chapter has been prepared by Eric O'Connor at Enzygo. Eric has over 8 years' experience in hydrology consultancy, is a full member of the Chartered Institute for Water and Environmental Management (CIWEM) and holds a BSc (Hons) degree in physical geography and an MSc in River Basin Dynamics and Management. Eric has experience of undertaking numerous Flood Risk Assessments, Drainage Strategies and Environmental

Statements and making recommendations for flood risk mitigation and enhancements across a range of sites and development projects in the UK.

Socio-Economics

The socio-economic chapter has been prepared by Peter Fawcett, PhD, AssocRTPI, AIEMA, Planner at Gladman Developments. Peter has over 5 years' experience within the Planning industry and has experience working on residential development projects. This has involved preparing socio-economic ES chapters and undertaking socio-economic assessments for development projects.

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GLOSSARY

TERMINOLOGY	EXPLANATION
AADT (Annual Average Daily Traffic)	Daily volume of traffic on any given road averaged across the year.
Above Ordnance Datum (aOD)	Ordnance Datum is the vertical datum used by ordnance survey as the basis for deriving altitudes on maps. Topography may be described using the level in comparison or 'above' ordnance datum.
Aged or veteran tree	A tree which, because of its great age, size or condition is of exceptional value for wildlife, in the landscape, or culturally.
AM peak hour	Hour with the highest volume of traffic before noon.
Ancient woodland	An area that has been wooded continuously since at least 1600 AD.
aOD	Above Ordnance Datum
AONB	Areas of Outstanding Natural Beauty
Aquifer	A body of permeable rock which can contain or transmit groundwater.
ARCADY	A module within Junctions 9 software by TRL Software used to calculate the capacity of roundabouts.
Assemblage (ecology)	A group of species found in the same location.
Attenuation pond	A pond which holds water and is designed to control the passage of water from surface run-off and/or flooding to the chosen drainage system i.e. watercourse, sewer.
Automatic Traffic Counter (ATC)	A device consisting of pneumatically triggered tubes and counting hardware commonly used to record traffic speeds and flows.
Avoidance	Prevention of impacts occurring, having regard to predictions about potentially negative environmental effects (e.g. project decisions about site location or design).
Baseline (traffic scenario)	Traffic flows for the current year or future year without any traffic from committed or proposed developments.
Baseline conditions	The conditions that would pertain in the absence of the proposed project at the time that the project would be constructed / operated / decommissioned. The definition of these baseline conditions should be informed by changes arising from other causes (e.g. other consented developments).
Baseline studies	Studies of existing environmental conditions, which are designed to establish the baseline conditions against which any future changes can be measured or predicted.
Bedrock	Bedrock more than 2.6 million years old, and generally underlying superficial deposits.

TERMINOLOGY	EXPLANATION
Biodiversity	The biological diversity of the earth's living resources. The total variability among organisms and ecosystems. In common usage, and within these Guidelines, biodiversity is used to describe the conservation of the natural environment, rather than describing the variation within it.
Biodiversity Net Gain (BNG)	A measurable improvement in biodiversity as determined by using a metric to quantify habitat values pre- and post-development.
BGS	British Geological Survey
Borehole	A hole drilled into the ground to measure the level of water below the ground and the geology of the ground in that area.
CEMP	Construction Environmental Management Plan
CIHT	Chartered Institution of Highways and Transportation
Classification	A process of sorting the landscape into different types using selected criteria but without attaching relative values to different sorts of landscape.
Committed Development	Development which has been granted planning permission or has allocated status.
Compensation	The measures taken to offset or compensate for residual adverse effects which cannot be mitigated or for which mitigation cannot entirely eliminate adverse effects.
Completed Development	Within the ES this phase refers to the Proposed Development when fully built and operational.
Connectivity (ecology)	A measure of the functional availability of the habitats needed for a particular species to move through a given area. Examples include the flight lines used by bats to travel between roosts and foraging areas or the corridors of appropriate habitat needed by some slow colonising species if they are to spread.
Construction Traffic Management Plan (CTMP)	A formal document outlining the process of how construction traffic will be managed to minimise the impact on local road users, residents and businesses.
Countryside	The rural environment and its associated communities (including the coast).
Cumulative effects	The summation of effects that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions.
Cycleway	A path or road for bicycles and not motor vehicles.
Degree of Saturation (DoS)	A measurement of the demand relative to capacity on a lane at a traffic signal controlled junction. A DoS of 100% indicates that the demand and capacity are equal i.e. the link is at capacity.
Department for Transport (DfT)	Government department ran by the Secretary of State for Transport.

TERMINOLOGY	EXPLANATION
Dropped kerb	A lower than full height kerb to aid vehicular and buggy crossings from footways.
Design Manual for Roads and Bridges	A comprehensive series of documents, including standards, specifications and standard details, for the design of new road infrastructure.
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.
Development plan	This includes adopted Local Plans, neighbourhood plans and the London Plan, as defined in section 38 of the Planning and Compulsory Purchase Act 2004 (regional strategies have all been abolished by Order using powers taken in the Localism Act 2011).
Distribution (ecology)	The geographical presence of a feature. This can depend on factors such as climate and altitude.
Diversity	Where a variety of qualities or characteristics occurs.
Ecological feature	Habitats, species or ecosystems.
Ecosystem	A community of interdependent plants and animals together with the environment which they inhabit and with which they interact.
Effect	A physical or measurable change to the environment attributable to the project.
Element	A component part of the landscape (e.g. roads, hedges, woods).
Enhancement	Landscape improvement through restoration, reconstruction or creation.
Enhancement (ecology)	Improved management of ecological features or provision of new ecological features, resulting in a net benefit to biodiversity, which is unrelated to a negative impact or is 'over and above' that required to mitigate/compensate for an impact.
Environment	Our physical surroundings including air, water and land.
Environmental Assessment	A process by which information about the environmental effects of a project is collected, both by the developer and from other sources, and taken into account by the relevant decision making body before a decision is given and whether the development should go ahead.
Environmental Effects	The consequences for human being in terms of health and well-being, including the well-being of ecosystems and natural systems on which human survival depends, which stem from environmental impacts.
Environmental Impact	The process whereby a change, which may be adverse, beneficial, or both, is brought about in the existing environment as a result of development activities.
Environmental impact assessment (EIA)	The evaluation of the effects of particular development proposals on the environment.

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Environmental Statement (ES)	A document which sets out the developer's assessment of the likely effects of the project on the environment and which is submitted in conjunction with an application for planning permission.
Environment Agency	The EA is a non-departmental public body of the Department for Environment Food and Rural Affairs. Its purpose is, "to protect or enhance the environment, taken as a whole" (section 4, Environment Act 1995) to promote the objective of achieving sustainable development.
Erosion	The process where rocks and the channels of watercourses are broken down by the force of the flowing water.
EV	Electric Vehicle
Fauna	All members of the animal kingdom: vertebrates (e.g. birds, mammals and fish) and invertebrates (e.g. insects).
FLAT Flow Profile	A flow input option in Junctions 10 software by TRL Software whereby the traffic flows in each 15-minute period are equal i.e. 25% of the peak hour traffic each.
Flood Zone 1	This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding.
Flora	All members of the plant kingdom: higher ferns, ferns and fern allies, mosses and liverworts, algae and phytoplankton, fungi and lichens.
Forecast traffic	The level of traffic anticipated in a given future year.
Geology	The scientific study of the origin, history and structure of the earth.
GIS	Geographic Information Systems - a link between coordinate data and a map.
Ground conditions	An assessment of the history and chemical and physical characteristics of the soil conditions at a site.
Groundwater Special Protection Zone (SPZ)	Areas of groundwater or aquifers that are protected against any potential pollution or contaminants.
Green infrastructure (GI)	A network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities.
Greenhouse Gas (GHG)	Gases such as carbon dioxide, methane and nitrous oxide, that trap heat in the atmosphere.
Groundwater	All water which is below the surface of the ground in the saturated zone and in direct contact with the ground or subsoil.
GTA	Guidance on Transport Assessment (2007)
ha	hectares

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Habitat	The place or type of site where an organism or population naturally occurs. Often used in the wider sense referring to major assemblages of plants and animals found together.
Heritage	Historic or cultural associations.
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. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).
HGV (heavy goods vehicle)	Large vehicle i.e. a lorry, with a total gross weight over 3,500kg.
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.
Hydrology	The study of the movement, distribution, and quality of water.
Important ecological features	Ecological features requiring specific assessment within EcIA. Ecological features can be important for a variety of reasons (e.g. quality and extent of designated sites or habitats, habitat / species rarity).
Indirect Impacts	Impacts on the environment, which are not a direct result of the development but are often produced away from it or as a result of a complex pathway. Sometimes referred to as secondary impacts.
Inert	Chemically inactive.
Infiltration	The process in which water on the surface soaks into the soils and geology below it.
Infiltration basin	A pond that holds water and is designed to control the passage of water from surface run-off and/or flooding as it soaks back into the ground.
Isochrone	A map with annotation that depicts a variable scale such as walking distance.
Junction Capacity	The ability of a junction to accommodate traffic.
Junctions 10	An industry approved software package used for modelling priority controlled junctions (PICADY module) and roundabouts (ARCADY module) by TRL Software.
Land Use	What land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
Landscape Effects	Change in the elements, characteristics, character and qualities of the landscape as a result of development. These effects can be positive or negative.

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LEAP	Locally Equipped Area for Play
LGV (light goods vehicle)	A commercial vehicle i.e. a van, with a total gross weight less than 3,500kg.
Listed Building	A building, object or structure that has been judged to be of national importance in terms of architectural or historic interest and included on a special register.
Local Plan	The plan for the future development of the local area, drawn up by the local planning authority in consultation with the community. In law this is described as the development plan documents adopted under the Planning and Compulsory Purchase Act 2004. Current core strategies or other planning policies, which under the regulations would be considered to be development plan documents, form part of the Local Plan. The term includes old policies which have been saved under the 2004 Act.
Local Transport Plan	A document that sets out the long-term strategy for travel and transport within an area for a defined plan period.
LTP (Local Transport Plan)	A local highway authority's policy document for managing growth and sustainable travel.
Magnitude	A combination of the scale, extent and duration of an effect.
MCC (Manual Classified Counts)	Traffic survey which counts all traffic movements at a junction.
Mean Maximum Queue (MMQ)	The average maximum queue on a road calculated by junction capacity software.
Methodology	The specific approach and techniques used for a given study.
Mineral Safeguarding Area	An area designated by Minerals Planning Authorities which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.
Mitigation	Any process, activity or thing designed to avoid, reduce or remedy adverse environmental impacts likely to be caused by a development project.
Multimodal	All modes of transport i.e. walking, cycling, driving, car/van passenger, public transport passenger.
National Cycle Route (NCR)	A network of signed paths and routes for walking, wheeling, cycling and exploring the outdoors.
National Highways (NH)	Government organisation responsible for the management of motorways and trunk roads.
National Road Traffic Projections (NRTP)	Projected levels of traffic growth produced by the National Transport Model.

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National Transport Model (NTM)	A multi-modal model of land-based transport in Great Britain produced by the Department for Transport.
National Trip End Model (NTEM)	A model used to forecast growth by region.
Natural drainage patterns	The course in which a watercourse or surface water naturally flows and drains away.
Neutral Day	Neutral periods are defined by the Department for Transport as Mondays to Thursdays from March through to November (excluding August, Easter and Bank Holidays).
NGR	National Grid Reference
NHLE	Historic England's National Heritage List England
Nitrate Vulnerable Zone (NVZ)	An area designated as being at risk from agricultural nitrate pollution.
Non-statutory Designated Site	A site identified and selected via planning policy for its nature conservation value based on important, distinctive and threatened habitats and species.
Non-Technical Summary	A report which briefly describes the main points discussed in the Environmental Statement in a clear manner, without the use of technical jargon and phraseology.
Notable species	Those species listed under Section 41 of the Natural Environment and Rural Communities Act (2006), British Red List, IUCN Red List or assessed as Nationally Scarce/Rare.
NOx	Nitrogen Oxides (greenhouse gas). The collective term used to describe various oxides of Nitrogen.
NPPF	National Planning Policy Framework
Open space	All open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity.
Passenger Car Unit (PCU)	A unit of measure used in traffic modelling to account for the amount of road space occupied by vehicles. A car plus space in front and behind is equal to 1 PCU which is 5.75m long.
Pathways	The routes by which impacts are transmitted through air, water, soils or plants and organisms to their receptors.
Peak Period	A period of time with the highest number of vehicles.
Perched groundwater	An area of water trapped in the ground above an aquifer that cannot drain away due to impermeable soils and/or geology.

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Permeability	The measure of the ability of a porous material (often, a rock or unconsolidated material) to allow fluids to pass through it.
Planning condition	A condition imposed on a grant of planning permission (in accordance with the Town and Country Planning Act 1990) or a condition included in a Local Development Order or Neighbourhood Development Order.
Planning obligation	A legally enforceable obligation entered into under section 106 of the Town and Country Planning Act 1990 to mitigate the impacts of a development proposal.
PM Peak Hour	Hour with the highest volume of vehicles after noon.
Pollution	Anything that affects the quality of land, air, water or soils, which might lead to an adverse impact on human health, the natural environment or general amenity. Pollution can arise from a range of emissions, including smoke, fumes, gases, dust, steam, odour, noise and light.
Population (ecology)	A collection of individuals (plants or animals), all of the same species and in a defined geographical area.
POS	Public Open Space.
Potential impacts	Impacts, which could occur in the absence of appropriate design modifications or preventative measures.
Practical Reserve Capacity (PRC)	A measure of how much capacity is available at a traffic signal controlled junction.
Priority junction	A junction such as a T junction or crossroads that normally contains give-way marking and is not traffic signal or roundabout controlled.
Protected species	Those species protected by legislation.
PRoW (Public Right of Way)	A path across land that the public have a right to use and is maintained by the local highway authority.
Quality	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the interactions of the landscape and the condition of individual elements.
Ramsar sites	Wetlands of international importance, designated under the 1971 Ramsar Convention.
Rarity	A measure of relative abundance.
Ratio of Flow to Capacity (RFC)	A measurement of the demand relative to capacity on a lane at a priority or roundabout controlled junction. An RFC of 1.00 indicates that the demand and capacity are equal i.e. the link is at capacity.
Receptor	Physical landscape resource, special interest or viewer group that will experience an effect.

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Receptors	A component of the natural or man-made environment such as water, air, a building, or a plant that is affected by an impact.
Residual Effects	Those effects of a development that cannot be mitigated following implementation of mitigation proposals.
Runoff rates	The quantity of water that drains off an area within a specific time-period, usually measured in litres per second.
Scenario	A picture of a possible future.
Scoping	An initial stage in determining the nature and potential scale of the environmental impacts arising from the proposed development, and assessing what further studies are required to establish their significance.
Scoping Note	A document produced as part of preapplication discussions with highway authorities.
Sedimentation	The deposition of soil and silt from watercourses and surface runoff.
Sense of Place (Genius Loci)	The essential character and spirit of an area: Genius Loci literally 'spirit of the place'.
Sensitive receptor	An area that is especially vulnerable to pollution, contamination or man-made change, such as a designated Site.
Sensitivity	The extent to which a landscape can accept change of a particular type and scale, without unacceptable adverse effects.
Serious Severity - Accident Classification	An road traffic accident that required the casualty(ies) to stay overnight or for a prolonged period of time in hospital.
Shared Cycleway	A path for use by both pedestrians and cyclists.
Significance (for heritage policy)	The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
Site of Special Scientific Interest (SSSI)	Sites designated by Natural England under the Wildlife and Countryside Act 1981 (as amended).
Slight Severity - Accident Classification	A road traffic accident which required medical attention without overnight hospitalisation.
Soakaway testing	A test which measures the rate water can drain into the ground.
Soil	The surface layer of the Earth's crust composed of weathered rock, alive and dead organic matter (plant roots, soil fauna and microorganisms), water and air. Soil has important functions such as providing habitat for plant growth, transformation of mineral and organic compounds, carbon storage (in soil organic matter, or humus), water and air filtration, support for buildings,

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	protection of archaeological artefacts. Soil is typically divided into horizontal layers, the main ones are: topsoil and subsoil. Topsoil is the most biologically active and fertile surface layer rich in organic matter. Typical topsoil depth is 25 to 35 cm (plough layer in arable farming). Subsoil is typically characterised by low content of organic matter (except peat or organic soils) and is less biologically active and fertile, it typically extends to 1.20m or bedrock, if the soil is shallower.
Special Areas of Conservation (SAC)	Areas given special protection under the European Union's Habitats Directive, which is transposed into UK law by the Habitats and Conservation of Species Regulations 2010.
Special Protection Areas (SPA)	Areas which have been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds found within European Union countries. They are European designated sites, classified under the Birds Directive.
Statutory Designated Site	A site receiving protection by means of certain legislation in recognition of its biodiversity value.
Stopping Sight Distance (SSD)	The distance a vehicle driver needs to be able to see in order to have a sufficient distance to stop before colliding with something in the road.
Strategic Road Network (SRN)	A motorway or trunk road managed by National Highways.
Surface water runoff	An unconfined flow of water over ground surface.
Sustainable Drainage System (SuDS)	Sustainable Drainage Systems are drainage solutions that provide an alternative to the direct channelling of surface water through networks of pipes and sewers to nearby watercourses.
Supplementary planning documents	Documents, which add, further detail to the policies in the Local Plan. They can be used to provide further guidance for development on specific sites, or on particular issues, such as design. Supplementary planning documents are capable of being a material consideration in planning decisions but are not part of the development plan.
Swept Path	The path or route of a vehicle when manoeuvring. Often associated with computer based software which models such paths associated with different vehicle types.
t	Tonne
Tactile Paving	Also known as blister paving. A blistered or bobbled paving slab to help visually impaired people to identify crossing points or other hazards such as an approach to a shared cycleway.
Technique	Specific working process.

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TEMPRO	The Trip End Model Presentation Program (TEMpro) software allows users to view travel forecasts for an area.
Threshold	A specified level in grading effects e g of magnitude, sensitivity or significance.
Topography	The natural or artificial features, level and surface form of the ground surface.
Traffic Forecasting	The methodology for predicting the demand associated with a development and calculating a suitable baseline for assessment.
Traffic Growth Factors	Factors applied to traffic flows to predict future traffic levels.
Transport Analysis Guidance (TAG)	Department for Transport guidance on traffic modelling and scheme appraisal.
Transport Assessment (TA)	A document prepared to consider the transport related issues associated with a proposed development. Such documents typically consider cumulative traffic impact, highway safety and accessibility by all common modes of transport.
Travel Plan (TP)	A process, often detailed in formal documents, which outline a developer's commitment to promote and encourage sustainable travel.
TRICS (Trip Rate Information Computer System)	Industry standard method for trip generation calculations using a database containing surveys of varying land uses across the UK and Ireland.
Trip End Model Presentation Program (TEMPro)	A database which allows access to data used in the National Trip End Model and is the industry standard method for applying traffic growth.
Trip Generation	Quantification of travel patterns arising from a development proposal.
Trip Rates	A ratio used to predict how many trips an area of land may generate such as the gross floor area of an industrial unit, number of houses etc.
UKCP	United Kingdom Climate Projections
Visography TRACC	A multimodal travel time analysis tool approved by the Department for Transport, used to calculate travel times for walking, cycling, public transit and cars.
Visual Effect	Effects on specific views and on the general visual amenity experienced by people.
Water body/catchment	The UK is divided into hundreds of water bodies/catchments which are areas through which water is carried away by a drainage system such as river, basins or reservoirs.
Water Framework Directive (WFD)	The WFD (more formally Directive 2000/60/EC) is designed to improve and integrate the way water bodies are managed throughout Europe. In the UK, it came into force on 22 December 2000, and was transposed into UK law (transposed) in 2003. Member States must aim to reach good chemical and

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	ecological status in inland and coastal waters by 2015 subject to certain limited exceptions. The WFD is designed to enhance the status and prevent further deterioration of aquatic ecosystems and associated wetlands; promote the sustainable use of water; reduce pollution of water especially by 'priority' and 'priority hazardous' substances; and ensure progressive reduction of groundwater pollution. The WFD establishes a strategic framework for managing the water environment. It requires a management plan for each river basin to be developed every 6 years. The plans are based on a detailed analysis of the impacts of human activity on the water environment and incorporate a programme of measures to improve water bodies where required.
Water quality	This refers to the chemical, physical and biological characteristics of water which may have been contaminated as a result of human activities.
Water resources	Natural resources of water such as drinking water or irrigation water.

NEXT STEPS

This ES has been submitted to Test Valley Borough Council (TVBC) for the respective Planning Officers to consider in consultation with the relevant stakeholders in the context of planning policy, prior to making a recommendation to the planning committee on the planning application.

During the period of determination, TVBC will contact the relevant government bodies and agencies, and other consultees regarding the Proposed Development. Members of the public are also invited to make comments on the planning application.

Comments can be sent to:

Test Vallet Borough Council,

Planning and Building Service,

Beech Hurst,

Weyhill Road,

Andover,

Hampshire,

SP10 3AJ.

Telephone: 01264 368000

Email: planning@testvalley.gov.uk

Copies of the Environmental Statement

The ES, including a copy of the planning application documents and the NTS, will be available to view online on the TVBC planning website:

https://www.testvalley.gov.uk/planning-and-building

Hard copies or CDs of the ES and NTS are also available and are charged at £25 per CD and £450 per hard copy plus P+P. Hard copies can be obtained by contacting Thomas Hackett at Wardell Armstrong on 01782 276700.

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APPENDICES

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